The 1st International Nursing Conference

NURSING INNOVATION
A KEY TO PROMOTE THE HUMANIZED HEALTH IN ASEAN ECONOMIC COMMUNITY ERA

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Nursing Innovation: A Key To Promote The Humanized Health In ASEAN Economic Community (AEC) Era

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Ho Chi Minh City – December 2014
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EXTENDING EAST-WEST COLLABORATIONS:
ESTABLISHING A CENTRE FOR NURSING RESEARCH IN VIET NAM

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ABSTRACT

Background: Internationally research and evidence-based nursing practice are both widely taught in nursing courses and are embedded in routine nursing care. Following the introduction of national nursing competencies for nurses across Viet Nam, new nursing curricula, and the increasing numbers of nurses with postgraduate qualifications, it is timely to build a nursing research culture across the country.

Objectives: To describe the development, implementation, and outcomes of the first Centre for Nursing Research in Viet Nam.

Methods: In 2012, collaboration between Hanoi Medical University and Queensland University of Technology established the Centre for Nursing Research with a mission to develop the discipline of nursing in Viet Nam. It uses a mentorship model to support research, evidence-based nursing practice, and to build capacity through supporting nurse teachers, managers and clinicians. Research champions and organisations collaborate to develop future nurse research leaders.

Results: The two foci of the Centre for Nursing Research are chronic disease and evidence-based practice. The first year’s outcomes were process milestones: development of a strategic plan, membership criteria, becoming a collaborating centre of the Joanna Briggs Institute (JBI), financial support for research and translation of evidenced-based resources, and mentorship of the Centre for Nursing Research leaders. Research performance targets include: increasing the membership across Viet Nam; nurse-led research projects; translation, validation and dissemination of JBI evidence.
based practice information sheets; conducting workshops; and publications in quality international journals. The centre is supporting 3 East/West collaborative chronic disease research projects, 12 translation projects, and preparation of 10 international publications.

**Conclusion:** The Centre for Nursing Research is a viable strategy to create a research culture and build capacity through mentorship of novice nurse researchers across Viet Nam. The centre aligns with and supports other national initiatives to improve the education, practice, recognition and profile of nursing.

**Keywords:** collaboration, nurse research, capacity building.

**INTRODUCTION**

Internationally research and evidence-based nursing practice are both widely taught in nursing courses and are embedded in routine nursing care. Collaborative nursing research centres are essential for the advancement of knowledge, translation of knowledge into education and practice, and for improving patient outcomes. There is also underinvestment in health research in lower and middle-income countries [1-2] even though the burden of chronic and communicable diseases is a major concern for healthcare systems in these countries [3]. Several studies highlight the benefits of research partnerships between universities, healthcare providers and professional organisations [4-6]. Benefits included increased research cultures in partner organisations, improved capacity to undertake research, shared resources, and implementation of evidence-based nursing care.

Following the introduction of national nursing competencies for nurses across Viet Nam, a new four year Bachelor of Nursing curricula, and the increasing numbers of nurses with postgraduate research qualifications, it is timely to build a nursing research culture across the country. The purpose of this presentation and article is to describe the development and outcomes of the first Centre for Nursing Research (CNR) in Viet Nam.

**DEVELOPMENT**

In 2007, a major project to transform the way nurses were educated in Viet Nam commenced. It involved a collaborative partnership between the Vietnam Nurses Association (VNA) and the School of Nursing and Midwifery at the Queensland University of Technology (QUT) in Brisbane, Australia. Subsequently,
in 2008, The Atlantic Philanthropies granted funding to QUT to support Viet Nam nurse education and development through the Viet Nam Nurse Capacity Building Project [7-8]. This project supported a number of nurse academics to undertake postgraduate courses at Masters and Doctoral level. There are now a growing number of nurses who are academically prepared to conduct high quality nurse-orientated research projects.

Since that time, collaboration between Hanoi Medical University (HMU), one of the lead organisations in the Nurse Capacity Building Project, and QUT lead to the establishment of the CNR in 2012. The mission of the centre is to develop the discipline of nursing across Viet Nam. The centre uses a mentorship model to support research, evidence-based nursing practice, and to build capacity through supporting nurse teachers, managers and clinicians to contribute to the growing body of nursing research, knowledge and scholarship.

The vision of the centre is to become the leading centre for nursing research and a collaborating Joanna Briggs Institute (JBI) centre for evidence-based practice in Viet Nam. Goals for the centre are: 1) establish a nursing research culture at HMU; 2) develop a focused research program on chronic disease; 3) motivate and empower nurse academics to participate in research activities; 4) identify and establish collaborative partnerships; 5) support dissemination of research and scholarly activities; 6) identify and describe membership of CNR; 7) provide and manage infrastructure and a supportive environment; and 8) identify and secure research funding. The two primary research foci of the CNR are chronic disease and evidence-based practice. Research performance targets include: increasing the membership across Viet Nam; nurse-led research projects; translation, validation and dissemination of JBI evidence based practice information sheets; conducting workshops; and publications in quality international journals.

OUTCOMES

The first year’s outcomes were process milestones involving the development of a strategic plan, membership criteria, becoming a collaborating centre of JBI, financial support for research and translation of evidenced-based resources, establishing partner organisations, and mentorship of the HMU nurse research leaders by academic staff from QUT. A list of current partner organisations is presented in Table 1.
The benefits for partnering organisations include:

- Free access to JBI Best Practice Evidence summaries in Vietnamese and English to inform nursing practice and education.
- Opportunity to collaborate with nurse-led research from CNR members
- Access to free software (Endnote or other sources) in CNR
- Access to events and training workshops offered by the CNR
- Listing as a partner on the CNR website
- Access to support from CNR members for assistance in translating into Vietnamese languages nursing related journal articles and other material to support high quality nursing practice and education.

Membership of the CNR is open to all nurses in Viet Nam and who committed to fulfilling the mission of the centre. There are three membership categories (see table 2) with the first two of these categories signifying primary membership, and differ only with respect to level of research training, experience and track record. The third category signifies that the researcher holds primary membership of another organisation (i.e. university, college, hospital, professional...
nursing association) or research centre (e.g. medical, public health, etc.), and that their affiliation with the CNR is a secondary affiliation. The criteria and responsibilities for each of the membership are summarised in Table two. In addition, there are also several other associations possible with the centre: i) Honorary, Visiting or Adjunct appointments; ii) Research Centre Fellows; and iii) Research students.

**Table 2. Membership Levels and Criteria**

<table>
<thead>
<tr>
<th>Membership Criteria</th>
<th>Key Researcher (full member)</th>
<th>Associate Researcher (developing)</th>
<th>Affiliate Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• HMU nurse academic or holds an active, research-related adjunct appointment with HMU</td>
<td>• HMU academic or holds an active, adjunct appointment with HMU</td>
<td>• Meets criteria for <em>either</em> key researcher or associate researcher and actively engaging with research activities of the CNR and</td>
</tr>
<tr>
<td></td>
<td>• PhD qualification or demonstrated equivalent research capabilities</td>
<td>• Actively contributing as part of a research team</td>
<td>• Typically an affiliate is nurse academic from another university or hospital</td>
</tr>
<tr>
<td></td>
<td>• IELTS 6 (minimum)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 50% or more of research activity is closely aligned with the CNR</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Emerging or sound track record in research publications <em>and/or</em> securing external research funding or research contracts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The CNR has provided funding support to members through research seed grants, systematic reviews and translation of evidence based material. Activities during 2013/14 were:

1. Commencement of three chronic disease research projects (Hepatitis C, end stage kidney disease, and diabetes)
2. Publication of a JBI systematic review protocol [9]
3. Translation of JBI Best-Practice Information Sheets which will be distributed across Viet Nam to universities, college, major hospitals, and to the Vietnam Nurses Association.
4. JBI website is being translated into Vietnamese
5. Workshops have been conducted including:
   a) Writing for Publication,
   b) Writing Retreat – a two-day mentored workshop with an experienced author, and ten publications in English language suitable for submission to international journals are currently being prepared, and
   c) Evidence based practice.

CONCLUSION

The Centre for Nursing Research is a viable strategy to create a research culture and build capacity through mentorship of novice nurse researchers across Viet Nam. The centre aligns with and supports other national initiatives to improve the education, practice, recognition and profile of nursing.

ACKNOWLEDGEMENTS

Professor Genevieve Gray (School of Nursing, QUT) was the project leader of the Viet Nam Nurse Capacity Building Project and with Dr. Hoang Cong Chanh (Vice Dean, Faculty of Nursing and Midwifery, HMU) was instrumental in establishing the Centre for Nursing Research.
REFERENCES


STUDY OF NURSING STUDENTS’ ETHICAL BEHAVIORS,
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ABSTRACT

Background: Fostering and developing ethical behaviors in nursing practice are an essential aspect of nursing education since nursing students are required to look after human beings in distress bringing with it more complexity. This study will help educators have a clear understanding leading to integration of nursing ethics teaching in nursing practice in an appropriate manner.

Objectives: The purposes of this descriptive research were: 1) To study the levels of nursing students’ ethical behaviors and 2) To compare nursing students’ ethical behaviors as divided by educational levels.

Methods: The sample was all 281 nursing students who had studied at Boromarajonani College of Nursing, Chakriraj during academic year 2012. The research instrument was a questionnaire involving 9 dimensions incorporating 32 items which were tested for content validity by 3 experts and the reliability using Cronbach’s Alpha Coefficient was .644. Analysis was done by Percentage, Mean, Standard Deviation (SD) and Kruskal-Wallis Test.

Results: The research found that the nursing students’ ethical behaviors were at a high level ($\bar{X}$ = 2.43, SD= .16) The mean scores of the nursing students’ ethical behaviors compared with educational levels across 4 dimensions, i.e. responsibility, kindness, making sacrifices and cooperation were significantly different at .05.

Conclusion: Students’ ethical behaviors should be matched with a suitable model of teaching and activities in order to encourage proper ethical behaviors.

Keywords: Ethical behaviors, nursing students
BACKGROUND

According to expectations from nursing services and from related populace, nursing knowledge and ethics are indeed necessary for nursing practice. Colleges of nursing have an important role in producing quality nurses. Nurses should adhere to ethics as the basis for their personal lives and the nursing profession. With this in mind, the study of ethical behaviors related to nursing will help us to understand students clearly as well as to develop nursing education. This is why the study is interesting for educators.

METHODS

Research design

A cross sectional descriptive research was used. This research studied ethical behaviors of nursing students over 9 items: politeness, honesty, responsibility, patience, kindness, making sacrifices, cooperation, discipline at Boromarajonani College of Nursing, Chakriraj during academic year 2012.

Sample size

All 281 nursing students from 1st, 2nd, 3rd and 4th year totalling 79, 73, 67 and 62 persons respectively based on student data at Boromarajonani college of Nursing, Chakriraj throughout July to September 2012.

Measurement tools

Questionnaires were divided into two parts:

1. General information of students, i.e. gender, age, education attainment, reasons for studying nursing, religion and occupation of parents.

2. Survey regarding nursing students’ ethical behaviors which was divided into 3 ranks by appropriate behaviors related to the 9 items above.

The survey was evaluated thus:

Average at 1.00 – 1.67 – Improper behavior
Average at 1.68 – 2.34 – Moderately proper behavior
Average at 2.35 – 3.00 – Proper behavior
Validity and reliability of the instrument were tested by asking 3 experts to review the questionnaires. Then the researcher refined the questionnaires and tried them out with the 30 participants with similar criteria to the actual participants. Cronbach’s Alpha Coefficient of the questionnaire was subsequently tested and was found to be .644.

Data collection
Participants understood the research methods and agreed freely to take part in the study. All participants were asked to answer questionnaires and return them to the researcher without stating their names.

Data analysis
Two fold: general information and ethical behavior 1 by frequency distribution and percentage. Furthermore, frequency, percentage, mean standard deviation and Kruskal - Wallis Test.

RESULTS
Table 1. Mean and Standard Deviation of ethical behaviors among nursing students (n=281)

<table>
<thead>
<tr>
<th>Ethical Behaviors</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Politeness</td>
<td>2.74</td>
<td>.34</td>
</tr>
<tr>
<td>Honesty</td>
<td>2.22</td>
<td>.38</td>
</tr>
<tr>
<td>Responsibility</td>
<td>2.26</td>
<td>.29</td>
</tr>
<tr>
<td>Patience</td>
<td>2.42</td>
<td>.36</td>
</tr>
<tr>
<td>Kindness</td>
<td>2.51</td>
<td>.42</td>
</tr>
<tr>
<td>Making sacrifices</td>
<td>2.42</td>
<td>.34</td>
</tr>
<tr>
<td>Cooperation</td>
<td>2.49</td>
<td>.31</td>
</tr>
<tr>
<td>Discipline</td>
<td>2.48</td>
<td>.39</td>
</tr>
<tr>
<td>Respectfulness</td>
<td>2.36</td>
<td>.33</td>
</tr>
<tr>
<td>Total</td>
<td>2.43</td>
<td>.16</td>
</tr>
</tbody>
</table>
Table 1 showed that nursing students exhibited proper ethical behavior: $\bar{x} = 2.43$ and $SD = .16$. The 1st ranked of ethical behavior was politeness ($\bar{x} = 2.74$ and $SD = .34$).

### Table 2. Differences in ethical behaviors among educational levels

<table>
<thead>
<tr>
<th>Ethical behaviors</th>
<th>Chi-Square</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Politeness</td>
<td>3.33</td>
<td>3</td>
<td>.343</td>
</tr>
<tr>
<td>Honesty</td>
<td>7.11</td>
<td>3</td>
<td>.069</td>
</tr>
<tr>
<td>Responsibility</td>
<td>11.49</td>
<td>3</td>
<td>.009</td>
</tr>
<tr>
<td>Patience</td>
<td>6.55</td>
<td>3</td>
<td>.088</td>
</tr>
<tr>
<td>Kindness</td>
<td>12.24</td>
<td>3</td>
<td>.007</td>
</tr>
<tr>
<td>Making sacrifices</td>
<td>33.85</td>
<td>3</td>
<td>.000</td>
</tr>
<tr>
<td>Cooperation</td>
<td>17.23</td>
<td>3</td>
<td>.001</td>
</tr>
<tr>
<td>Discipline</td>
<td>3.09</td>
<td>3</td>
<td>.378</td>
</tr>
<tr>
<td>Respectfulness</td>
<td>2.60</td>
<td>3</td>
<td>.456</td>
</tr>
</tbody>
</table>

*Kruskal- Wallis Test

*Grouping Variable: CLASS

Table 2 showed that differences between educational levels were found only amid four aspects: responsibility, kindness, making sacrifices and cooperation items which were significantly different at <.05.

### DISCUSSION

Every class exhibited proper behavior ($\bar{x} = 2.43$ and $SD = .16$). From the above data conclusions can be discussed in that the highest point of ethical behaviors was politeness as it related to the vision of nursing institutes, i.e. “health services with human beings in mind”. This means the best services need to be served with friendship, love, kindness and care. However, this does not conform to research by Warunya Saengpithuk, which studied ethical factors among nursing students at Bangkok Nursing College, finding that graduates in academic 2009 were honest in their mindset and actions.

There were no statistically significant differences between responsibility, kindness, making sacrifices and cooperation amid each class which conforms to research by Kanikar Piromrat who studied how to develop ethical behaviour among students at Rajabhat University, Bangkok, as did a study by Nathamon
Panyawatchara at Bangkok University. However, these results do not conform to a study by Supamas Manchak, which looked at ethical behaviours of high school student in schools under the office of education, Utaradit area 1 showed that there were statistically significant differences across each grade.

CONCLUSION

Results regarding the ethical behaviors of nursing students, especially the low scored items should be further improved and the following up period of ethical behaviors should be further researched.

REFERENCES


Conflict of Interest: No conflicts of interest.
THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND HEALTH PROMOTING BEHAVIOR AND QUALITY OF LIFE OF PREGNANT WOMEN

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ABSTRACT

Background: There were factors related to quality of life of pregnant women which includes health behavior.

Objectives: The purpose of the descriptive research was to study the relationship between personal factors, health promoting behavior and quality of life among pregnant women.

Method: The sample consisted of 92 pregnant women. The data were collected via the questionnaire of personal factors, health promoting behavior and quality of life of pregnant women. The questionnaires were tested for their content validity by a panel of 3 experts. The Cronbach’s alpha reliability of instruments was .88 and .89. The statistical procedures employed were percentage, mean, standard deviation and Pearson’s product moment correlation.

Results: The major findings were as follows:

Personal factors, religion and marital status of pregnant women had statistically significant negative correlation with the quality of life (r = -.211 and -.231, respectively, p < .05), age, education, occupation, income and incidence of pregnancy were not significantly correlated with the quality of life of pregnant women.

Health promoting behaviors of pregnant women, nutrition, health responsibility, physical activity, stress management, interpersonal relations and self-actualization were positively correlated with quality of life (r = .484, .553, .437, .587, .374 and .368, respectively, p < .05)
Conclusion: The results of this study can be of benefit to nurses and other health care providers to gain a better understanding of health promoting behaviors and quality of life among pregnant women. Understanding this relationship can improve nursing health promoting behaviors in order to promote the quality of life of pregnant women.

Keywords: Personal factors, health promoting behavior, quality of life, pregnant women

BACKGROUND

Pregnant women face many problems as a result of changes in the body such as nausea, vomiting, back pain, frequent urination, psychological problems, mood changes, irritability, anger and increasing economic costs i.e. nourishing themselves and their unborn child as well as the cost of preparing for birth. A pregnant woman has to adapt herself in relation to beliefs towards sex, maternal birthing process, the relationships of family members and baby care where sometimes her beliefs may be incorrect. Various problems may occur so pregnant women should be aware of nutrition, personal care, prevention and surveillance signs in order to help promote the health of mother and fetus. Data on the aforementioned has to be adapted to strengthen knowledge and help in the planning of nursing to encourage pregnant women to promote their health behaviors amid pregnancy accurately and appropriately. Quality of life will greatly affect pregnant women in society as well as their happiness [1].

Researchers have studied the relationship between personal factors. Behavior to promote health based on Pender’s concept that includes nutrition, physical activity, health responsibility, stress management, interpersonal relations and self-actualization [2] and quality of life of pregnant woman at The 19th Buddhist supreme patriarch of the Buddhist priests Hospital. These data have to be adopted to strengthen knowledge and help in the planning of nursing to encourage pregnant women to promote their health behaviors amid pregnancy accurately and appropriately.

METHODS

This research is a descriptive study to study the relationships between personal behaviors and the promoting of health and quality of life.
Population and Sample

The population in this study was pregnant women that came to antenatal care unit at the hospital totaling 120 people. The sample size was representative of the pregnant women in this study totaling 92 [3] using simple random sampling. All participants were recruited through the nurses that were taking care of them at the antenatal care clinic.

Instruments

The Questionnaires used to collect data consisted of 3 parts:

Part 1: demographic data including age, education, occupation, income, religion, marital status, pregnancy history.

Part 2: promoting health behaviors- 28 items.

Part 3: quality of life of pregnant women - 19 items

The questionnaires were developed and tested for construct validity by 3 experts and 2 professional nurses. Questionnaires were then tried out with a similar qualified antenatal care population. 30 patients were evaluated for reliability of the instrument. Cronbach’s alpha reliability of instruments was .88 and .89.

Data Collection

The researchers explained the purpose of the study to participants. Cooperation in providing information with written consent to participate in the research with questionnaires and real data was collected from the sample. The researcher collected data from February to March 2557.

Statistical analysis

Data were analyzed by using frequency, percentage, mean and standard deviation. Statistical analysis was done using Pearson’s Product Moment Correlation Coefficient. Data were analyzed with SPSS version 16. The level for statistical significance was set at p < 0.05.

Ethical considerations

Ethics were approved by the school of nursing. The researcher sought the consent of participants and introduced themselves and explained the purpose of
the research. I was explained that data will be kept confidential and used for educational purposes only.

RESULTS

For the 92 pregnant women represented in this analysis ages ranged 25-29 years accounting for 27.2 %, followed by the age range 15-19 years 26.1%. The age group of 20-24 years accounted for 23.9 % and aged 30-34 years accounted for 13 % and only 9.8% women were 35 years and over. The distribution of education included 23.9% secondary education, 21.7% vocational education/diploma. 19.7% upper secondary education, 17.4 % had completed undergraduate education. Otherwise, 14.1%, 2.2% and 1.1% had no education.

Of the 92 respondents, 46.7% worked as unidentified employees, 19.6% traders, 4.3% farmers, 9.8% had no other income, 3.3% were students, 2.2% had state-owned enterprises, and 14.1% other. For monthly salaries they were: in the range 5,001-10,000 baht/month 50%, lower income less. 5,000 baht/month 22.8%, income range 10,001-15,000 baht/month 19.6%, income range 15,001-20,000 baht/month. 5.4% and income over 20,000 baht/month 2.2 %. Religion of the 92 respondents was 98.9% Buddhism and 1.1% Christian. On marital status 98.1% were married and 1.1% other. Of the 92 respondents this was their first pregnancy, 50%.

Health promoting behaviors of pregnant women

Table 1 presents mean and standard deviation of health promotion behaviors in pregnant women including nutrition, health responsibility, physical activity, stress management, interpersonal relations and self-actualization. It is emphasized that physical activity (\( \bar{X} = 4.31, SD = .65 \)), Stress management (\( \bar{X} = 4.00, SD = .64 \)), Interpersonal relations (\( \bar{X} = 4.00, SD = .57 \)), nutrition (\( \bar{X} = 3.96, SD = .60 \)), Self-actualization (\( \bar{X} = 3.86, SD = .61 \)) and Health responsibility (\( \bar{X} = 3.82, SD = .53 \))

Table 2 presents level of health promotion behaviors in pregnant women, nutrition, health responsibility, physical activity, stress management, interpersonal relations and self-actualization were at the highest level.
Table 1. Mean and standard deviation of Health promotion behaviors in pregnant women

<table>
<thead>
<tr>
<th>Health promoting behaviors</th>
<th>$\bar{x}$</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>3.96</td>
<td>0.60</td>
</tr>
<tr>
<td>Physical activity</td>
<td>4.31</td>
<td>0.65</td>
</tr>
<tr>
<td>Health responsibility</td>
<td>3.82</td>
<td>0.53</td>
</tr>
<tr>
<td>Stress management</td>
<td>4.00</td>
<td>0.64</td>
</tr>
<tr>
<td>Interpersonal relations</td>
<td>4.00</td>
<td>0.57</td>
</tr>
<tr>
<td>Self-actualization</td>
<td>3.86</td>
<td>0.61</td>
</tr>
</tbody>
</table>

Table 2. Level of Health promotion behaviors in pregnant women (n=92)

<table>
<thead>
<tr>
<th>Health promoting behaviors</th>
<th>Most (%)</th>
<th>Moderate (%)</th>
<th>Min (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>80.4</td>
<td>15.2</td>
<td>4.4</td>
</tr>
<tr>
<td>Physical activity</td>
<td>90.2</td>
<td>6.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Health responsibility</td>
<td>81.5</td>
<td>16.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Stress management</td>
<td>80.5</td>
<td>15.1</td>
<td>4.4</td>
</tr>
<tr>
<td>Interpersonal relations</td>
<td>83.7</td>
<td>14.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Self-actualization</td>
<td>78.3</td>
<td>20.6</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Table 3. Correlation coefficient between personal factors and quality of life of pregnant women

<table>
<thead>
<tr>
<th>Personal factors</th>
<th>r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.060</td>
<td>0.569</td>
</tr>
<tr>
<td>Education</td>
<td>0.115</td>
<td>0.276</td>
</tr>
<tr>
<td>Occupation</td>
<td>-0.166</td>
<td>0.270</td>
</tr>
<tr>
<td>Income</td>
<td>0.157</td>
<td>0.134</td>
</tr>
<tr>
<td>Religious</td>
<td>-0.211*</td>
<td>0.044</td>
</tr>
<tr>
<td>Marital status</td>
<td>-0.231*</td>
<td>0.026</td>
</tr>
<tr>
<td>Counting number of pregnant</td>
<td>-0.021</td>
<td>0.839</td>
</tr>
</tbody>
</table>

*p < 0.05
Table 3 presents correlation coefficient between personal factors and quality of life of pregnant women. Personal factors, religious and marital status had statistically significant negative correlation with the quality of life ($r = -.211$, and -.231 respectively, $p < .05$), age, education, occupation, income and counting number of pregnant were not significantly correlated with the quality of life of pregnant women ($r = .060$, .115, -.166, .157 and -.021 respectively, $p < .05$).

Table 4 presents correlation coefficient between Health promotion behaviors and quality of life of pregnant women.

<table>
<thead>
<tr>
<th>Health promotion behaviors</th>
<th>$r$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>0.484**</td>
<td>0.000</td>
</tr>
<tr>
<td>Physical activity</td>
<td>0.553**</td>
<td>0.000</td>
</tr>
<tr>
<td>Health responsibility</td>
<td>0.437**</td>
<td>0.000</td>
</tr>
<tr>
<td>Stress management</td>
<td>0.587**</td>
<td>0.000</td>
</tr>
<tr>
<td>Interpersonal relations</td>
<td>0.374**</td>
<td>0.000</td>
</tr>
<tr>
<td>Self-actualization</td>
<td>0.368**</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**$p < 0.01$**

DISCUSSION

The present study contributes to the knowledge on health promoting behaviors and quality of life of pregnant women. Our findings are that religion and marital status of pregnant women had correlation with the quality of life that was consistent with studies of Arada Terakeatkumjorn who studied the quality of life of the elderly. It was found that marital status and religion are correlated significantly to the quality of life of pregnant woman at 0.05 [4]. Also health promoting behaviors of pregnant women concerning physical activity was significantly correlated with quality of life which was consistent with studies of Amanda, Mac Arthur and Winter where mothers who exercise regularly have a better quality of life [5].
Health promoting behaviors of pregnant women was at a high mean. They had performed self-care during pregnancy from the moment of antenatal care. When eating well, resting, sleeping, exercising, and dressing casually pregnant woman will feel content and happy to see the value of getting pregnant and able to cope with the changes in the body. They also have to adjust to a lifestyle that is appropriate so both themselves and the fetus remain healthy [6].

Health promoting behaviors of pregnant women was correlated with quality of life that was consistent with the concept of Clark & Affonso that [7]. Lifestyle modifications to promote their own development as well were important. The capabilities and targets were set in terms of eating, drinking water, excretion and relaxation exercises in both maternal and fetal health and quality of life.

CONCLUSION

This study can be of benefit to nurses and other health care providers to gain a better understanding of health promoting behaviors, especially in relation to nutrition, physical activity, health responsibility, stress management, interpersonal relations and self-actualization related to quality of life of pregnant women. Understanding this relationship can improve the nursing health promoting behaviors in order to promote the quality of life of pregnant women.

ACKNOWLEDGEMENTS

The authors thank Dr. Sukjai Chareonsuk, Director of Boromarajonani College of Nursing, Chakriraj for their thoughtful comments and nurses in antenatal care clinic of The 19th Buddhist supreme patriarch of the Buddhist priests Hospital for research grant support.
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ABSTRACT

Background: A salty diet is harmful to patients with hypertension. Successful behavioral modification results from integration between a cognitive and social approach.

Objectives: To evaluate the effectiveness of the program of health education through group learning and ‘buddy’ support (PHGB) on reducing excessive salt consumption among the aging with hypertension.

Methods: One group pretest and posttest design was used in this study. 30 hypertensive aging persons were purposively recruited. The PHGB was conducted over 8 sessions. Data were collected in the first and the last session using multiple choice test on knowledge and Likert scale questionnaires on perceived benefits of action, perceived barriers to action, perceived self-efficacy and salty food consumption. Effectiveness of the program was identified by Paired t-test.

Results: The pretest mean score of knowledge, perceived benefits of action, perceived barriers to action, perceived self-efficacy and salty food consumption were 3.12, 3.01, 2.71, 2.85, and 2.94, while the posttest were 3.54, 3.41, 3.15, 3.83, and 3.76 respectively. By Paired t-test, the posttest mean score was higher than the pretest significantly (t(29) = 42.01, 17.61, 16.47, 26.09, and 28.98 at p < .05).

Conclusion: The results revealed that health education together with group learning and ‘buddy’ support is an effective approach for reducing excessive salt consumption and could contribute to behavioral modification among population with other chronic diseases in the community.

Keywords: health education, group discussion, buddy support, aging with hypertension
BACKGROUND

High blood pressure is called the "silent killer" because it often has no warning signs or symptoms and many people don't realize they have it [1]. Blood pressure serves as a biomarker for hypertension. Hypertension is classified into 2 types: essential and secondary hypertension. The etiology of essential hypertension which accounts for about 95% of cases is unknown but there are several factors that have been highly associated with the conditions such as smoking, obesity or being overweight, diabetes, sedentary lifestyle, lack of physical activity and high levels of salt intake (sodium sensitivity) [2]. Secondary hypertension is from kidney disease, tumors, birth control pills and so forth. Projection studies in the United States show that high blood pressure will increase by 9.9% in prevalence from 2010 [3]. In Thailand, the prevalence of hypertension and prehypertension is rising rapidly. In the year 2011, it was found that prevalence rate of hypertension in all ages was 21%, while the prevalence in age group over 80 years was 55.9% [4].

To control blood pressure in Hypertensive patients, lifestyle changes are just as important as medications, especially, reduction of salt which will lower blood pressure level [5]. Most sodium comes from eating an extra salty diet from packaged, processed, store-bought and restaurants foods. Only a small amount comes from salt added during cooking and from being added at the table [6]. Excessive salt intake is defined as having a food or beverage that contains over 480 milligrams (1/5 teaspoon) of sodium per serving [7]. The effective way to control blood pressure levels is that the patient must realize the risk on their own i.e. of how much they're exposed to risk factors [6].

The Program of Health Education through Group Learning and ‘Buddy’ Support (PHGB) on reducing excessive salt consumption among the aging with hypertension was developed under the concept of the Health Promotion Model [8]. The HPM demonstrates that individuals have powerful authority in themselves to make their own decisions and control their own behaviors. The most important factor that affects the behavior of individuals is the belief in the potential of themselves. Furthermore, the HPM depicts multi dimensional natures of individuals interacting with their interpersonal and environmental influences as they pursue health. According to the model, knowledge and experiences,
perceived benefits of action, perceived barriers to action, perceived self-efficacy
and interpersonal and situational influences are factors related to behaviors under
a commitment to a plan of action. Thus, health education was provided for
practical knowledge, group learning enhanced perception on benefits of action and
barriers to action; and ‘buddy’ support confirmed self-efficacy and the reducing of
excessive salt consumption.

This study was conducted in one selected community in Bangkok. Data from
community survey in 2011 showed that there 51.6 % of the elderly had hypertension
and 46% consumed salty food 3-5 days a week as well as misunderstanding that
some sweetened foods contain low or no sodium [9]. Hence, they still exhibited in
appropriate eating styles and consumed excessive salt.

OBJECTIVE

This study aimed to examine the effectiveness of PHGB on reducing
excessive salt consumption among the aging with hypertension in the selected
community.

METHODS

Research design

A one group pretest - posttest design study was conducted in one selected
community in Bangkok.

Participants

The subjects in this study consisted of 30 hypertensive aging persons
purposively recruited under the criteria of under treatment, have well controlled
Hypertension, were a member of a Community Elderly Club and able to participate
throughout an 8 - session program.

Procedure

The program incorporated 8 sessions at 2 hours each. Health education,
group discussion and ‘buddy’ support were conducted according to the issue of
each session as shown in table 1.
Table 1. The 8 - session PHGB activities

<table>
<thead>
<tr>
<th>Session</th>
<th>General activity</th>
<th>Focus General activity</th>
<th>Buddy support</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pretest and Ice-breaking</td>
<td>✓ □ □</td>
<td>x</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>✓ ✓ x</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>✓ ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>✓ ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>5 - 7</td>
<td>-</td>
<td>✓ ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Pretest and review</td>
<td>✓ ✓ ✓</td>
<td></td>
</tr>
</tbody>
</table>

Details of each session are as follows:

**Session 1: Pretest, Ice-breaking, Health education and Group discussion:**
Demographic data, data on knowledge, perceived benefits of action, perceived barriers to action, perceived self-efficacy and salty food consumption were collected via tests and questionnaires. Ice-breaking activities were conducted in order to help attendees feel more familiar with group members. Health education on an overview of hypertension was provided and after that group discussion was conducted to review and share knowledge. Feedback was promptly given in case of misunderstanding.

**Session 2: Health education and Group discussion:** After providing health education on factors relating to salty food consumption, groups shared their experiences on having salty food and categorized their practices into 2 ideas; individual influence and consumption influence. They described individual influence as eating style and consumption as cooking style. Mapping was a tool for grouping so they could clearly see the excessive salt they had taken.

**Session 3: Health education, Group discussion and buddy support.**
Health education was provided on how to identify salt in food. The definition of excessive salt in food or salty food was any kind of food or beverage that contained more than 480 milligrams (or 1/5 teaspoon) per serving [7]. Participants worked in groups to list their favorite dishes then they chose only the food that
contained excessive salt. Finally, they categorized salty foods into 3 groups by its taste, i.e. 1) salty taste 2) sweet taste and 3) plain taste. So, reducing excessive salt consumption referred to their behaviors in daily life of not choosing food which contained excessive salt no matter what the taste was. They also clarified into details such as ingredients and cooking techniques to avoid excessive salt. At the end of this session, participants were divided into couples (‘buddies’). Each couple consisted of one participant who was interested in individual influence or eating style and another who was interested in consumption influence or cooking style.

Session 4: Health education, Group discussion and ‘buddy’ support. Health education was provided in order to review knowledge. Groups focused on avoiding excessive salt in cooking and eating. Participants expressed their strong intention to reduce salty food by giving one word to their ‘buddy’ and writing it down in a memo-note. In that note there were their lists of favorite and frequently consumed dishes and a reflection sheet.

Session 5 – 7: After action meeting. Participants presented their memo-notes and shared how they categorized their favorite food and their techniques to reduce excessive salt and factors that influenced their success. Health education was provided again to confirm the successful ‘buddies’ while the unsuccessful ones were corrected. Every couple motivated and supported each other to maintain proper behaviors and overcome obstacles at the end of each session.

Session 8: Posttest and knowledge sharing. Posttest data on knowledge, perceived benefits of action, perceived barriers to action, perceived self-efficacy and salty food consumption were collected using the same measurement tools. Participants concluded and summarised their factors towards success and lessons learned from PHGB.

Measurement tools

Data were collected using:

1) 10-item multiple choice questions for evaluating participants' knowledge.
2) 20-item closed ended questionnaires on perceived benefits of action, perceived barriers to action, perceived self-efficacy and salty food consumption. All items utilized Likert scale response options. Scores were translated conversely in negative meaning items.
Content validity was verified by 5 experts in health promotion. Internal consistency was measured by aging persons similar to the sample group but was not recruited to the study. The Internal consistency of knowledge test (KR-20) was 0.878, and questionnaires (Cronbach’s alpha Coefficient) were 0.86, 0.82, 0.85 and 0.86 respectively.

**Data analysis**

Data were analyzed with SPSS version 15.0. Descriptive statistics (frequency, percentage, mean and standard deviation) were computed for the summarizing of demographic data, each scale of perceived benefit for action, perceived barriers to action, perceived self-efficacy and salty food consumption. Mean score of pretest and posttest were compared by paired t-test.

**Ethical consideration**

This pre-posttest design research did not intervene with the treatment of hypertension of the sample. The research proposal was ethically approved by the research committee of the Faculty of Nursing, Suandusit Rajabhat University. The participants were clearly informed regarding study method and procedures, and they were free to withdraw from the project at any time they felt uncomfortable. Each participant was asked to sign a consent form before entering the program. All participants remained until the end of the study.

**RESULTS**

**Demographic data**

86.4% of participants were female, 72.7% were aged between 60-65, 86.4% were married, 81.8% had completed secondary school education, 81.8% were household workers, 68.2% got US. $500-1,000 per month as their family income, and 68.2% had basic health care from a National Health Security Fund.

**The effectiveness of PHGB on reducing excessive salt consumption**

It was found that the mean score of knowledge, perceived benefit of action, perceived barriers to action, perceived self-efficacy and salty food consumption were increased after the program. Paired t – test showed that there were
significant differences between pretest and posttest mean scores, \( t(29) = 42.01, 17.61, 16.47, 26.09, \) and \( 28.98 \) at \( p < .05 \) as shown in Table 2.

**Table 2. Knowledge, perceived benefits of action, perceived barriers to action, perceived self-efficacy and salty food consumption before and after the PHGB (n = 30)**

<table>
<thead>
<tr>
<th>Items</th>
<th>mean score</th>
<th>t-value</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pretest</td>
<td>posttest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Knowledge</td>
<td>3.12</td>
<td>.365</td>
<td>3.54</td>
</tr>
<tr>
<td>Perceived benefit for action</td>
<td>3.01</td>
<td>.292</td>
<td>3.41</td>
</tr>
<tr>
<td>Perceived barriers to action</td>
<td>2.71</td>
<td>.330</td>
<td>3.15</td>
</tr>
<tr>
<td>Perceived of self-efficacy</td>
<td>2.85</td>
<td>.224</td>
<td>3.83</td>
</tr>
<tr>
<td>Salty food consumption</td>
<td>2.94</td>
<td>.608</td>
<td>3.76</td>
</tr>
</tbody>
</table>

* p value < .01  ** p value < .001

**CONCLUSION**

Results of this study provide the evidence that PHGB enhanced the participants’ literacy on Hypertension, changed their perception of benefits of action, perceptions of barriers to action, perception of self-efficacy and reduced their excessive salt consumption. For further study, this program may contribute to behavioral modification in other chronic diseases among the elderly.

**DISCUSSION**

Health education ought to be provided periodically in order to enhance patients’ self-awareness which will lead to appropriate self-management and quality of self-care [10]. In this study, health education was provided every session in order to educate participants about their eating and cooking styles related to hypertension. Providing sufficient information about the disease and related eating behaviors increased participants’ adherence to dietary advice with the group process inducing their perception of action [11,12,13]. Group discussion during every session enhanced their full engagement in solving their problems of eating too much salt. Participants’ participation in categorizing salty food by taste was useful...
for management of chronic diseases [14]. Categorizing 3 types of salty food by
taste reflected their literacy; furthermore, it affected their perception of benefits and
barriers for reducing excessive salt consumption as well as their perception of self-
efficacy. The research findings align with HPM because it depicts knowledge as
apersonal factor and show its influences on perception of benefits and barriers to
action, and perception of self-efficacy which are core variables to health behaviors [8].
Along with health education, group process was another approach. Learning in a
group and supporting smaller groups of older persons is a successful from of
informal education [15]. In this study, participants supported each other to develop
their appropriate decisions on categorizing salty food and how to avoid excessive
consumption. The group process helped the aging individuals develop their interests
to learn; and ‘buddy’ support confirmed their new eating and cooking styles. A part
from working in group, each ‘buddy’ shared knowledge and experiences on
controlling excessive salt consumption; i.e. how to reduce salt in eating and
cooking styles. Support between ‘buddies’ was much closer than among groups,
so knowledge sharing in this approach was directly focused on their point of
interest. Social support for the aging displayed a positive association with life-style
management [16,17,18].

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We wish to thank the sample group and nursing students who acted as
research assistants. We also thank Assistant Dr. Manasaporn Vitoonmatha and
Dr. Somsiri Nonthasawatsri for their kindness in reviewing this paper.
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EFFECTIVENESS OF GROUP-ACTIVITY THERAPY: SOCIALIZATION AND VERBAL COMMUNICATION SKILLS FOR PATIENTS EXPERIENCING SOCIAL ISOLATION

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ABSTRACT

Background: Patients experiencing social isolation have low communication capabilities amid the social environment including non communication, apathy and being withdrawn. Group therapy is a manual activity correlating recreation and creative techniques to facilitate and enhance the experience of one's self as well as social response. Therapy, especially group-activity improves socialization. Accordingly, the patient is expected to be able to foster social relationships with their environment and later with the family or community.

Objectives: The objectives of this study were to identify the effectiveness of verbal communication skills among patients experiencing social isolation.

Method: A pilot study design was used with the control group approach to observe a treatment group (5) patients against a control group (5) patients. Analyses involved Chi Square for 5 patients (experimental) and 5 patients (control group). Ten patients experiencing social isolation aged 16 – 50 years from a total 328 populace were recruited from Atma Husada Mahakam Psychological Hospital, Samarinda municipality, East Kalimantan province, Indonesia. Analyses involved Chi Square for all 10 patients. The study period lasted 3 months from June to August 2012.

Results: This study improves previous research by Keliat & Akemat (2004) which was contradictory in its results. The results of that study resulted in ineffective group therapy pertaining to patients’ verbal skills although it is nationally recognized in Indonesia.
Conclusion: These findings provide new knowledge of group activity therapy implementation incorporating verbal communication skills. There was no relationship between therapeutic group activities and verbal communication skills. However, patients partaking in group-activity therapy treatment concerning socialization received benefits to enhance verbal communication skills.

Keywords: Group-activity therapy, socialization, patient social isolation, verbal communication skills, hospital.

BACKGROUND

One of the forms of mental disorders is a disruption of social relationships. Patients in the midst of social isolation exhibit a range of maladaptive responses in social settings. This means that the patient is not able to relate in a healthy or adaptive manner to the environment. Mental patients in the midst of social isolation need to be handled in a holistic and comprehensive manner (Stuart, 2009). Patients with problems of social isolation have poor communication capabilities concerning their social environment. According to Yosep (2010) objective symptoms that can be studied in patients with problems of social isolation are: patients not talking, silence in the room, low eye contact, apathy (indifference to the environment). Meanwhile, subjective data are: patients feel rejected, poor verbal response and patients saying that the relationships with others have no meaning. Meanwhile, data obtained through observation was: patients’ social isolation, no close friends, being withdrawn from the environment, uncommunicative, repeated non-meaningful actions, preoccupation with one’s own thoughts, no eye contact and looking miserable, (Damaiyanti&Iskandar, 2012; Keliat, 2009).

For group-activity therapy focused on socialization it is an effort to facilitate the ability of individuals in social relationships pertaining to a number of social issues (Lockwood C, Page T, Hiller CT., 2004). In other words, assisting patients to socialize with other existing patients; so socialization and verbal communication skills are expected to be increased in patients with social isolation problems (Keliat, 2009). Therefore, the aims of this study were to identify effectiveness of verbal communication skills among patients with social isolation.
METHODS

A pilot study design was used with the control group approach to observe the treatment group against the control group.

Sample

Patients were recruited from AtmaHusada Mahakam (abbreviated as AHM) Psychological Hospital, Samarinda municipality, East Kalimantan province, Indonesia June to August 2012. Ten patients exhibiting social isolation from a total population of 328 were recruited at AHM Psychological Hospital. Inclusion criteria were: (1) being an inpatient, (2) aged 16-50 years, (3) social isolation diagnosis, and (4) willing to participate. Exclusion criteria were: (1) suddenly having to return home, and (2) currently expressing experiences of mental change.

Data analysis

Analyses involved Chi Square for 5 patients (experimental) and 5 patients (control group). The researchers decided whether there was a relationship between the independent variables and the dependent variables, then used the p value compared with the error rate (alpha) and used that as 5% or 0.05. If the p value ≤ 0.05 then $H_0$ is rejected and $H_a$ (research hypothesis) is accepted, this means that there was a relationship between the independent variables and the dependent variables whereas when p value > 0.05 then $H_0$ is accepted and $H_a$ (research hypothesis) is rejected, this means there was a relationship between the independent variable and the dependent variable.

Ethical consideration

Ethical approval was obtained from a research service and ethics committee by an institution and AHM mental hospital.

RESULTS

In total, patients were male (100%). The mean age of patients was 36.90, ranged (24-50). The proportion of patients who had been treated less and more than 10 months was the same (50%). Nine patients had attended therapy and one patient had never been. Before group-activity therapy, for good and poor verbal communication skills patients were the same (50%), while after therapy patients
those who had good ability rose to 80% (mean = 3.30, SD = 1,059) and poor 20% (mean = 9.20, SD = 1,033), this difference was statistically significant at (p = 0.000).

Tabel 1. Distribution of descriptive statistic effectiveness of group-activity therapy: socialization to improve verbal communication skills

<table>
<thead>
<tr>
<th>No</th>
<th>Variabel</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Min-max</th>
<th>95%CI</th>
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<tbody>
<tr>
<td>1</td>
<td>Age</td>
<td>36,90</td>
<td>38</td>
<td>8,157</td>
<td>24-50</td>
<td>31,06-42,74</td>
</tr>
<tr>
<td>2</td>
<td>Length of hospitalization</td>
<td>11,50</td>
<td>10</td>
<td>11,018</td>
<td>1-36</td>
<td>3,62-19,38</td>
</tr>
<tr>
<td>3</td>
<td>Verbal communication</td>
<td>9,20</td>
<td>9</td>
<td>1,003</td>
<td>8-11</td>
<td>8,46-9,94</td>
</tr>
<tr>
<td>4</td>
<td>Group-activitytherapy: socialization</td>
<td>60,50</td>
<td>63,50</td>
<td>10,607</td>
<td>33-72</td>
<td>52,91-68,09</td>
</tr>
</tbody>
</table>

Table 2. Analysis of the relationship between group-activity therapy: socialization and verbal communication skills, α = 0.05

<table>
<thead>
<tr>
<th>No</th>
<th>Group-activity therapy category</th>
<th>Verbal communication</th>
<th>TOTAL</th>
<th>OR</th>
<th>95% CI</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Good</td>
<td>Bad</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Effective</td>
<td></td>
<td></td>
<td>5</td>
<td>5</td>
<td>1.667</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100%</td>
<td>0</td>
<td>100%</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Non effective</td>
<td></td>
<td></td>
<td>8</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>8</td>
<td>2</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>80%</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Statistical test results obtained with a value of p = 0.429. p value was greater than alpha (5%) so it can be concluded that there is no relationship between group-activity therapy: socialization with verbal communication skills. The above data obtained by the value of OR = 1.667, can be explained also in that respondents who do group-activity therapy: socialization have a 1,667 times better chance of having verbal communication skills compared to those who did not do.

DISCUSSION

The results can be right that there is no relationship between group-activity therapy: socialization with verbal communication skills. This result was not
assumed by the researchers that group-activity therapy: socialization was influential and related to verbal communication skills to patients with problems of social isolation. Also, this study improves previous research by Keliat & Akemat (2004) which was contradictory in results, where their study reported a relationship between group-activity therapy: socialization with verbal communication skills. Improved verbal communication skills due to the presence of interpersonal relationships between individuals began to take shape after each patient was pushed to his limits having been able to mention the identity of the members of the group (Stuart & Sundeen, 2009). An association opens to members of the group created a relationship of trust between group members so there were feelings of safety and happiness in the patients after following the group's activities.

REFERENCES
8. Stuart GW. Principles and practice of psychiatric nursing. 9 ed. Mosby; 2009
A PILOT EDUCATIONAL INTERVENTION USING THE TEACH-BACK METHOD TO IMPROVE CARDIAC NURSES’ KNOWLEDGE OF HEART FAILURE SELF-MANAGEMENT

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ABSTRACT

Background: It is recognised that patients with chronic disease are unable to remember information provided by health care professionals. The teach-back method is acknowledged as a technique to improve patients’ understanding. Yet it is not used in nursing practice in Vietnam.

Objective: This study sought to evaluate the effect of a pilot educational intervention using the teach-back method on nurses’ knowledge of heart failure self-management.

Method: A pre/post-test design was employed. Cardiac nurses from 3 hospitals (Vietnam National Heart Institute, E Hospital, Huu Nghi Hospital) were invited to attend a six-hour educational intervention which covered both the teach-back method and heart failure self-management. Role-play with scenarios was used to reinforce educational content. The Dutch Heart Failure Knowledge Scale was used to assess nurses’ knowledge of heart failure.

Result: 20 nurses from 3 selected hospitals participated. Average age was 34.5 ± 7.9 years with years of nursing experience at 11.6 ± 8.3. Heart failure knowledge score at the baseline was 12.7 ± 1.2 and post workshop intervention was 13.7 ± 1.1. Heart failure knowledge improved significantly following the workshop (p = 0.002). Ultimately, all nurses achieved an overall adequate knowledge score (≥ 11 of the maximum 15). 100% of
nurses agreed that the teach-back method was effective and could be used to educate patients on heart failure self-management.

**Conclusion:** The findings of this study have shown the effectiveness of intervention in increasing nurses’ knowledge of heart failure and that the teach-back method is suitable for Vietnamese nurses to be used in routine cardiac practice.

**Keywords:** teach-back method, heart failure, cardiac nurse, self-management

**BACKGROUND**

Heart failure is becoming more prevalent and forms the major proportion of cardiovascular conditions. More than 23 million people are estimated to suffer from heart failure (HF) in developed countries worldwide [1], with the prevalence rising to ≥ 10% among persons aged 70 years old or older. Nearly 5 million people have been diagnosed with HF in America with an estimated 550,000 new cases and 285,000 deaths per year (American Heart Association, 2009). Vietnam’s health profile has recently shown high mortality due to cardiovascular diseases (WHO Non communicable disease profile, 2011). Using the HF prevalence from 0.4% – 2% in European countries and Vietnamese population of 90 million, it is estimated that up to 1.8 million people have HF in Vietnam. Self-management is designed to increase an individual’s ability to manage symptoms, treatment, physical and psychosocial consequences and lifestyle changes inherent in living with a chronic condition [2-4]. Self-management programs have shown positive impacts on chronic disease care. Treatment adherence [4], quality of life [3] have been improved and mortality has decreased [3]. A reduction in hospitalisations and readmission rates has been seen in people with HF [4-6] as well as reduced days in hospital; outpatient visits and decreased health care utilisation and costs [4] following the introduction of self-management programs.

Teach-back or “show me” or “closing the loop” is a method to ensure understanding of information being communicated and involves patients being asked to repeat back the key points of instructions. Teach-back is not a test of the learners' knowledge, it’s implemented to explore how well the information was taught and what needs to be clarified or reviewed. An initial review of literature indicates that teach-back has previously been used as an educational strategy for health care professionals [7], people with low health literacy [8] and people with chronic diseases[9]. A number of studies have targeted the use of teach-back in...
chronic disease education programs to improve people’s comprehension, informed consent and reduction of readmission.

Given that self-management concept and the teach-back method are still unfamiliar among clinical nurses it’s important to pilot a training program for nurses. This study was conducted to introduce cardiac nurses to the teach-back method in educating patients. The study also provided these nurses with overall content of self-management for individuals with heart failure as well as sought nurses’ opinions regarding the method of teach-back in routine practice in Vietnamese health settings.

METHODS

This was a pilot pre/post-test study. Data was collected via questionnaires distributed to all participants on two occasions: before and immediately-after the educational program.

Participants

Nurses working in cardiac wards from 3 hospitals (Vietnam National Heart Institute, E Hospital, Huu Nghí Hospital) were invited to attend the educational program.

Instruments

Three questionnaires were used to collect data. A demographic questionnaire (age, sex, years working as a cardiac nurse, highest qualification) was used to describe nurses’ general characteristics. The validated Vietnamese version of the Dutch Heart Failure (HF) questionnaire [10] was used to evaluate nurses’ knowledge of HF pre-and post-intervention. The Dutch HF knowledge scale has 15 items; total score for knowledge of HF ranges from 0 to 15. The original Dutch instrument has a Cronbach alpha of 0.62 [10]. The Dutch HF questionnaire was translated into Vietnamese and pilot tested in 30 HF patients, the Kuder-Richardson 20 (K-P 20) reliability was 0.72 [11]. The original questionnaire was aimed at patients, therefore, in three questions (question 3, 4, 15) the word “you” (to ask patients) was replaced with “people with heart failure” (to ask a nurse). No answers were revised so the validity of the adapted HF scale was deemed equivalent with that of the original Vietnamese patient version. Evaluation and Feedback Forms were used to collate nurse’s written comments.
concerning the educational program, i.e. which sessions were valuable or not valuable to them; and the messages they would subsequently deliver to their colleagues and respective organizations.

**Intervention**

The educational intervention was a six-hour training workshop. Contents included an introduction to the teach-back method and nurses received a HF self-management booklet as a tool to teach patients. The booklet covered major HF symptoms, recognition of worsening symptoms and symptom management. A sample video of the teach-back method was shown to facilitate nurses’ understanding of how to perform the method. A number of real-life scenarios were provided for nurses to practice the teach-back method.

**Ethical consideration**

The ethical integrity of the study was approved by the Research Ethics Committee of Hanoi School of Public Health (Approval number 164/2013/YTCC-HD3) and that of Queensland University of Technology (Approval number 1300000704). The researcher explained the aims of the study, research procedure, benefits and confidentiality of the study to nurses before they registered to participate. Consent was assumed if nurse participants came to the workshop on the planned date.

**Data analysis**

All questionnaires were scored and entered into SPSS version 21. Wilcoxon Signed Rank test was used to compare the mean scores of nurses prior to and after the workshop.

**RESULTS**

**Demographic characteristics**

Half of the nurses (50%) worked at Bach Mai Hospital. Eighty-five percent of participants were female. The average age of nurses was 34.5 years. Average years working as a nurse was 11.6 years. Half (55%) had completed a 4-year nursing education qualification. Almost all had not previously heard about the teach-back method; however, two answered “Yes” to the researcher’s questioning
but they were unable to correctly describe the method. Table 1 presents further demographic information.

**Table 1. Demographic characteristics of nurses**

<table>
<thead>
<tr>
<th>Demographic information</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bach Mai Hospital</td>
<td>10 (50%)</td>
</tr>
<tr>
<td>HuuNghi Hospital</td>
<td>5 (25%)</td>
</tr>
<tr>
<td>E Hospital</td>
<td>5 (25%)</td>
</tr>
</tbody>
</table>

**Gender n, %**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>17 (85%)</td>
</tr>
<tr>
<td>Male</td>
<td>3 (15%)</td>
</tr>
</tbody>
</table>

**Age (mean, SD)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>34.5 ± 7.9 years</td>
<td></td>
</tr>
</tbody>
</table>

**Years working as nurse (mean, SD)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>11.6 ± 8.3 years</td>
<td></td>
</tr>
</tbody>
</table>

**Unfamiliar with teach-back method**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
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</tbody>
</table>

**Highest qualification (n, %)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Master-prepared</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>4-year prepared (Bachelor's)</td>
<td>11 (55%)</td>
</tr>
<tr>
<td>3-year prepared</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>2-year prepared</td>
<td>7 (35%)</td>
</tr>
</tbody>
</table>

**Pre-test and post-test results**

Table 2 presents the HF knowledgescores before and after the intervention. Average pre-test score was 12.7 ranging from 10 to 15. Three questions that many nurses answered incorrectly were question 3 (37% wrong), question 6 (84% wrong), and question 15 (32%). No missing responses were seen. Mean post-test score was 13.7 ranging from 12 to 15. More nurses answered all questions correctly (5 nurses had a maximum score post-test versus only one person in pre-test). The questions often answered wrongly prior to workshop participation were improved in the post-test with question 6 (50% incorrect down from 84% on occasion 1) and question 15 (15% incorrect down from 32% on occasion 1).

The Wilcoxon Signed Rank test showed that average post–test score was significantly higher than pre-test score (p=0.002). This result indicates that the educational program for nurses has shown a positive effect on improving nurses’ general knowledge in terms of HF and self-management in a short period.
### Table 2. Pre-test and post-test heart failure knowledge score

<table>
<thead>
<tr>
<th>Score (0-15)</th>
<th>Mean ±SD</th>
<th>Total responses</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>12.7 ± 1.2</td>
<td>N = 19</td>
<td>13</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Post-test</td>
<td>13.7 ±1.1</td>
<td>N = 20</td>
<td>14</td>
<td>12</td>
<td>15</td>
</tr>
</tbody>
</table>

### Nurses’ feedback

The Evaluation survey revealed all nurses (100%) either agreed or strongly agreed with all of the statements regarding quality of content and structure of the education program. All nurses obtained better knowledge with regards to heart failure and instructions for self-managing a HF condition.

Three nurses commented the case studies and role-play were well designed to evaluate what they achieved after the workshop and what still remained to be learned. One individual gave feedback in that a longer workshop time frame would have been more valuable as she wanted to learn more.

All nurses indicated that they would share the teach-back method and the HF booklet with their respective teams and colleagues. All participants agreed that the teach-back method was very effective and created opportunities for patients to obtain feedback on their knowledge with nurses. They felt confident with using the teach-back method in educating patients. Two nurses stated that implementation of the teach-back method to all patients with heart failure in cardiac wards may be challenging since they often face a high clinical load of patients on the ward. However, they agreed that nurses would prioritize the teach-back method to particular patients such as the elderly, people with low reading capacity or cognitive impairment and minorities.

### DISCUSSION

Nurse participants were recruited on a voluntary basis from three main cardiac hospitals, so they did not represent cardiac nurses in general. Moreover, the sample of this pilot educational workshop was 20 participants which was not sufficient in terms of statistical power to detect statistical significance. The pre-test post-test study design with no control group has recognized limitations in that positive changes in nurses’ knowledge could be attributed to chance and may not be due to a training program. Nevertheless, all nurses were required to participate...
in learning activities as part of their attendance. What’s more, they did not receive any educational support other than intervention during the time the workshop was taking place. Therefore, causation is a reasonable assumption.

The questionnaire used for pre- and post-test was originally developed for assessing patient knowledge, so it may not be appropriate for nurses. Nonetheless, the test results indicated that two nurses’ scores addressed in adequate HF knowledge prior to education (≤ 11 out of possible score of 15). It was interesting to note that overall, nurses’ knowledge did improve. A study by Mahramus, T. et al which involved 158 nurses showed improvement in mean scores over two occasions: immediately after and 3 months post class (13.0 vs. 16.1 vs. 18.0, p < 0.001) [7]. The score improvement in this study was seen to be lower than that of Mahramus’s (1 vs 3 points) due to the use of different instruments, as well as that, nurse participants were pretty knowledgeable at the baseline level. This indicated that to an extent, nurses’ knowledge could be better improved.

CONCLUSION

The study findings have shown that the simplified intervention using the teach-back method increased nurses’ knowledge of heart failure. Additionally, feedback achieved from nurses reveals that the teach-back method is suitable to be used amid routine cardiac practice. The pilot study addressed positive results for the cardiac nurses, however further research is recommended to examine an intervention in larger groups of Vietnamese cardiac nurses, especially those at an earlier point in their nursing career and knowledge development. Studies also need to re-test nurses’ knowledge in the long term and assess their perspectives of the teach-back utilization in the course of routine practice. In addition, studies involving the use of the teach-back method in patient education for heart failure, as well as for other chronic illnesses would also be a direction for future exploration.

Recommendation in practice

Knowledge score improved indicating that the booklet and workshop content were effective. Prior to the workshop, all nurses did not have knowledge of the teach-back method, but evaluation revealed that all nurses would add the teach-back method to their routine practice and introduce this method to their colleagues. Feedback overall was supportive and positive regarding the workshop.
Additionally, nurses wanted to participate in more training programs like this to update their knowledge. This result provides a strong argument that such a training program is suitable and essential for cardiac nurses.

It is also worth noticing that although provision of disease information to patients is important in chronic illness, self-management is more than increasing patients’ knowledge. Patients must also understand their central role in their own illness care, and they need support in learning to integrate self-management behaviors into their lives as well as learning how to evaluate and respond to changes in their condition. It is crucial to include this concept in teaching nurses how to help patients become self-managers of their chronic conditions.

ACKNOWLEDGEMENTS

We wish to sincerely thank the Vietnam Nursing Project Scholarship, Atlantic Philanthropies for funding a PhD project at Queensland University of Technology, from where this study was conducted.

REFERENCES


ABSTRACT

Evidence-based human nursing care is a crucial characteristic of the ideal graduated nurse at Boromarajonani College of Nursing, Saraburi. Thus, evidence-based human nursing care ability is the majority characteristic that should be developed. This study described students’ perceived ability in providing evidence-based human nursing care using cross-sectional survey. Participants were undergraduate nursing students at Boromarajonani College of Nursing Saraburi, Thailand. The stratified random sample of 182 out of 355 nursing students comprised of 41 first year students, 61 second year students, 35 third year students and 45 fourth year students. Data were collected August to September during the 1st semester of the 2013 academic year.

The results showed that the overall perception of evidence-based human nursing care ability of students was at a high level with mean = 4.11 (SD = 0.57). When examined in each domain, students were found to have an average score at high levels amid four dimensions including evidence-based humanized understanding towards clients (X̄ = 4.12, SD = .51), identifying true problems and needs of clients (X̄ = 4.02, SD = .57), providing evidence-based human nursing care according to clients’ needs and problems (X̄ = 4.15, SD = .62), and reflections of practice (X̄ = 4.08, SD = .64). Nonetheless, students’ ability on problem solving plan was at a moderate level (X̄ = 3.88, SD = .54). Results of this study could be used to improve nursing education by using these evidence-based human nursing care dimensions in nursing course curriculum, especially in a problem solving plan.

Keywords: nursing, student, evidence-based human nursing care
BACKGROUND

Evidence-Based Human Nursing Care (EBHC) is an identity dynamic of graduated nurses at Boromarajonani College of Nursing, Saraburi, Thailand. The framework of Evidence-Based Human Nursing Care is based on 2 concepts: Humanized care concept and Evidenced-based nursing concept. Humanized care is an important component in nursing. Watson's theoretical framework focuses on interpersonal and transpersonal processes as essential in human care comprised of 10 Curative Factors and the Caritas Process [1]. This concept of humanized nursing care provides a theoretical foundation for integrating caring into nursing education. Evidenced-based nursing (EBN) is a framework for clinical practice that incorporates the best available scientific evidence with the experience of the clinician and the patient's preferences and values to make decisions regarding health care. EBN's model of Saraburi contains 6 steps as follows: 1) identify clinical practice problems or patient’s problem; 2) ask clinical questions that can be answered through research and other evidence sources; 3) search the best evidence to answer these clinical questions; 4) appraise the validity of the evidence to support answers to clinical questions; 5) integrate the evidence with clinical expertise and patients’ perspectives; and 6) evaluate the effectiveness of carrying the above [2]. Thus, the EBHC concept comprised of 5 domains include 1) Humanized understanding towards clients, 2) identifying true problems and needs of clients, 3) Problem solving plan, 4) Providing humanized care according to clients’ needs and problems, and 5) reflection of practice. The EBHC concept was taught continuously in nursing students for developed EBHC ability. Therefore, this article assesses a degree of EBHC among undergraduate nursing students across the years of its curriculum. The results of this study are likely to provide information for nurse instructors to develop the learning-teaching process focusing on EBHC.

OBJECTIVE

This study aimed to describe perceptions of evidence-based human nursing care ability in undergraduate nursing students.

METHOD

Design: A cross-sectional survey was designed.
Ethical Considerations

The study was approved by the Research Ethic Committee of Boromarajonani College of Nursing at Saraburi, Thailand (no. EC1-028/2013). Each potential subject was informed regarding: the purpose of the study; what study involvement entailed; confidentiality and, the right to withdraw at any time without repercussion. All subjects consenting to participate were asked to sign a consent form.

Sample

The target population of this study was 355 nursing students of Boromarajonani College of Nursing, Saraburi, Thailand. Data were collected during a 2 month period from August to September in the 1st semester of the 2013 academic year. The sample size was calculated using Krejcie and Morgan table [3], therefore, the expected sample size was 182 nursing students. The nursing student sample was selected via stratified random sampling and simple random sampling without replacement. Participants comprised of 41 first year, 61 second year, 35 third year, and 45 fourth year students.

Measurement tools

Two questionnaires were used for data collection:

1. Personal information comprised of years of studying in the nursing program and grade point average (GPA).

2. Evidence-Based Human Nursing Care comprised of 32 items. The measurement tool was developed by Krirkgulthorn [4] for measuring students’ EBHC abilities. The questionnaire comprised of five domains together with evidence-based humanized understanding towards clients (6 items), identifying real problems and needs of clients (5 items), problem solving plan (9 items), providing humanized care according to clients’ needs and problems (7 items), and reflection on practice (5 items). Students were asked to rate their own ability on a 5-point rating scale ranged from 5 = very much to 1 = very little. Average score was interpreted as high evidence-based human nursing care ability ($\bar{X} = 4.00-5.00$), moderate evidence-based human nursing care ability ($\bar{X} = 3.00-3.99$), and
low evidence-based human nursing care ability ($\bar{X} = 2.99$). The instrument demonstrated good reliability as Cronbach’s alpha was 0.91.

Data analysis
Descriptive statistics of percentage, mean, and standard deviation were used to analyze personal data and EBHC ability.

RESULTS
Participant characteristics
The majority of participants in this study were female nursing students (89.4%) with a mean age of 21.16 (SD = 1.33) years, and moderate academic achievement (73.50%).

Evidence-Based Human Nursing Care ability

Results showed that the overall ability in EBHC of students was at a high level with mean = 4.11 (SD = 0.57). When examined in each domain, students were found to have average scores at high levels amid four dimensions including EBHC understanding towards clients, identifying real problems and needs of clients, providing EBHC according to clients’ needs and problems and reflection on practice. Conversely, students’ ability pertaining to problem solving plan was at a moderate level as shown in Table 1.

Table 1. Mean scores of perceptions of evidence-based human nursing care ability overall, and dimensions (n = 182)

<table>
<thead>
<tr>
<th>Evidence-Based Human Nursing Care</th>
<th>Mean</th>
<th>SD</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding clients</td>
<td>4.12</td>
<td>0.51</td>
<td>High</td>
</tr>
<tr>
<td>Identifying real problems/needs of clients</td>
<td>4.02</td>
<td>0.57</td>
<td>High</td>
</tr>
<tr>
<td>Problem solving plan</td>
<td>3.88</td>
<td>0.54</td>
<td>Moderate</td>
</tr>
<tr>
<td>Providing care according to needs/problems</td>
<td>4.15</td>
<td>0.62</td>
<td>High</td>
</tr>
<tr>
<td>Reflection on practice</td>
<td>4.08</td>
<td>0.64</td>
<td>High</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>4.11</td>
<td>0.57</td>
<td>High</td>
</tr>
</tbody>
</table>
DISCUSSION

This study evaluated levels of EBHC among undergraduate nursing students at Boromarajonani College of Nursing Saraburi, Thailand. Findings of students’ perceived ability in providing EBHC indicated that overall EBHC ability was at a high level. The findings reflected that perceptions of EBHC ability of the nursing students were gained from their numerous experiences. This can be explained by the fact that with continued learning and clinical practice focusing on EBHC ability, students were obviously gaining valuable experience from nurse instructors who provided excellent clinical opportunities to use their theoretical knowledge in the application of EBHC principles and processes, such as: creating a positive attitude in caring for fellow human beings, understanding others, learning of the populace’s hardships, commitment to the spiritual empowerment of service, the creation of good faith, communication and relationships and the development of volunteerism. Thus, the study found that EBHC exhibited average scores at high levels in four dimensions including EBHC understanding towards clients, identifying real problems and needs of clients, providing humanized care according to clients’ needs and problems, and reflection on practice whereas, the ability of problem solving plan was at moderate level. This result is consistent with the results of other studies in that nursing care plan ability was at the moderate level [5, 6]. It can be explained in that the teaching on a concept of EBHC at the college focused on understanding the service with humanized care. For that reason, the evaluation of teaching in other areas is not clear – especially in planning the solving of problems that students are able to moderate.

CONCLUSION

This study could be used to improve nursing education targeting each EBHC dimension; in particular the ability of problem solving planning in an undergraduate nursing curriculum.

ACKNOWLEDGEMENTS

This study received the funding from the Boromarajonani College of Nursing Saraburi, Thailand.
REFERENCES


PERCEPTION OF INFECTION CONTROL AND MEDICATION SAFETY AMONG NURSING STUDENTS UNDER PRABOROMARAJCHANOK INSTITUTE, THAILAND

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ABSTRACT

Background: Infection control and medication safety have significant impacts on patient outcomes. These important topics have been taught throughout undergraduate nursing curriculum.

Objectives: This study examined perceptions of infection control and medication safety among nursing students under Praboromarachanok Institute, Thailand.

Methods: Participants comprised of 309 randomly selected nursing students enrolled in 7 nursing colleges under Praboromarachanok Institute. In July to August 2013, infection control and medication safety questionnaires were administered to 3rd and 4th year nursing students with clinical and community practice experiences.

Results: Findings indicated a high level of perceived infection control ($\bar{X} = 4.25, \text{SD} = .31$) and medication safety ($\bar{X} = 4.57, \text{SD} = .39$) among students overall. The mean scores of perceived infection control and medication safety among 3rd and the 4th year nursing students were at a high level 4.25 (SD = .29) and 4.56 (SD = .38) vs. 4.24 (SD = .32) and 4.57 (SD = .40), respectively. There was no significant difference in mean scores of perceived infection control and medication safety among 3rd and 4th year nursing students.

Conclusions: This study provides useful information for nurse educators regarding planning of teaching and learning activities for nursing students pertaining to the promoting of infection control and medication safety so as to raise awareness.

Keywords: Perceptions, infection control, medication safety, nursing student
BACKGROUND

Approximately 100 million patients around the world have previously contracted infection in a healthcare setting. Medication errors cause adverse drug events, hospitalization and deaths among patients each year. The World Health Organization has developed policies on patient safety as fundamentals of quality care delivery in healthcare systems resulting in the development of international patient safety guidelines among different countries [1]. Identified preventive measures include hand washing, cleaning service, cleaning of medical instruments, medication safety, and management of unexpected medicinal incidents [1,2]. In Thailand, the established guidelines for preventing complications and patient safety follow quality management guideline criteria according to the Joint Commission for Accreditation of Healthcare Organization [3-4]. Previous studies of patient safety culture among nurses revealed perceived discomfort and unfamiliarity in reporting of error that may impact on patients [5-6]. Therefore, evaluation of patient safety as a yearly routine can prevent unexpected incidents and issues concerning patients [7].

The Praboromrachanok Institute is a government organization responsible for public health human resources and development through its 29 Boromarajonani Colleges of Nursing (BCN) located across various regions. These BCNs deliver undergraduate nursing education and produce registered nurses to serve Thai population in community and healthcare settings. The topics of patient safety pertaining to infection control and medication safety have been the focus of teaching in class and clinical practice throughout nursing curriculum. Therefore, the researcher is interested in examining perceptions of nursing students towards issues related to patient safety for future development of nursing curriculum. Infection control and medication safety are fundamental principles concerning nursing students contributing to practice. Findings will be used as curriculum evaluation for promoting infection control and medication safety competency and awareness among undergraduate nursing students and to ensure safety amid patient care.
OBJECTIVES

To examine perceptions towards infection control among nursing students enrolled in nursing colleges under the Praboromarachanok Institute, Ministry of Public Health, Thailand.

To examine perceptions towards medication safety among nursing students enrolled in nursing colleges under the Praboromarachanok Institute, Ministry of Public Health, Thailand.

METHODS

Participants

Participants were 309 randomly selected nursing students from seven Boromarajonani Colleges of Nursing in the central region including Saraburi, Suphanburi, Rachaburi, Chainat, Rachaburi, and Petchaburi provinces. Only 3rd – 4th year nursing students with clinical experience were recruited. 2nd year nursing students were not selected because they were yet to partake in practical experience training in patient care. The study population was 1,208 and the required sample size for a survey study was 301 (Yamane) [8].

Ethical considerations

This study was approved by the Human Research Ethics Committee at Boromarajonani College of Nursing Saraburi, Thailand (no. EC1-024/2013) (July 2013). Participants were informed of their rights before participating.

Measurements

Personal data form: participants’ demographic data included age, gender, and academic information including years in nursing program and clinical practice experiences.

Infection control was assessed using 8 items developed according to the Thailand hospital assurance framework focused on hand washing, preventing urinary tract infection, respiratory tract infection, sepsis of IV line and aspirated pneumonia. Response options ranged from 5 (strongly agree) to 1 (strongly disagree). This instrument was reviewed for content validity by a panel of experts.
consisting of a hospital risk manager, a clinical nurse specialist and a nurse educator. Content validity index (CVI) was .93. The reliability of the scale was .70.

Medication safety was assessed using 8 items developed according to the Thailand hospital assurance framework comprised of the 6 rights of medication administration: double check before giving medicine, caution and double check before giving highly concentrated medicine, medication explanation, high risk drug alert, separate high drug alert, follow up for side effects of medicine and written information on medication taken at home. Response options ranged from 5 (strongly agree) to 1 (strongly disagree). This instrument was reviewed for content validity by a panel of experts consisting of a hospital risk manager, a nurse specialist and a nurse educator. Content validity index (CVI) was .93 and the scale reliability was .79.

Data collection

This cross-sectional survey was conducted in July to August, 2013. The researcher distributed 50 questionnaires to each of the seven Boromarajonani Colleges of Nursing for a total of 350.

Data analysis

Descriptive statistics were used to analyze mean score and standard deviation of perceived infection control and medication safety. T-test was used for mean score comparisons between students from different years in each nursing program.

RESULTS

The returned questionnaires containing usable data for analysis accounted for 309 out of 350 (response rate 88.29%). Participants were female (95.5%), with mean age of 20.93 (range 20 – 25 years). The proportion of students in the 3rd year was 53.7% and 4th year was 46.3%.

Infection Control

The mean score of perceived infection control among students overall was at a good level with an average score of 4.48 (SD = .38). The highest mean score ( X = 4.78, SD = .42) was found in two items; “hand washing” and “sterile technique
for inserting urine catheter”. Whereas, the lowest item mean score (\( X = 3.74, \text{SD} = 1.04 \)) was “time spent on hand correct washing”.

**Medication safety**

For medication safety, students had good perception with an average score of 36.55 (\( \text{SD} = 3.15 \)). Students had good perceptions on all medication safety items; the highest was “to double check the process of preparing and administering of high dose medicine” (\( X = 4.74, \text{SD} = .47 \)) whereas the lowest was “perception on providing written information on home medication to patients and relatives discharged from hospital” (\( X = 4.31, \text{SD} = .69 \))

**Perception comparisons according to years in nursing program**

The mean score of perceived infection control and medication safety among the 3\textsuperscript{rd} and the 4\textsuperscript{th} year nursing students was data high level as shown in Table 1. For the 3\textsuperscript{rd} year nursing students, mean scores of perceived infection control and medication safety were 4.25 (\( \text{SD} = .29 \)) and 4.56 (\( \text{SD} = .38 \)), respectively. For the 4\textsuperscript{th} year nursing students, mean scores of perceived infection control and medication safety were 4.24 (\( \text{SD} = .32 \)) and 4.57 (\( \text{SD} = .40 \)), respectively.

Comparisons of mean scores according to years in nursing program between the 3\textsuperscript{rd} and 4\textsuperscript{th} year students indicated no significant difference in perceived infection control (\( t = .547, p = .46 \)) and medication safety (\( t = .039, p = .84 \)). Consequently, there was no significant difference in perceptions among nursing students studying in different years.

**Table 1.** Mean scores of infection control and medication safety among 3\textsuperscript{rd} year (\( n = 166 \)) and 4\textsuperscript{th} year (\( n = 143 \)) nursing students

<table>
<thead>
<tr>
<th>Patient safety</th>
<th>Mean</th>
<th>SD</th>
<th>Level</th>
<th>( t )-test</th>
<th>( p )-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infection Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>4.25</td>
<td>.29</td>
<td>High</td>
<td>.547</td>
<td>.460</td>
</tr>
<tr>
<td>Year 4</td>
<td>4.24</td>
<td>.32</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.48</td>
<td>.65</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medication Safety</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>4.56</td>
<td>.38</td>
<td>High</td>
<td>.039</td>
<td>.844</td>
</tr>
<tr>
<td>Year 4</td>
<td>4.57</td>
<td>.40</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.57</td>
<td>.61</td>
<td>High</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DISCUSSION

This study explored perceptions of patient safety specific to infection control and medication safety among 3rd and 4th year nursing students from seven Nursing Colleges under Praboromrachanok, Thai Ministry of Public Health. Findings indicated that students had a high level of perceived infection control and medication safety. The analysis of mean scores according to years of education among the 3rd and the 4th year nursing students revealed high perceptions towards infection control and medication safety in both years. Nursing students have to learn both theory and practice nursing while nurse educators provide supervision. The cognitive development of students is then focused on the teaching of critical thinking skills.

The comparisons of mean scores between the 3rd and 4th years revealed no significant difference in perceived infection control and medication safety. These findings provide support for quality of teaching and learning amid the undergraduate nursing program for promoting patient safety awareness among these seven nursing colleges under the Praboromarachanok Institute.

The rationale of high perceptions towards infection control and medication safety among nursing students in this study may be due to mandatory pre-clinical orientation before starting clinical practice and the standard arrangement for clinical supervision ratio of 1:8 between nurse faculty and students established by the Thailand Nursing and Midwifery Council [9]. These factors may account in some way for promoting students’ awareness of infection control and medication safety among 3rd and 4th year nursing students [5-6]. Additional supervision by preceptors and head nurses according to standard practice and protocol during clinical practicum in each patient unit may enhance students’ perceptions on patient safety related to infection control and medication safety.

CONCLUSIONS

Nurse educators should provide basic information to promote awareness of safety in patient care to prevent adverse events.

Results of the study indicate that nursing students have to raise their awareness of safety in taking care of patients.
This study reaffirms satisfactory outcomes related to patient safety in current teaching and learning in undergraduate curriculum among BCN under Praboromrachanok Institute, Thai Ministry of Public Health.

ACKNOWLEDGEMENTS

This study received internal funding from Boromarajonani College of Nursing Saraburi, Thailand. The researcher appreciates the participation of nursing students from the seven Boromarajonani Colleges.

REFERENCES

RISK OF STROKE AMONG REGISTERED NURSES AT SARABURI HOSPITAL

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ABSTRACT

Background: Stroke is the 5\textsuperscript{th} leading chronic illness and the leading cause of disability in adults. Nurses are healthcare personnel that should be role models who are aware of the risk of getting a stroke.

Objectives: To explore risk of stroke among registered nurses working at Saraburi Hospital, Thailand.

Methods: Participants were a stratified random sampling of 79 registered nurses according to working units. Data was collected from July to August 2013 using stroke risks questionnaires. Scale reliability was .98.

Results: Findings revealed the proportion of registered nurses in four categories of stroke risk: low risk (92.4\%), in between (3.8\%), moderate risk (2.5\%), and high risk (1.3\%). Stroke risk factors were irregular exercise (84.9\%) and being overweight (20.3\%).

Conclusions: Organizations should promote healthy living, i.e. regular exercise among registered nurses targeting modifiable risks of stroke.

Keywords: risk, stroke, registered nurse
BACKGROUND

Stroke is the 5th leading chronic illness with significant impacts and is the leading cause of disability in adults. In 2011, there were 18,629 stroke cases among Thai nationals: ischemic stroke, 4,684 cases, hemorrhagic stroke, 2,207 cases, subdural hemorrhage, 1,073 cases, and intra-brain hemorrhage, 791 cases. The proportion of patients with paralysis was 9,874 cases. The top three provinces with stroke cases were Sukho Thai (416.53 per 100,000 population), Lumphune (213.97 per 100,000), and Singhburi (176.53 per 100,000 population) [1].

Risk factors of stroke include chronic disease conditions with hypertension, diabetes and heart disease. Lifestyle, unhealthy behaviors such as smoking, lack of exercise and social environment are considered controllable risk factors whereas age, gender, ethnicity, and genetic are uncontrollable [2-4].

Nurses are in a profession that calls for irregular work times in taking care of patients. The job requires 24-hour shift rotations that change one's lifestyle each day. Nurse to patient ratio at Saraburi Hospital is at the minimum limit bringing with it an increased workload. Heavy workload and an average age of 40 among staff ends in fatigue and low work-related satisfaction [5]. Those in a stressful environment are at risk of having a stroke [6]. Moreover, healthy nurses will deliver quality care and become role models concerning healthy behaviors among others.

This study explored stroke risk among registered nurses at Saraburi Hospital.

OBJECTIVES

The study aimed to explore stroke risk among registered nurses working in a hospital setting.

METHODS

This descriptive research was conducted from July to August 2013. Human protection and ethics were approved by the Institutional Review Boards at Boromarajonani College of Nursing and Saraburi Hospital, Thailand.

Participants

Participants were a stratified sample of 79 from 560 registered nurses at Saraburi Hospital. The required sample according to sample size calculation was 30 for population < 10,000 [7].
Measurement tools

Self-reported questionnaires for data collection were:

1. Personal data assessment including age, marital status, education attainment level, job position, average monthly income, working hours, and overtime worked.

2. Risk factors pertaining to stroke were evaluated using 23 questions adapted from the Stroke Risk Test of the British Columbia Centre for Stroke and Cerebrovascular diseases [9]. Three local experts were asked to rate their opinion on content validity. Participants were asked to report on stroke risks including having experience with transient ischemic stroke (TIA), hypertension, diabetes, ischemic heart disease, high blood cholesterol, arrhythmic heart episode, hematocrit, homosysteine level, smoking, alcohol intake, family history of stroke, BMI, physical activity, and taking of contraceptive pills and hormone replacements. Scoring criteria were: low risk (score < 19.5), in between (score = 19.75-22.75), moderate risk (score = 23-25), and high risk (score > 25). The scale reliability was .98 in this study.

Data analysis

Descriptive statistics were used to analyze demographic data, mean, standard deviation frequency and percentage.

RESULTS

Participant characteristics

Nurses in the study were aged 31-45 (39.2%), 21-30 (25.3%), and 46-60 (35.4%). For marital status; married (53.2%), single (39.2%), widowed (5.1%), and divorced (1.3%). For education, the majority had earned a bachelor’s degree (97.5%) and master’s degree (2.5%). For positions; administrator (12.7%) and practical staff (87.3%). Proportion of average income (25,001-35,000 baht/month) was 38%, days of working were 20-24 shifts/month (41.8%) and work overtime was a maximum of 4 days/month (51.9%).

Stroke risks

Findings revealed that the proportion of nurses at risk of having a stroke from biological and chronic illnesses included those aged over 45 (36.7%), having a family member who’d had a stroke 22.8%, experienced transient ischemic heart
disease (1.3%), high blood pressure (11.4%), diabetes 5.1%, ischemic heart disease 8.9%, high cholesterol 32.9% and experienced with arrhythmic heart (6.3%).

Behavioral risks included smoking (1.3%), alcohol intake (1.3%), body weight exceeding standard 13kgs (20.3%), not exercising regularly (84.8%), taking contraceptive pills (5.1%), and hormone pills (3.8%). All participants did not know their hematocrit and homosysteine levels.

Stroke risk levels

Participants were categorized into each level of having a stroke as shown in Table 1. The majority of registered nurses who worked in the hospital in this study were categorized as low risk in terms of having a stroke (92.4%). Proportions of in between, moderate and high risk groups were 3.8%, 2.5% and 1.3%, respectively.

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>score</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>&lt; 19.5</td>
<td>73</td>
<td>92.4</td>
</tr>
<tr>
<td>In between</td>
<td>19.75-22.75</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Moderate</td>
<td>23-25</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>High</td>
<td>&gt;25</td>
<td>1</td>
<td>1.3</td>
</tr>
</tbody>
</table>

DISCUSSION

This study explored risk of stroke among registered nurses working in a hospital setting. Findings revealed low stroke risk among registered nurses working in a hospital setting. This may be because nurses who participated in this study were younger than 45 and did not drink alcohol or smoke. However, only 10.1% out of 32.9% nurses with dyslipidemia were on medication and controlled their diet. Moreover, 20.3% of nurses in this study were overweight by more than the 13kg standard and 84.8% did not exercise regularly.

Incidence of diabetes, arrhythmia and ischemic heart disease were 5.1%, 6.3%, and 8.9% respectively among hospital nurses in this study which was similar to a study conducted on samples of Northern University [8] and traffic police [9]. Nevertheless, nurses are healthcare personnel that should be role models of health promoting behaviors and be aware of stroke risks. Thus, the majority of hospital nurses are considered as being at a low risk of having a stroke. Nurses in this study need to be more active in relation to healthy habits and health promoting behaviors such as exercise and maintaining a healthy weight.
CONCLUSIONS

This study provides a basis for evaluation of health status among registered nurses working in a hospital setting focusing on stroke risk. Findings indicated the need for improved weight control and more exercise.

ACKNOWLEDGMENTS

The research team appreciates time spent on providing information by registered nurses at Saraburi Hospital. We are grateful for the encouragement and support from the nursing faculty and advisor at Boromarajonani College of Nursing, Saraburi.

REFERENCES


KNOWLEDGE OF STROKE WARNING SIGNS AMONG NURSING STUDENTS
AT BOROMARAJONANI COLLEGE OF NURSING SARABURI, THAILAND

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ABSTRACT

Background: Stroke is a medical emergency that can cause brain cell damage. The “FAST” acronym represents stroke warning signs.

Objectives: This study evaluated knowledge of stroke warning signs among undergraduate nursing students.

Methods: This study was conducted in June- July 2014 using an online survey. Participants were 241 nursing students, 1st–4th year, enrolled at Boromarajonani College of Nursing Saraburi, Thailand.

Results: Students who self-reported never receiving formal education on stroke warning sign knowledge was 23.2%. The stroke warning sign recognition from high to low were weakness/numbness of any part of the body (88.2%), face asymmetry (85.7%), sudden difficulty in speaking/understanding (84%), sudden severe headache (70.2%), dizziness/vertigo (69.2%), and sudden blurred/loss of vision (67.6%). The mean score of warning sign knowledge among students overall was at a high level (\(\bar{X} = 4.64, SD = 1.61\)). First year students were found to significantly have the lowest score as opposed to second to fourth year students (\(\bar{X} = 3.78, SD = 1.77\)). The percentage of students who knew how to respond to the situation was 29.5%. However, 95.9% knew the importance of keeping records of stroke onset.

Conclusions: This study provides basic information for further improvement of integrating stroke warning signs into undergraduate nursing programs.

Keywords: stroke, warning signs, nursing students
BACKGROUND

Stroke is a medical emergency condition that occurs when blood flow to an area of the brain is interrupted from a blood clot or when a blood vessel breaks. When either of these things occurs they result in lost abilities relating to control of speech, movement, and memory [1]. Patients need to receive thrombolytic drugs within 3 hours from the onset of symptoms resulting from a clot to avoid consequences including paralysis, impaired speech, swallowing, and depression from limited functional activities [2]. The “FAST” acronym is a tool to enhance recollection of the stroke warning signs. The letter “F = Facial weakness especially on one side of the body”, “A = Arm or leg weakness”, “S = Speech difficulties”, and “T = Time is brain”. Family members of stroke patients face multiple problems in taking long term care of patients in terms of stress, finance and relationships. Caregivers need to adjust their lifestyle to fit with patients’ needs and activities in daily living [3-5].

Boromarajonani College of Nursing Saraburi (BCNS) is an institute under Praboromarachanok Institute, Ministry of Public Health Thailand responsible for educating registered nurses to serve the community. Prevalence of stroke in Saraburi province has increased steadily over the past decade and ranks 7th among 76 provinces in the country [6]. Therefore, the college strives to achieve excellence in evidence-based stroke nursing and aims to combat the high prevalence of stroke. The Stroke Excellence Center was established to become a nationally accepted educational and learning center for the community. The mission is building a body of stroke knowledge, behavioral prevention and improving quality of life through research and knowledge synthesis. For that reason, teaching and learning in undergraduate nursing curriculum focuses on using evidence-based research in delivery of stroke nursing care and information to patients and families. Stroke risk factors, stroke prevention, warning signs and symptoms are taught across nursing curriculums. Moreover, there is a 3-credit elective course in stroke nursing available for 4th year nursing students. Graduates are expected to promote and educate patients, health personnel and the public at large to recognize stroke warning signs and trigger early response.
OBJECTIVES

To evaluate knowledge related to stroke warning signs among nursing students at Boromarajonani College of Nursing, Saraburi.

METHODS

This descriptive study was conducted from June to July 2014 through online survey. IRB approval was obtained from the Ethic Committee at Boromarajonani College of Nursing Saraburi, Thailand in May 2014.

Participants

Participants were a convenient sample of 241 from 396 nursing students, year 1-4 enrolled at Boromarajonani College of Nursing Saraburi (BCNS), Thailand. Individuals were recruited to complete an online survey through the college website.

Measurement tools

The online survey comprised of two parts:

1. A demographic questionnaire that assesses personal information related to age, years in nursing program, gender, family history of stroke and nursing practicum experience in clinical and community settings.

2. Stroke warning sign knowledge comprised of 6 questions following guidelines of the American Heart Association (American Heart Association, 2012) which included: 1) Sudden onset of face asymmetry; 2) Weakness/ numbness of arm/leg/part of body; 3) Sudden difficulty in speaking/understanding; 4) Sudden blurred/double/loss of vision; 5) Sudden onset of severe headache, and 6) Sudden onset of dizziness/vertigo. Response options were yes (1), no (0), and don’t know (0). Total mean score ranged from 0-6 and can be categorized into low level ($\bar{x} = 0.0-2.0$), moderate ($\bar{x} = 2.1-4.0$), and high ($\bar{x} = 4.1-6.0$)

Data analysis

Descriptive statistics were used for data analysis of frequency and percentage of personal and stroke information. Analysis of Variance (ANOVA) was used for mean score comparison among first to fourth year students.
RESULTS

The response rate of this online survey was 60.86% of all nursing students. The majority of participants (93.4%) were female, 9.5% had family history of stroke. Percentages of students according to study year in the nursing program were 34.9% 1st year, 29% 2nd year, 21.2% 3rd year, and 14.9% 4th year. Percentages of students who’d previously received stroke warning sign knowledge and knew the importance of recording stroke on set for proper treatment were 76.8% and 95.9% respectively.

The majority of students correctly identified the six warning signs of stroke. The most frequently recognized stroke warning signs from high to low were weakness/numbness of any part of the body (88.2%), sudden on set of face asymmetry (85.7%), sudden difficulty in speaking/understanding (82.6%), sudden severe headache (70.2%), sudden onset of dizziness/vertigo (69.2%), and sudden blurred/loss of vision (67.6%).

Table 1. Percentage of students’ knowledge on each stroke warning sign

<table>
<thead>
<tr>
<th>Stroke Warning Signs</th>
<th>Percent</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
</tr>
<tr>
<td>Sudden onset of face asymmetry</td>
<td>85.7</td>
<td>1.3</td>
<td>13.0</td>
</tr>
<tr>
<td>Weakness/numbness of arm or leg any part of the body</td>
<td>88.2</td>
<td>2.1</td>
<td>9.7</td>
</tr>
<tr>
<td>Sudden difficulty in speaking or understanding</td>
<td>82.6</td>
<td>3.7</td>
<td>12.0</td>
</tr>
<tr>
<td>Suddenly blurred and double vision, or loss of vision</td>
<td>67.6</td>
<td>13.4</td>
<td>18.9</td>
</tr>
<tr>
<td>Sudden onset of severe headache</td>
<td>70.2</td>
<td>16.4</td>
<td>13.4</td>
</tr>
<tr>
<td>Sudden onset of dizziness, or vertigo</td>
<td>69.2</td>
<td>16.0</td>
<td>14.8</td>
</tr>
</tbody>
</table>

The mean score of stroke warning sign knowledge overall among students was at the moderate level ($\bar{X} = 3.78$, SD = 1.77). When comparing mean scores of stroke warning sign knowledge according to years in the nursing program it was revealed that significantly the lowest score was at a moderate level among 1st year nursing students ($\bar{X} = 7.91$, SD = 3.44) whereas mean scores of the 2nd to 4th year nursing students were at a high level as shown in Table 2.
Table 2. Mean score of stroke warning sign knowledge according to years in nursing program (n = 235)

<table>
<thead>
<tr>
<th>Education</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>95% CI</th>
<th>F-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Level</td>
<td>Lower</td>
</tr>
<tr>
<td>Year 1</td>
<td>81</td>
<td>3.78**</td>
<td>1.77</td>
<td>Mod</td>
<td>3.38</td>
</tr>
<tr>
<td>Year 2</td>
<td>68</td>
<td>5.18</td>
<td>1.30</td>
<td>High</td>
<td>4.86</td>
</tr>
<tr>
<td>Year 3</td>
<td>51</td>
<td>4.89</td>
<td>1.38</td>
<td>High</td>
<td>4.49</td>
</tr>
<tr>
<td>Year 4</td>
<td>35</td>
<td>5.26</td>
<td>1.27</td>
<td>High</td>
<td>4.82</td>
</tr>
<tr>
<td>Total</td>
<td>235</td>
<td>4.64</td>
<td>1.61</td>
<td>High</td>
<td>4.85</td>
</tr>
</tbody>
</table>

* p < .01
** Mean score of year 1 < 2, 3, 4

DISCUSSION

This study examined knowledge of stroke warning signs among undergraduate nursing students at Boromarajonani College of Nursing, Saraburi. Findings revealed the significant lowest score of stroke warning signs among the 1st year nursing students was at the moderate level. The responses on recognizing of stroke warning signs were 88.2% for weakness/numbness of any part of the body, 85.7% for face asymmetry, 84% of sudden difficulty in speaking/understanding, 70.2% of sudden severe headache, 69.2% of dizziness/vertigo, and 67.6% of sudden blurred/loss of vision.

Previous studies on the recognition of stroke warning signs among patients with hypertension in Thailand have found high perceptions of warning signs of acute severe headache (82.9%) and low perception of weakness at one side of the body (58.6%) [7]. A survey of stroke awareness among the public reported low recognition of stroke warning signs: dizziness/vertigo (21%-26%), headache (16% - 22%, and fatigue or weakness of one side (6% - 15%)[5].

Studies of stroke awareness in the United States, Europe, and Asia have revealed that the majority of people did not recognize stroke warning signs. However, the stroke warning signs that most people recognized were acute or severe headache, weakness on one side of the body or arm, and dizziness [5, 7].
CONCLUSIONS

As the prevalence of stroke is high in Saraburi province, this study provides information for nurse educators for future use in improvement of teaching in relation to stroke awareness among nursing students. Findings of low perceptions of stroke warning signs specific to sudden severe headache, dizziness/vertigo, and sudden blurred/loss of vision pointed to the need for further improvement on the educating of nursing students.

REFERENCES


QUALITY OF LIFE AMONG FAMILY CAREGIVERS OF POST-STROKE PATIENTS

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ABSTRACT

Background: Providing care to post-stroke patient is a heavy burden that affects quality of life among family caregivers.

Objective: To examine quality of life among family caregivers of post-stroke patients living in the community.

Method: This descriptive study was conducted from November 2013 to March 2014. Participants were 111 family caregivers of post-stroke patients living in a community. Quality of life among family caregivers was assessed using the World Health Organization Quality of life – BREF (Thai version). Data was analyzed using descriptive statistic and t-test.

Results: Findings indicated the overall quality of life among family caregivers of post-stroke patients was at a moderate level. There was no significant difference of quality of life among family caregivers with a differing age, income and years providing care. However, mean quality of life score among caregivers providing care less than one year was lower than caregivers providing care of a longer period.

Conclusion: Healthcare personnel need to assess quality of life of family caregivers of patients with stroke regularly - especially in new family caregivers.

Keywords: quality of life, family caregiver, stroke, Thailand
BACKGROUND

Stroke is a leading cause of disability in adults that impacts quality of life - innotonly patients but also family caregivers. Post-stroke patients either make a full recovery or have mild to severe long-term disability. In order to resume self-care ability, caregivers and patients need to be actively involved in rehabilitation. In mild cases, patients normally resume independence in self-care by one year post-stroke. In severe cases, there are permanent impairments and disability after one year. These patients often live with severe cognitive problems, unable to perform usual activities or self-care with pain or discomfort, problems in mobility and some depression or anxiety [1].

Review of literatures found significant associations between age, marital status, income, financial status, physical illness, periods of care, and quality of life among family caregivers which in turn impacts quality of care for post-stroke patients [2, 3]. WHO defines Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live in relation to their goals, expectations, standards and concerns. Quality of life is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and relationship totheir environment [4]. Research in the past 30 years shows the decreasing quality of life among family caregivers of post-stroke patients [5]. Family caregivers are often faced with physical and psychological issues [6], socio-economical problems, heavy burden in providing care [7-8], lack of social supportand [9], neglect from healthcare personnel and poor training for home care [10].

Stroke prevalence in Saraburi province ranks fifth among 77 provinces in Thailand [5]. There is not much research on quality of life of family caregivers. Quality of life among family caregivers is an important indicator for success in providing care to stroke patients [11]. This study evaluated quality of life among family caregivers of stroke patients in Saraburi province. Findings can be used to develop interventions and strategies to improve quality of life among family caregivers.

OBJECTIVES

To examine the quality of life among family caregivers of stroke patients.

To compare quality of life among family caregivers of stroke patients according to age, income, and hours spent providing care.
METHODS

This cross-sectional descriptive study was conducted from November 2013 to March 2014. The Institution Review Board was approved from Boromarajonani College of Nursing Saraburi, Thailand, EC 1-035/2556 issued on 30 October 2013.

Participants

Participants were 111 family caregivers of post-stroke patients living at home in Saraburi province. The required sample size to achieve 80% power with small effect size at p < .05 using t-test statistic was 139 [12]. The inclusion criteria were: 1) aged over 18, 2) family member and primary caregiver, 3) never had a stroke, 4) providing care more than 3 months, and 5) able to read and write Thai. They were recruited through a community health center according to the inclusion criteria.

Measurement tools

Self-reported questionnaires for data collection were:

1. Demographic data form was used to collect information related to caregivers which included age, gender, education, income and marital status and patients information including stroke severity and period of illness.

2. Quality of life. The World Health Organization Quality of Life – BREF (WHOQOL – BREF) Thai version was used to assess quality of life among family caregivers. The scale comprised of 26 items for measuring four domains: physical, psychological, social relationships, and environment [4]. Response options were a 5-point Likert scale from 1 (not at all) to 5 (very much/completely/very satisfied). The four domain scores are scaled in a positive direction with higher scores indicating a higher quality of life. The reliability of the WHOQOL – BREF Thai version was .84 [3].

Data analysis

Descriptive statistics were used to analyze personal characteristic data and quality of life score. T-test independent was used to compare quality of life among family caregivers with periods of providing care less than one year and more than one year.
RESULTS

The response rate of family caregivers was 61.67%. The majority of post-stroke patients in this study were older than 60 (72.1%), male (56.8%), and married (64.0%). For post-stroke symptoms: severe one sided weakness (73%) and moderately dependent on others for daily living activities (42.3%).

Caregiver characteristics

Most family caregivers in this study were female (78.4%), aged less than 60 (69.4%), married (68.5%). 37.8% of caregivers were spouses of patients, had a primary education (55.9%), came from a low income family (68.5%). Most family caregivers (70.3%) had helpers in taking care of patients, 45% spent 16 hours per day with patients, and 27% caregivers had provided care for less than a year. For health status, 69.4% perceived themselves as healthy and 55.9% perceived their state of health as at a moderate level.

Quality of life

The overall mean score quality of life among family caregivers of post-stroke patients was at a moderate level (mean = 86.98, SD = 12.49). For each dimension of quality of life, the majority of caregivers were found to have a mean score at a moderate to good level in all aspects. They reported a poor quality of life in the social dimension among family caregivers of post-stroke patients (15.3%) as shown in Table 1.

Table 1. Quality of life among family caregivers of post-stroke patients living at home (n = 111)

<table>
<thead>
<tr>
<th>Quality of life</th>
<th>Mean</th>
<th>SD</th>
<th>Poor n (%)</th>
<th>Moderate n (%)</th>
<th>Good n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical</td>
<td>23.94</td>
<td>3.54</td>
<td>1 (0.9)</td>
<td>84 (75.7)</td>
<td>26 (23.4)</td>
</tr>
<tr>
<td>2. Psychological</td>
<td>20.79</td>
<td>3.94</td>
<td>5 (4.5)</td>
<td>68 (61.3)</td>
<td>38 (34.2)</td>
</tr>
<tr>
<td>3. Social relation</td>
<td>9.06</td>
<td>1.63</td>
<td>17 (15.3)</td>
<td>89 (80.2)</td>
<td>5 (4.5)</td>
</tr>
<tr>
<td>4. Environment</td>
<td>27.20</td>
<td>5.67</td>
<td>9 (8.1)</td>
<td>61 (55.0)</td>
<td>41 (36.9)</td>
</tr>
<tr>
<td>Total</td>
<td>86.98</td>
<td>12.49</td>
<td>3 (2.7)</td>
<td>76 (68.5)</td>
<td>32 (28.8)</td>
</tr>
</tbody>
</table>
Table 2 shows mean score comparison of quality of life among family caregivers according to age, income and years providing care. Findings revealed no significant difference in quality of life among family caregivers with differences in age, income and years providing care. Quality of life was at the moderate level in all categorized variables.

**Table 2. Quality of life among family caregivers according to age income, and years providing care (n = 111)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (year)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 60 (n=77)</td>
<td>86.22</td>
<td>12.79</td>
<td>-0.97</td>
<td>.34</td>
</tr>
<tr>
<td>≥ 60 (n=34)</td>
<td>88.71</td>
<td>11.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income (baht/month)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 15000 (n=75)</td>
<td>87.08</td>
<td>13.24</td>
<td>0.12</td>
<td>.91</td>
</tr>
<tr>
<td>≥15000 (n=36)</td>
<td>86.78</td>
<td>10.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Years providing care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year (n=30)</td>
<td>85.87</td>
<td>9.95</td>
<td>-0.57</td>
<td>.57</td>
</tr>
<tr>
<td>≥ 1 year(n=81)</td>
<td>87.39</td>
<td>13.34</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

This study assessed quality of life among family caregivers of post-stroke patients in Saraburi. Findings indicate a moderate level of overall quality of life and quality of life in each dimension: physical, psychological, social, and environment. This finding was similar to the previous reports conducted in Nigeria [7] and Thailand [13]. The study conducted at an outpatient setting found that 70.8% of primary caregivers had a moderate level of quality of life. Their quality of life in physical, psychological, social relationships and environmental aspects were also at a moderate level: 53.5%, 50.8%, 65% and 86.9% respectively [13].

Although quality of life among family caregivers providing care less than one year was lower than quality of life among caregivers providing care over longer periods, quality of life among family caregivers with a different age, income, and years providing care was not significantly different in the current study. This finding may be due to the low response impacting data analysis and results. In contrast, a study conducted with 260 caregivers indicated that caregivers providing care over longer periods had a better quality of life [13] and older caregivers of stroke
survivors in the US were found to have a significantly higher quality of life than younger caregivers [14].

CONCLUSIONS

This study provides information useful for healthcare providers in planning intervention, support and resources to improve quality of life among family caregivers. Healthcare personnel need to assess quality of life of family caregivers regularly especially among new family caregivers. The ultimate goal is positive impacts and quality care for patientssuffering from a stroke.

ACKNOWLEDGEMENTS

This study received funding from Boromarajonani College of Nursing, Saraburi. Researchers thank healthcare staff at Saraburi health promoting hospitals for their help with data collection. Thanks also go to the caregivers of stroke patients that participated in completing and returning questionnaires.

REFERENCES

EFFECTS OF A PARTICIPATORY HEALTH PROMOTION PROGRAM ON HEALTH BEHAVIORS OF COMMUNITY RESIDENTS

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ABSTRACT

Background: Boromarajonai College of Nursing has been working on strengthening community health in Tontarn Village in Saraburi province. Nursing students have launched several healthcare and health promotion projects to serve community needs.

Objectives: To evaluate effects of a participatory health promoting program using wisdom and know how on the health behavior of people in the community.

Methods: This participatory action research was conducted in December 2013 – May 2014 in Tontarn Village in Saraburi province, Thailand. Participants were a convenient sample of 135 community residents. The implementation of this participatory health promotion program was related to healthy food consumption, stress reduction using Thai massage, physical activity (traditional dancing), and home visits to the elderly with chronic illnesses. Instruments for data collection were the health data form, the health promotion and disease prevention knowledge questionnaire, and satisfaction questionnaire.

Results: Findings revealed there were improvements in health promotion and disease prevention knowledge post intervention ($\bar{X} = 16.72$, $SD = 1.28$ vs. $\bar{X} = 14.64$, $SD = 1.37$). Participants were satisfied with the health promotion program at a high level ($\bar{X} = 4.59$, $SD = 0.37$).

Conclusion: This study provides an example for participation action research in the community for promoting healthy living using local wisdom and culture.

Keywords: Community, nursing, participation, health promotion, program
BACKGROUND

Globalization and advanced technology in the 21st century has lead to changes in lifestyle i.e. unhealthy eating, smoking, alcohol consumption, lack of exercise, and stress [1]. Non communicable disease (NCDS) and chronic conditions include diabetes, hypertension, heart disease, cerebrovascular disease, and cancer which are all on the rise in Thailand [2]. NCD reports revealed that the proportion of Thai populace affected with more than 5 multiple chronic conditions was 566.17 per 100,000. The morbidity rates of people with chronic conditions were: diabetes 277.36 per 100,000 populations, lower airway related problems 61.25 per 100,000 populations, ischemic heart disease 59.93 per 100,000 population, and stroke 50.56 per 100,000 populations. These chronic conditions come with severe complications that require long term care.

Stroke prevalence in Saraburi province was the fifth among 77 provinces in Thailand [3]. 2011 – 2013 community surveillance revealed the top ten chronic health problems included muscle pain, hypertension, rhinitis, pharyngitis, headache, diabetes, abdominal pain, knee problems, dizziness, and skin reaction [4]. Since 2010, Boromarajonani College of Nursing (BCNS) has been working on strengthening a healthy community to be the learning resource center in Tontarn Village located in Saraburi province. BCNS students have continuously launched several healthcare and health promotion projects to serve community needs as part of their learning in the nursing curriculum. In 2011, the projects entitled “Kinpai Lumdee Cheevee Meesuk” and “Friends and volunteers in times of flooding” were jointly conducted between Saraburi municipal health office and the BCNS student club. Program activities comprised of providing health education on the subject of disease prevention, mental health problems, self-care, and environmental restoration during and after flooding. These programs resulted in improvements in health knowledge on preventing chronic illness.

Participatory action research (PAR) is an approach often used when conducting research in communities. The process involves seeking to understand community, participating collaboration and reflection after actions. The emphases are on community residents as co-researchers, inquiry, and consensus on action towards issues of interest [5]. The research approaches are based on data collection, action, and reflection with people who take actions to improve their own health [6]. In 2012, the BCNS student club launched a satisfactory health project.
entitled “A Healthy Tontarn Community and a Happy Life” focused on using local wisdom to promote eating behavior, physical activity, and mental health. For 2013-2014, the BCNS student club and faculty launched a participatory health promotion project in the Tontarn community under a research project using local wisdom and culture to be applied in daily life as well as networking with resources in the community.

**OBJECTIVES**

To evaluate the effects of a participatory health promoting program using wisdom and know how on the health behavior of people in a community.

**METHODS**

This participatory action research was conducted in Tontarn Village in Soahei district, Saraburi province from December 2013 to May 2014. The institutional review board was approved by the Boromarajjonnani College of Nursing.

**Participants**

Participants were a purposive sample of 135 residents living in Tontarn Village located in Soahei district in Saraburi province and 110 nursing students and faculty from Boromarajjonnani College of Nursing Saraburi. All participants met together with the community leader, and responsible healthcare personnel to plan for health promotion using local wisdom and discussion about resources available in the community.

**Intervention**

The program comprised of three phases: preparation, action, and evaluation phases.

*Preparation phase:* December 2013

1. Planning of potential activity among BCNS team
2. Meeting and plan for health promotion in the community between BCNS team, community leader, public health staff and health village volunteers.
3. Training BCNS students in communication skills with clients in the community as well as readiness in conducting individual interviews and group discussion.
Action phase: February – April 2014

The program comprised of four main activities for health promoting behaviors including healthy food consumption through demonstration, stress reduction using Thai massage at a community center, regular exercise using traditional dance for 3 days per week and home visits to the elderly with chronic illnesses. All activities were collaborated among BCNS and community health volunteers.

Evaluation: April 2014

The evaluation was conducted on community resident participants after the program in April 2014. The focus was on health promoting behavior and disease prevention knowledge and satisfaction of program participation.

Measurement tools

Three self-reported questionnaires were used for data collection:

1. Personal information. The demographics assessed were age, gender, and education.

2. Health promotion and disease prevention knowledge. A self-reported questionnaire that comprised of 20 items about health promotion knowledge related to eating habits, exercise, and emotional management. Response options were true (1) and false (0). The questionnaire was assessed for content validity by three local experts. Reliability (KR-20) was .60.

   The total score ranged from 0-20. Total mean score interpretations were categorized as low = 0-6.3, moderate = 6.4-12.7 and high = 12.8-20.

   Item mean score range from 0-1 and was categorized as low (0-.33), moderate (.34-.67), and high (.68-1.00).

3. Satisfaction questionnaire. Self-reported satisfaction regarding this participatory health promoting program was assessed by 8 items. The content was focused on process, personnel, facilities and service quality. Response options were on a 5-pont rating scale range from very much (5) to very little (1).

Data analysis

Descriptive statistic of mean, standard deviation, and percentand was used to analyze participant characteristics, health promotion and disease prevention knowledge. The t-test dependent statistic was used to analyze mean difference of
health promotion and disease prevention knowledge between before and after participation.

RESULTS

Participant Characteristics

Participants were 135 residents of Tontarn community comprised of 88 (65.19%) females, 48% elderly aged over 60, and 28.89% adults aged 41-60. For education, 20.74% had a bachelor’s degree or higher.

Health promotion and disease prevention knowledge

Participants were found to have a high level of knowledge on health promotion and disease prevention related to eating habits, exercise habits, and stress management pre and post program. The item with the lowest score at pre-test was “Unhealthy eating can cause obesity, diabetes, cardiovascular disease, and HTN”; mean of the item was at a low level (mean = 0.33, SD = .47). However, this item mean was increased to a high level after the program. All item means after the program of knowledge on health behaviors and disease prevention were at moderate to high level as showed in Table 1.

Table 1. Mean item score of health promotion and disease prevention knowledge (n=135)

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-test</th>
<th>Post test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>1. Health promotion is the responsibility of public health personnel only</td>
<td>1.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2. Eating, exercise, and emotional management are essential for health promotion</td>
<td>0.40</td>
<td>0.49</td>
</tr>
<tr>
<td>3. A health body and mind create increases in immunity for the preventing of illness</td>
<td>0.85</td>
<td>0.36</td>
</tr>
<tr>
<td>4. Unhealthy eating can cause obesity, diabetes, cardiovascular disease, and HTN</td>
<td>0.33</td>
<td>0.47</td>
</tr>
<tr>
<td>Item</td>
<td>Pre-test</td>
<td>Post test</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>5. Contaminated food can increase the risk of having cancer</td>
<td>0.67</td>
<td>0.47 Mod</td>
</tr>
<tr>
<td>6. Local plants with dark green leaves: Agasta, Wildbetal Leaf, and Indian mulberry can help with strong bones</td>
<td>0.83</td>
<td>0.38 High</td>
</tr>
<tr>
<td>7. Local plants: lemon grass, Roselle, and horse radish help with diuretic effects and lower blood pressure</td>
<td>0.67</td>
<td>0.47 Mod</td>
</tr>
<tr>
<td>8. Aerobic exercise is good and suitable for all age groups</td>
<td>0.73</td>
<td>0.44 High</td>
</tr>
<tr>
<td>9. Thai traditional dancing exercise is categorized as a moderate intensity exercise</td>
<td>0.93</td>
<td>0.25 High</td>
</tr>
<tr>
<td>10. Traditional dancing exercise is appropriate for the culture and the local elderly</td>
<td>0.87</td>
<td>0.34 High</td>
</tr>
<tr>
<td>11. People should maintain 30-minutes of exercise at least 3 days per week</td>
<td>0.67</td>
<td>0.47 Mod</td>
</tr>
<tr>
<td>12. The elderly can perform any exercise that doesn’t cause injury or impact on joints and bones</td>
<td>0.87</td>
<td>0.34 High</td>
</tr>
<tr>
<td>13. Three-step exercise comprises of warm up, exercise and muscle relaxation</td>
<td>0.93</td>
<td>0.25 High</td>
</tr>
<tr>
<td>14. Stress can cause illness</td>
<td>0.93</td>
<td>0.25 High</td>
</tr>
<tr>
<td>15. Stress regularly increases the chance of Diabetes, HTN and heart disease</td>
<td>0.66</td>
<td>0.48 Mod</td>
</tr>
<tr>
<td>16. Face, neck, and upper back massage can help with stress reduction</td>
<td>0.60</td>
<td>0.49 Mod</td>
</tr>
<tr>
<td>17. Stress reduction can be done through watching TV, listening to music, playing music, and engaging in</td>
<td>0.68</td>
<td>0.47 High</td>
</tr>
</tbody>
</table>
Table 2 showed significantly higher scores in terms of health promotion and disease prevention knowledge post intervention with a mean = 16.72 (SD = 1.28) compared to before the program, mean = 14.64(SD = 1.37).

**Table 2. Mean score of health promotion and disease prevention knowledge Pre-test and Post-test (n = 135)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-test</th>
<th>Post test</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Drinking alcohol and smoking are not appropriate ways to reduce stress</td>
<td>0.48</td>
<td>0.73</td>
</tr>
<tr>
<td>19. Herbal compresses or skin packs help reduce muscle pain and improve blood circulation</td>
<td>0.73</td>
<td>0.67</td>
</tr>
<tr>
<td>20. Applying a herbal hot compress within 24 hours of injury helps reduce joint and bone swelling</td>
<td>0.80</td>
<td>1.00</td>
</tr>
<tr>
<td>Total</td>
<td>14.64</td>
<td>16.72</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre – test</td>
<td>14.64</td>
<td>1.37</td>
<td>19.99*</td>
</tr>
<tr>
<td>Post – test</td>
<td>16.72</td>
<td>1.28</td>
<td></td>
</tr>
</tbody>
</table>

* p< .001

**Satisfaction towards health promotion program**

The satisfaction towards participation in the health promoting program was assessed related to process, personnel, facilities and service quality. Findings in Table 3 show high levels of satisfaction in each aspect as well as overall satisfaction.
Table 3. Satisfaction towards health promotion program (n = 135)

<table>
<thead>
<tr>
<th>Item</th>
<th>Very high</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very low</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
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<td>1 Information</td>
<td>62</td>
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<td>60</td>
<td>44.44</td>
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</tr>
<tr>
<td>2 Program of activities</td>
<td>68</td>
<td>50.37</td>
<td>58</td>
<td>42.96</td>
<td>7</td>
<td>5.19</td>
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<tr>
<td>3 Friendliness</td>
<td>75</td>
<td>55.56</td>
<td>55</td>
<td>40.74</td>
<td>5</td>
<td>3.70</td>
<td>-</td>
</tr>
<tr>
<td>4 Providing information</td>
<td>64</td>
<td>47.41</td>
<td>60</td>
<td>44.44</td>
<td>11</td>
<td>8.15</td>
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</tr>
<tr>
<td>5 Flyers and pamphlets</td>
<td>66</td>
<td>48.89</td>
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<td>44.44</td>
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<td>Service quality</td>
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<tr>
<td>6 Useful advice</td>
<td>55</td>
<td>40.74</td>
<td>70</td>
<td>51.85</td>
<td>10</td>
<td>7.41</td>
<td>-</td>
</tr>
<tr>
<td>7 Met needs</td>
<td>58</td>
<td>42.96</td>
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<td>7</td>
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</table>

DISCUSSION

This participatory community health promotion program between BCNS and Tontarn Community showed significant improvements in knowledge on health promotion and disease prevention among community residents. The focus was on encouragement of community participation through local wisdom of stress reduction massage, dancing exercises, and resources available in the community such as enriched nutritious local plant consumption. Moreover, home visits to the elderly with chronic illnesses can strengthen the satisfaction of community residents. The findings regarding health promoting behavior of community residents in this study was similar to the results of a previous community-based health promotion program conducted on older persons in Saraburi Province, Thailand [6].
The participatory community-based participatory program was reported as effective on health promotion and self-care among patients with chronic illness who lived in a community [7-8].

CONCLUSIONS

Participatory action research is recommended for problem solving in community settings between nursing colleges, healthcare personnel, community leaders, and community residents. This study found satisfaction and positive outcomes on health promoting knowledge and promises of expanding collaboration of teaching and learning in nursing to community settings targeting non communicable disease prevention.

REFERENCES

NURSING LEADERSHIP DEVELOPMENT TO SUPPORT CHANGES IN THE ASEAN ECONOMIC COMMUNITY IN 2015 AMONG NURSING ORGANIZATIONS IN THAILAND

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ABSTRACT

Background: The ASEAN Economic Community in 2015 will provide a free flow of services which includes nursing services. Migration of nursing personnel and foreign clients will rise. The competition of nursing service quality, nursing competencies and monetary transactions requires nursing leadership to be handled properly. Nursing organizations' leaders play a very important role in managing nursing organizations and nursing manpower in the age of the AEC. Therefore, nursing organizations have to develop nurses' leadership to meet this greater competition.

Objective: To explore nursing organizations’ performance in implementing nursing leadership development policy to support nursing during changes in the ASEAN Economic Community (AEC) in 2015.

Methods: This descriptive study used a secondary analysis of a cross-sectional survey of data of nursing organizations’ actions preparing for the ASEAN Economic Community in 2015 which was conducted among all nursing directors of hospitals under the Ministry of Public Health in Thailand. Five hundred and eighteen nursing directors responded to four items of the nursing leadership development questionnaire. This questionnaire was developed by the researchers based on Nursing Service Strategies for the AEC announced by the Bureau of Nursing of Thailand. Descriptive statistics were used for data analysis.

Results: Most of the nursing directors reported that nursing organizations had not implemented nursing leadership development policy (46.14% to 50.19%), although some
had the policy in place. Still, many had the policy in place and were implementing it. In this group, most were developing nursing leadership at all levels regarding nursing staff (44.98%), but, less joined the collaboration network of nursing administrators at national, provincial, and community levels (37.64%).

**Recommendations:** Nursing directors, who already have an established plan of nursing leadership development in their nursing organization should facilitate nursing leadership development in nursing administrators and nursing staff by motivating them in team-working networks. Nursing directors who do not have a policy or a plan of nursing leadership development set up should be alert to nursing leadership development and work on it steadfastly.

**Keywords:** nursing leadership, nursing leadership development, ASEAN Economic Community

**BACKGROUND**

The Association of Southeast Asian Nations (ASEAN) was established initially with six member countries on 8 August 1967. At present, ASEAN consists of 10 members including Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. Under the final goal of ASEAN economic integration, the ASEAN Vision 2020 was agreed upon in 1997 and encompasses the ASEAN Economic Community as a goal for free flow of goods, services and investments within the region [1]. The ASEAN Economic Community (AEC) specifies the following key characteristics: 1) a single market and production base, 2) a highly competitive economic region, 3) a region of equitable economic development, and 4) a region fully integrated into the global economy. The AEC areas of cooperation include human resources development and capacity building; recognition of professional qualifications; closer consultation on macroeconomic and financial policies; trade financing measures; enhanced infrastructure and communications connectivity; development of electronic transactions through e-ASEAN; integrating industries across the region to promote regional sourcing; and enhancing private sector involvement for the building of the AEC [2]. An ASEAN single market and production base comprising of five core elements: 1) free flow of goods; 2) free flow of services; 3) free flow of investment; 4) free flow of capital; and 5) free flow of skilled labour [3]. Strategic actions on the free flow of skilled labor outlined in the AEC Blueprint include - facilitating the issuance of visas and employment passes; mutual recognition arrangements
(MRAs) for major professional services; core concordance of services skills and qualifications; and enhancement of cooperation among ASEAN universities to increase regional mobility for students and staff [4]. The Mutual Recognition Agreement (MRA) regarding qualifications and standards of professionals pertains to eight mobile labor skills comprising of: doctors, dentists, nurses, engineers, architects, accountants, surveyors, and tourism professionals all under MRAs amongst ASEAN member countries [5]. The economic ministers of 10 ASEAN members signed the MRA on Nursing Services on 8 December 2006 at the ASEAN Summit in the Philippines [1]. Under the MRA, the objectives of mobilizing nursing services are to facilitate mobility of nursing professionals within ASEAN; to exchange information and expertise on standards and qualifications; to promote adoption of best practices amid professional nursing services; and to provide opportunities for capacity building and training of nurses. This change impacts on the nursing services of each country in ASEAN including Thailand - and in turn requires nursing leadership in improving nursing service quality to adopt best practices in the course of professional nursing services. Nursing organizations’ leaders play a very important role in handling nursing organizations and nursing manpower in this age of free trade. Porter-O’ Grady and Malloch [6] stated that “the leader creates a context that frames the behavior of the organization in a way that helps the organization achieve its objectives” (p. 84). Accordingly, nursing leadership development at all levels of nursing administrators and nursing staff is an essential function of nursing directors to meet this greater competition. Thailand’s Bureau of Nursing announced Nursing Service Strategies (2013-2015) as well as the nursing organizations’ plans to support changes in the AEC (7). A nursing leadership development plan is integrated into those strategies. This descriptive study focused on performances of nursing organizations in Thailand in implementing nursing leadership development policy as reported by nursing directors.

**OBJECTIVES**

This study aimed to explore nursing organizations’ performance in implementing nursing leadership development policy to support the nursing profession throughout changes during the ASEAN Economic Community (AEC) in 2015.
LITERATURE REVIEW

The information on the website of Association of South East Asian Nations (accessed on 8 Sept. 2014) demonstrated the overview of ASEAN. The Association of Southeast Asian Nations, or ASEAN was established on 8 August 1967 in Bangkok, Thailand. The ASEAN Declaration (Bangkok Declaration) was signed by the Founding Fathers of ASEAN which included Indonesia, Malaysia, Philippines, Singapore and Thailand. Then, Brunei Darussalam joined on 7 January 1984, Vietnam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999, making up what is today the ten Member States of ASEAN. In January 2007, at the 12th ASEAN Summit, leaders affirmed their strong commitment to accelerate the establishment of an ASEAN Community by 2015 and signed the Cebu Declaration on the Acceleration of the Establishment of an ASEAN Community by 2015. The ASEAN Community is comprised of three pillars, namely the ASEAN Political-Security Community (ASC), ASEAN Economic Community (AEC), and ASEAN Socio-Cultural Community (ASCC). In the ASEAN Economic Community Blueprint [2], the AEC proposed the following four key characteristics: 1) a single market and production base, 2) a highly competitive economic region, 3) a region of equitable economic development, and 4) a region fully integrated into the global economy. The first characteristic comprises of five core elements: 1) free flow of goods; 2) free flow of services; 3) free flow of investment; 4) free flow of capital; and 5) free flow of skilled labour.

The free flow of services impacts on health care services as well as nursing services. The MRA on nursing services signed in 2006 may result in the mobilization of nurses and the competition of nursing service qualities across the ASEAN countries. Thailand’s Bureau of Nursing has launched five strategies of Nursing Service Strategies (2013-2015) to support nursing professionals during changes amid the AEC: 1) establishment of nurses’ awareness and understanding regarding impacts of social, economic, political, and cultural changes to nursing services amid the AEC; 2) development of nursing competencies to support changes amid the AEC; 3) development of an effective nursing manpower management system to support changes amid the AEC; 4) development of nursing service systems for emergency/ disaster situations as well as emerging diseases/re-emerging diseases; and 5) enhancement of nursing service quality in order to be a leader among the ASEAN countries [7]. Performances in nursing
leadership development of nursing organizations are integrated into the second and the third strategy which comprise of four performance indicators: 1) supporting all levels of nursing administrators as leaders, thereby steering their team towards change to support the AEC; 2) encouraging nursing staff to be change leaders both at the regional level and national level in order to support the AEC; 3) joining the collaboration network of nursing administrators at the national, provincial and community levels to support the AEC; and 4) development of nursing leadership at all work levels in nursing staff to support the AEC. Although the migration of nursing personnel among the ASEAN countries may be minimal because of professional qualifications and standards, language barriers and other regulations of each member country (5), the nursing service quality of each country will be in competition. In addition, language barrier is a reason that makes nursing administrators and nursing staff feel apprehensive regarding joining or participating in international networks or meetings. As a consequence, nursing leadership is a key success factor for nursing organizations to survive in the changing era of the AEC. How to empower nursing administrators and nursing staff to be effective leaders is very important in dealing with changes in nursing services during the AEC. An effective leader is the one who has vision, exemplary leadership, ability to use innovation and information technology for quality development, exemplary professional characteristics, power and focus of control, support and promotion of followers’ development and clinical nursing expertise [8]. Nursing leadership can be effectively taught and integrated into nursing practice; subsequently it then has a positive impact on nurses’ leadership skills and practice [9].

Nursing leadership has positive impacts on outcomes among nursing personnel, patients, and organizations. A systematic review of a myriad of studies found that nursing leadership had positive effects on nursing workforce and work environments [10]. In addition, nursing leadership was associated with positive patient outcomes i.e. infection rates and safety [11]. Nursing leadership that is developed and shared among nurse managers and nursing staff will cause a positive working environment both in terms of psychological and social factors such as empowering and motivation [12].
METHODS
This descriptive study used a secondary analysis of a cross-sectional survey data of nursing organizations’ actions preparing for the ASEAN Economic Community in 2015 conducted among all nursing directors working in hospitals under the Ministry of Public Health across Thailand by the researchers in 2013. Five hundred and eighteen nursing directors responded to a questionnaire developed by the researcher based on Nursing Service Strategies for ASEC announced by the Bureau of Nursing of Thailand. The questionnaire comprised of 50 items and reliability tested in the primary study was .96. Data were selected so as to re-analyze the four items of nursing leadership competency development contained in the questionnaire. The items were: 1) Supporting all levels of nursing administrators to be leaders of steering teams for change to support the AEC; 2) Encouraging nursing staff to be change leaders both at regional and national levels in order to support the AEC; 3) Joining the collaboration network of nursing administrators at national, provincial and community levels to support the AEC; and 4) Development of nursing leadership at all work levels among nursing staff to support the AEC. The questionnaire’s scale rated from “no policy and has not been implemented” to “policy in place and already implemented.” The questionnaire was developed by the researchers based on Nursing Service Strategies for the AEC announced by the Bureau of Nursing of Thailand. Descriptive statistics including frequencies and percentage were used to describe nursing organizations’ performance in nursing leadership development to support the AEC.

Ethical considerations
Institutional review board approval was obtained for the primary study by the Khon Kaen University Ethics Committee. Permission for the primary study was obtained from hospital directors. The study subjects were informed by a written statement sheet attached with the questionnaire.

RESULTS
The nursing directors had an average age of 51.57 years. Most were married (68.41%) and had graduated with a Bachelor’s degree (57.06%). More than half had been working for more than 10 years (55.62%). The majority of hospitals, in
which nursing directors were working were community hospitals (88.80%) and had experienced providing health services to clients from overseas (91.86%).

In Table 1, the two columns of “policy in place but has not been implemented” and “no policy and has not been implemented” reveals that the majority reported having not yet carried out nursing leadership development activities. The percentages of combining the two columns of each item were 46.14% to 50.19%. Nevertheless, many nursing organizations were working on the development of leadership policy undertakings as shown in the column “currently doing” (37.64% to 44.98%).

**Table 1. Nursing organizations’ performance in implementing nursing leadership development policy**

<table>
<thead>
<tr>
<th>No</th>
<th>Nursing Leadership Development</th>
<th>Performances (numbers and percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Has policy and already implemented</td>
</tr>
<tr>
<td>1</td>
<td>Supporting all levels of nursing administrators to be leaders of steering teams for change to support the AEC</td>
<td>59 (11.39%)</td>
</tr>
<tr>
<td>2</td>
<td>Encouraging nursing staff to be change leaders both at regional level and national level to support the AEC</td>
<td>49 (9.46%)</td>
</tr>
<tr>
<td>3</td>
<td>Joining the collaboration network of nursing administrators at national level, provincial level, and community level to support the AEC</td>
<td>66 (12.74%)</td>
</tr>
<tr>
<td>4</td>
<td>Development of nursing leadership at all work levels of nursing staff to support the AEC</td>
<td>46 (8.88%)</td>
</tr>
</tbody>
</table>
DISCUSSION

Our findings showed that most nursing organizations had not implemented the nursing leadership development policy both among nursing administrators and nursing staff although some were implementing it. Most nursing directors were working in community hospitals where, currently, their nursing organizations give priority to improving the quality of nursing services in hospitals and nursing service accreditation policy. Thus, policies and activities associated with leadership development - especially those which serve for changes in nursing during the AEC era are less of a concern. Furthermore, for those nursing organizations that were implementing these policies, the performance indicator of joining collaboration networks of nursing administrators was implemented less. Consequently, a nursing administrators’ network has not been developed amid all health service networks in Thailand. Also, some nursing organizations have not had the opportunity to join said networks. Nursing administrators and clinical nursing networks are indeed crucial in developing effective leadership and team working. So, the ability to collaborate and teamwork are essential competencies for a leader to change effectively (6).

CONCLUSIONS

Most nursing organizations in Thailand have not implemented nursing leadership development policy to support nursing during changes amid the ASEAN Economic Community in 2015.

ACKNOWLEDGEMENTS

We wish to thank the Research and Training Center for Enhancing Quality of Life of Working-Age People, Faculty of Nursing, Khon Kaen University for a research grant. We also wish to thank nursing directors at hospitals from whom data were obtained.
REFERENCES

FACTORS RELATED TO PREOPERATIVE ANXIETY AMONG PATIENTS UNDERGOING ABDOMINAL SURGERY AT THAI NGUYEN HOSPITAL, VIETNAM

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ABSTRACT

Background: Preoperative anxiety is described as an unpleasant state of unease or tension among surgical patients. Understanding factors related to preoperative anxiety is the first crucial step to improving the quality of preoperative nursing care as well as postoperative nursing care.

Objectives: To examine the relationships between gender, trait anxiety, waiting time for surgery, uncertainty and preoperative anxiety among patients undergoing abdominal surgery at Thai Nguyen National General Hospital, Vietnam.

Methods: Simple random sampling was used to select 100 patients undergoing abdominal surgery. Data were collected from March to April 2014.

Result: Findings showed that 53% of the sample was male and 47% female. Mean score of trait anxiety was 50.40 (SD = 8.72). Mean score of waiting time for surgery was 5.95 days (SD = 2.24). Mean score of uncertainty was 85.70 (SD = 16.13). Mean score of preoperative anxiety among patients undergoing abdominal surgery was 51.65 (SD = 8.28) with positive correlation between trait anxiety, time waiting for surgery, uncertainty and preoperative anxiety (r = .48, p < .01; r = .32, p < .01; r = .45, p < .01 respectively).

Conclusion: Findings indicate that nurses should be concerned with evaluating trait anxiety, time waiting for surgery and uncertainty regularly in order to develop nursing interventions for reducing preoperative anxiety among patients undergoing abdominal surgery.

Keywords: Preoperative anxiety, abdominal surgery, trait anxiety, uncertainty.
INTRODUCTION

Preoperative anxiety is a major concern for patients undergoing surgery; therefore it is common in abdominal surgery [1]. Preoperative anxiety is described as an unpleasant state of uneasiness or tension among surgical patients [2]. Many studies have revealed that a significant number of adult patients undergoing surgical procedures experience high levels of preoperative anxiety [3]. The prevalence of preoperative anxiety was 92% among patients in surgical wards [4], with around 60% to 80% of all surgical patients in the Western population [5]. Preoperative anxiety is also an important problem in Vietnam. A survey in Ha Noi Hospitals indicated that 97.3% of patients who had had abdominal surgery had experienced preoperative anxiety [6].

Preoperative anxiety can lead to many complications and risks such as increased heart rate and blood pressure, palpitations, vasoconstriction, nausea, vomiting, pulmonary risks [7,8], and postoperative pain [9]. It also increases the risks associated with surgery including delays in wound healing, longer hospital stays [10] or infection [11]. These negative effects may increase treatment costs and might become an economic burden to patients and their families [12]. In addition, preoperative anxiety can alter the way an individual thinks, feels and acts. Negative emotions such as anxiety can affect the immune system of the body causing poor sleep patterns. Poor quality of sleep can lead to agitation - a situation which results in increased levels of catecholamines in the plasma as well as increases in sympathetic activity which in turn leads to high nocturnal blood pressure [13].

The experience of preoperative anxiety varies among individuals reflecting their physiological, psychological and social differences. As a result, it is challenging for nurses to manage patients’ anxiety following surgery. Understanding patients’ preoperative anxiety and related factors might benefit nursing practice: nurses will be able to differentiate the patients who are at higher risks of experiencing severe preoperative anxiety before surgery.

According to Lazarus and Folkman [14], stress is influenced by various factors and classified into two categories: personal factors and situational factors. Personal factors include feelings, beliefs regarding control of events and personality characteristics. Situational factors include unpredictable events, uncertainty of events, timing of events and duration of events. In line with this
belief, several studies have investigated associated factors affecting preoperative anxiety such as age, gender, trait anxiety, time waiting for surgery, social support, uncertainty etc. [15,16].

For the present study the researcher selected four factors; gender, trait anxiety, time waiting for surgery and uncertainty because the relationships among these selected factors and preoperative anxiety are still inconclusive.

In Vietnam, preoperative anxiety is very common in patients undergoing surgery. However, studies concerning preoperative anxiety in Vietnam are still limited. In fact, at Thai Nguyen National General Hospital, a lot of patients come to the hospital to be treated though the number of physicians and nurses is insufficient - often leading to increased waiting time for surgery. In addition, time limitations of physicians and nurses may contribute to preoperative anxiety because they cannot give sufficient information pertaining to what patients should know and understand before surgery.

The evidence above indicates the need to conduct this study in order to gain better understanding in relation to factors affecting preoperative anxiety which is the first crucial step to improving the quality of preoperative nursing care as well as post operative nursing care. Hence, it was indeed necessary to conduct this study at Thai Nguyen Hospital.

**MATERIALS AND METHODS**

This study was a descriptive correlational research design.

**Sample**

The sample size was calculated based on the formula recommended by Thorndike [17]. Simple random sampling was used to recruit the sample of 100 patients hospitalized at the general surgical ward at Thai Nguyen National General Hospital, Vietnam from March to April, 2014 waiting for major elective abdominal surgery pertaining to gastrointestinal tract, liver, stomach, gallbladder and bile ducts, kidney, pancreas, or spleen. Subjects were selected based on the following inclusion criteria: 1) 18 years of age or over (≥ 18 years old); 2) able to read, write, and communicate in Vietnamese; 3) no previous experience of major surgery; 4) willing to participate in the study; and 5) no previous diagnosis of anxiety disorder or depression.
Data collection procedures

After the proposal was approved by the Institutional Review Board (IRB), Faculty of Nursing Burapha University to collect data the researcher approached the Director of Thai Nguyen National General Hospital, Vietnam to obtain permission for data collection. The researcher subsequently contacted patients who met inclusion criteria. Data were collected twice. Trait anxiety level of participants was assessed on the day of admission to the hospital. Uncertainty and preoperative anxiety were assessed one day before surgery. The researcher continued collecting data until the required sample size was met. Then, completed questionnaires were checked and immediately stored in a secure box accessible only by the researcher. Finally, data were entered into a software computer program for subsequent analyses.

RESULTS

Table 1 shows that there were more males (53%) undergoing abdominal surgery than females (47%). The average age of the sample was 50.36 years (SD = 14.05). Most (86%) were married and 41% had completed high school. For occupation, farmer was the most common occupation (32%), whereas business person was the least common job (7%). It was also revealed that the majority (47%) earned an income of less than 3,000,000 Vietnamese Dong per month (150 USD per month).

Findings showed that 100% of the sample had preoperative anxiety: 75% reported moderate anxiety (41 – 60), 10% had mild anxiety (21 – 40), notably, 15% had severe anxiety (61 – 80).

Table 2 shows that mean score of trait anxiety was 50.40 (SD = 8.72), with an actual range of 31 to 70. Furthermore, results showed that the mean score of waiting time for surgery was 5.95 days (SD = 2.24) with an actual range of 2-11 days. The mean score of uncertainty was 85.70 (SD = 16.13) with an actual range of 51-121. The sample exhibited a moderate level of preoperative anxiety (M = 51.65, SD = 8.28) with an actual range of 34-70.
Table 1. Frequency and percentage of demographic characteristics of sample (n =100).

<table>
<thead>
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<th>Number</th>
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<td>47</td>
</tr>
<tr>
<td>Male</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
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</tr>
<tr>
<td>21-40</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>41-60</td>
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<td>49</td>
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<tr>
<td>&gt;60</td>
<td>25</td>
<td>25</td>
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<tr>
<td>Mean = 50.36, SD = 14.05, Range = 24 - 78</td>
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<tr>
<td><strong>Marital status</strong></td>
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<tr>
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<td>Widow/ Divorced/ Separated</td>
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<tr>
<td><strong>Education level</strong></td>
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<tr>
<td>Primary</td>
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<tr>
<td>Secondary</td>
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<tr>
<td>Diploma</td>
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<tr>
<td>Bachelor's or higher</td>
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<td><strong>Occupation</strong></td>
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<td>Farmer</td>
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<td>Business</td>
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</tr>
<tr>
<td>Retired</td>
<td>11</td>
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</tr>
<tr>
<td>Housewife</td>
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</tr>
</tbody>
</table>
Table 2. Range, mean, and standard deviation of trait anxiety, waiting time for surgery, uncertainty and preoperative anxiety (n=100)

<table>
<thead>
<tr>
<th>Items</th>
<th>Possible range</th>
<th>Actual range</th>
<th>Mean</th>
<th>SD</th>
</tr>
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<tbody>
<tr>
<td>Trait anxiety</td>
<td>20-80</td>
<td>31-70</td>
<td>50.40</td>
<td>8.72</td>
</tr>
<tr>
<td>Waiting time for surgery</td>
<td>-</td>
<td>2-11</td>
<td>5.95</td>
<td>2.24</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>28-140</td>
<td>51-121</td>
<td>85.70</td>
<td>16.13</td>
</tr>
<tr>
<td>Preoperative anxiety</td>
<td>20-80</td>
<td>34-70</td>
<td>51.65</td>
<td>8.28</td>
</tr>
</tbody>
</table>

There were positively significant correlations between trait anxiety, waiting time for surgery, uncertainty, and preoperative anxiety ($r = .48, p < .01$; $r = .32, p < .01$; $r = .45, p < .01$). However, the result of Point biserial correlation coefficient found that there were no correlations between gender and preoperative anxiety ($p > .05$) (Table 3).

Table 3. Correlation between gender, trait anxiety, waiting time for surgery, uncertainty, and preoperative anxiety

<table>
<thead>
<tr>
<th>Variables</th>
<th>Preoperative anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.07</td>
</tr>
<tr>
<td>Trait anxiety</td>
<td>.48**</td>
</tr>
<tr>
<td>Length of waiting time for the surgery</td>
<td>.32**</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>.45**</td>
</tr>
</tbody>
</table>

**$p < .01$**

DISCUSSION

The participants in this study reported a moderate level of preoperative anxiety. This could be explained in that it was the first time for all participants to face abdominal surgery, thus they did not know what could happen and they were possibly worried about outcomes of surgery. During the period of waiting for operation after admission to hospital, abdominal surgery patients may face stressors because they fear the hospital environment [7] as well as medical and surgical treatments [11]. Moreover, this preoperative anxiety was caused by trait
anxiety, time waiting for surgery and uncertainty. This result is consistent with previous researches which have indicated that preoperative anxiety is common in surgical patients. Prevalence of preoperative anxiety accounts for 92% of patients in surgical wards [4]. What’s more, a survey in Ha Noi Hospitals indicated that 97.3% of patients who had abdominal surgery experienced preoperative anxiety [6].

Unexpectedly, there were no relationships found between gender and preoperative anxiety among patients undergoing abdominal surgery at Thai Nguyen National General Hospital, Vietnam. The result of this study was consistent with Boker [18] whose study was conducted with 197 patients undergoing surgery. Accordingly, results showed that there was no association between gender and preoperative anxiety. Similarly, this finding is congruent with a study of Kiyohara [19], who revealed that gender was not significantly related to preoperative anxiety. This finding demonstrated the difficulty in determining the role of gender in relation to preoperative anxiety.

The findings showed a moderate positive correlation between trait anxiety and preoperative anxiety. Trait anxiety is a lifelong pattern of anxiety and is considered a personality trait [20]. For this finding, it could be explained that preoperative anxiety is higher in people with high trait anxiety than those with low trait anxiety. The patient with high trait anxiety is exposed to more stress and, therefore, perceives greater threats in preoperative situations [21]. Additionally, according to Lazarus and Folkman [14], stress is influenced by various factors and trait anxiety is one personal influencing factors. The relationship between trait anxiety and preoperative anxiety is consistent with a study by Mugglali and Komerk [22] which found that trait anxiety was positively correlated with preoperative anxiety. Similarly, this finding is congruent with a study by Romanik [23]. His study was conducted with patients who had elective abdominal or ear, nose, and throat surgery. The result of Pearson correlation showed a significant positive correlation was demonstrated between trait anxiety and preoperative anxiety ($r = .50; p = .001$).

There was a moderate positive correlation between time waiting for surgery and preoperative anxiety. According to Lazarus and Folkman [14], stress is influenced by various factors and time waiting for surgery is one situational influencing factor. While waiting for surgery patients may experience high levels of preoperative anxiety [24]. Waiting periods in the preoperative phase can contribute to stress by providing time for patients to think and worry about the upcoming
procedure [25]. In addition, longer waiting times with less information caused anxiety. Some patients reported feeling that nurses were not open to their concerns. These patients felt that they were not treated as individuals while they were waiting for surgery [11]. Moreover, a study of Fitzsimons [26] showed that participants also stated that much of their preoperative anxiety was caused by not knowing how long they would have to wait for an operation. According to results of Gallagher and McKinley [24] waiting for surgery was associated with preoperative anxiety. A study by Masood [16] showed that patients with a longer length of waiting time for surgery had higher levels of preoperative anxiety than those with a shorter waiting time.

There was a moderate positive correlation between uncertainty and preoperative anxiety. Uncertainty in this case is defined as the inability to determine the meaning of illness-related events. Uncertainty related to surgery has been considered as an important precursor of patients’ preoperative anxiety. Patient uncertainty occurs because they may not know about the diagnosis, process of surgery and care systems as well as when they’re unaware of the illness condition and necessary information: here uncertainty increases [19,27]. Perhaps uncertainty with reference to diagnosis, process of surgery, and treatment influenced levels of preoperative anxiety experienced by this population. Jangland [27] found that among those patients who complained about care and increased anxiety, the most common complaints were insufficient information, inadequate respect and insufficient empathy. These factors increased patient and family member anxiety and reduced their confidence in the health care system. This result is consistent with a study of Lien [19] and Ismail [28].

CONCLUSION

In conclusion, the results of this research showed that 100% of participants had preoperative anxiety and most had a moderate level of preoperative anxiety. Also, it was indicated that trait anxiety, waiting time for surgery and uncertainty were positively related to preoperative anxiety among patients undergoing abdominal surgery. The findings indicate that nurses should be concerned with evaluating trait anxiety, length of waiting time for surgery and feelings of uncertainty regularly in order to develop nursing interventions for reducing preoperative anxiety among patients undergoing abdominal surgery.
ACKNOWLEDGEMENTS

The researchers would like to thank the Faculty of Nursing, Burapha University, Thailand and Thai Nguyen National General Hospital in Viet Nam, and lastly, all participants who made this study possible.

REFERENCES


HEALTH CONDITIONS OF OLDER ADULTS WHO UTILIZE HEALTH SERVICES AT THE SOCIAL WELFARE DEVELOPMENT CENTER FOR THE ELDERLY IN PATHUMTHANI PROVINCE, THAILAND

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ABSTRACT

\textbf{Background:} Despite the fact that older adults now live longer and enjoy healthier lives, statistics show that 51.6\% of older Thai adults go without an annual check-up and 53.9\% live with chronic health conditions. The study on health conditions of older adults will be used as evidence data for improving health conditions and long-term care for the older Thai adults.

\textbf{Objective:} To study health conditions of older adults who utilize services at the Social Welfare Development Center for Elderly in Pathumthani Province, Thailand.

\textbf{Methods:} A descriptive study was conducted throughout July 2012 to February 2013. Fifty adults aged 60 years and over with good consciousness and able to communicate well were selected via purposive sampling. Research instruments included a Demographic Form and a Physical Health Assessment Form. Ethical consideration of human rights protection was considered for the duration of the study. Participation in the study was entirely voluntary. Data were collected via health assessment interview and physical assessment of bodily systems. Collected data were analyzed using descriptive statistics.

\textbf{Results:} The study found that only 60\% of the older adults attended an annual physical check-up. The older adults lived with chronic health problems such as cardiovascular disorders, neuromuscular disorders, visual impairment, genitourinary tract disorders, respiratory disorders and gastrointestinal and metabolic disorders.
Conclusions/Recommendations: Physical changes and functional disorders in multi-systems of the body especially pertaining to cardiovascular, neuromuscular and visual systems indicate the need for chronic care of older Thai adults. Additionally, forty percent of the subjects had never attended an annual physical check-up; this reflects the need for annual physical check-ups and activities to improve health status.

Keywords: health condition, older adults, Social Welfare Development Center

BACKGROUND

During the period of 1964 - 2010 life expectancy at birth among Thai populace increased from 55.9 years to 70.6 in males and from 62.0 to 77.5 in females. The life expectancy among Thai populace is expected to reach 76.0 for males and 82.7 for females in 2030 [1]. The number of older Thai adults is expected to rise from approximately 7.2 million in 2010 to 11 million by 2020 [2]. Despite the fact that this group is living longer and enjoying healthier lives, statistics show that 51.6% go without an annual check-up and 53.9% live with chronic health conditions; this puts individuals at risk of requiring long-term care [3,4,5,6]. The major health problems in this group include: diseases of the musculoskeletal system and connective tissue as well as the respiratory and cardiovascular systems [6,7,8]. What’s more, problems with visual impairment, hearing loss and bowel incontinence increase substantially with age [4,7,8].

According to the Thai Constitution, a Thai person who is over sixty years of age and has insufficient income for living shall have the right to welfare, public facilities and appropriate aids from the State [9,10]. The Social Welfare Development Center for the Elderly in Pathumthani Province is an organization under supervision of the Department of Social Welfare, Ministry of Labour and Social Welfare. The organization provides service by offering long-term residential homes for low-income older adults who cannot stay with their families or have no relatives to stay with [8,10]. Older adults who are eligible to stay in The Social Welfare Development Center have to be independent and not require direct nursing care. These older adults receive care from staff of the organization if they become frail or unable to be independent. A development care service in the community and at home for dependent older persons operated by the government and the Ministry of Public Health must be set up [8]. Thus, the study of health
conditions in older adults will be used as evidential data for developing a program to support those with health conditions as well as long-term care.

**OBJECTIVES**

To study health conditions of older adults who utilize services at the Social Welfare Development Center for the Elderly in Pathumthani Province, Thailand.

**METHODS**

A descriptive study was conducted throughout July 2012 to February 2013. Fifty adults aged 60 years and over who met criteria with good consciousness and could communicate well were selected via purposive sampling.

Research instruments used were the Demographic Form and the Physical Health Assessment Form. The Demographic Form (DF) developed by the Department of Social Welfare, Ministry of Labour and Social Welfare has generally been used in the Social Welfare Development Center for the Elderly in Thailand. The DF included age, sex, marital status, education level, leisure time and hobbies, frequency of participation in social activities, list of daily or routine medication and history of annual physical check-up. The Physical Health Assessment Form (PHAF) was developed by the Faculty of Nursing, Rangsit University based on bodily systems [11]. Content validity was supported by three experts in elderly nursing.

Data were collected by health assessment interview and physical assessment of bodily systems. Collected data were analyzed using descriptive statistics.

**Protection of human rights**

Ethical consideration of human rights protection was supported. Participation in the study was entirely voluntary. Prior to data collection, subjects and staff of the Department of Social Welfare received information regarding the purpose of the study, the methods and instruments in collecting data as well as protection of their rights. The older adults were assured of their right to participate in the study with no effect on their utilizing of services. The identifying information from the study was kept confidential and the overall findings are presented.
RESULTS

Demographic data of older adults

The majority of the participating older adults were aged 71-80 years with a mean age of 73.3 years (SD = 7.4). Fifty six percent were men, 44% were married, and 96% were Buddhists. Forty-six percent had completed education grade 4, 8% had completed a slightly higher level, and 16% had never attended school. Eighty percent were literate able to write using the Thai language. Eight percent were able to read but unable to write and 12% could not read and write using the Thai language.

Leisure time and hobbies

While attending The Social Welfare Development Center, the participants responded that they participated in pastimes such as daytime sleeping (42%), prayer (36%), watching television (30%), listening to music (28%) reading a newspaper, book or magazine (24%), doing handicrafts (18%), gardening (14%), and singing and dancing (12%).

Frequency of participation in social activities

Twenty-two percent reported that they participated in all of the activities provided by the Social Welfare staff. Fifty-six percent frequently participated, 14% sometimes participated, and 8% never attended.

List of daily and routine medication

Sixty percent of the older adults responded that they used medication for treatment of a disease. These medications included antihypertensive drugs (16%), antihypertensive with anti-diabetic drugs (8%), anti-diabetic drugs (6%), analgesic drugs (8%), vitamins (6%), asthma medication (4%) and 2% used other drugs such as diuretics, antihypertensive drugs with diuretics, antacids, anticonvulsive drugs, and medications for the treatment of kidney disease and osteoporosis.

History of annual physical check-up

The study found that only 60% of individuals attended an annual physical check-up whereas 40% never had an annual physical check-up. However, twelve percent of the older adults who had had an annual physical check-up reported that the last check-up was at least three years ago.
Health condition of subjects

By physical examination, 88% had bodily system disorders. Twenty-eight percent had a disorder in three or more bodily systems and thirty percent had one or two disorders (Figure 1). Review by system showed that 64% had cardiovascular disorders, 42% had neuromuscular disorders, 34% had visual impairment, 28% had genitourinary disorders, 24% had respiratory disorders, and 22% had gastrointestinal and metabolic disorders (Figure 2).

**Figure 1.** Number of system disorders in older adults who utilized services at the Social Welfare Development Center

**Figure 2.** System disorders of the older adults who utilized services at the Social Welfare Development centre

DISCUSSION

Health conditions of subjects

Results found in the study are congruent with previous studies in that older Thai adults are living longer [1,2] (mean age 73.3 years ± 7.4) with chronic health problems [3-8]. Physical changes and functional disorders are resulting from aging and indicate the need for long-term care. Moreover, physical health assessment showed that 66% of older Thai adults reflect that their current health condition is correlated with multi-system disorders. This corresponds with the results from physical assessment studies which found multi-system disorders in the Thai elderly [6-8]. Hypertension, diabetes mellitus and muscle aches remain common health conditions found in the elderly who utilize services at the Social Welfare Development Center for the Elderly in Pathumthani Province.
Most subjects preferred to partake in leisure and hobbies via activities requiring low mobility like daytime sleeping, prayer, watching television and reading. This is likely to be the result of physical changes and chronic health conditions - especially those that affect mobility creating the need to rest to reserve energy for performing activities of daily living. Nevertheless, most responded that they participated in activities provided by the personnel of the Social Welfare Development Center.

The study found that 60% of subjects had an annual physical check-up whereas 40% never did. This may be a result of the policy of the Department of the Social Welfare that recruited independent older adults who had no need for nursing care [8]. However, when subjects were ill or needed to attend follow-up with a physician the staff and social workers took them to the hospital near the organization.

CONCLUSIONS/RECOMMENDATIONS

Physical changes and functional disorders in multi-systems of the body - especially cardiovascular, neuromuscular and visual systems indicate the need for long-term care in the Thai elderly. Additionally, forty percent had never had an annual physical check-up; this reflects the need for an annual physical check-up and activities to improve or maintain health status.

ACKNOWLEDGEMENTS

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REFERENCES
ABSTRACT

Background: Thai business and academic leaders have agreed that “Education and English proficiency” hold the keys to the ASEAN Economic Community’s (AEC) success. At the Faculty of Nursing Science, Rangsit University, Thailand, the AEC challenges have been realized and accepted. In 2010, a new Double Degree (Bilingual) Nursing Program was launched in collaboration with the School of Health Care and Social Welfare at Mälardalen University, Sweden. The aim of the program is for the students to become qualified and competent in order to provide quality care to the people they serve.

Objectives: To investigate the lived experiences of nursing students in the Double Degree (Bilingual) Nursing Program.

Methods: Using a phenomenological research design, purposeful samples of 5 nursing students in the program were invited to participate in this study. Open unstructured interviews were conducted by a seasoned interviewer who was not related to or involved with the program. Data were collected to the point of sufficient saturation. The interviews were recorded, transcribed verbatim and analyzed using Colaizzi’s (1978) phenomenological analysis method. The analyzed data were returned to the students twice during the study period to ensure trustworthiness.

Results: Three major themes that emerged from the interview describe a trajectory of lived experiences that the students encountered during their first three years of study in the program. Emerging themes were family support, individual characteristics/ skills, and teaching strategies.

Conclusions: The selection process and a well-planned orientation program are the crucial first steps for students to be successful in the bilingual nursing program.

Keywords: bilingual education, nursing program, double degree nursing program.
BACKGROUND

Since the declaration of the Association of Southeast Asia Nations (ASEAN) to establish the ASEAN Economic Community (AEC), many Thai business and academic leaders have agreed that “Education and English proficiency” holds the key to the AEC’s success. Adding to the present stress of providing linguistically competent healthcare providers is the AEC Blueprint, for the “free flow of investment”. This means an increase in healthcare business shares held by foreign investors (from the present 15% up to 70%). Furthermore, the AEC 2015 will bring opportunities for Thai business and academic leaders in the form of both opportunities for higher investments in health service industries and greater movement of skilled healthcare professionals within the region (Amornvivat, 2012). In addition, the free flow of skilled labor means freer mobility of healthcare professionals (especially physicians and nurses) who are the key providers. Indeed, it will be critical that Thailand positions itself to meet this potentially rapidly growing market’s needs through bilingual nursing education, taking into account that nursing is the largest healthcare profession in the healthcare industry.

At the Faculty of Nursing Science, Rangsit University, the AEC’s forthcoming challenges have been realized and accepted. In 2010, marking its 25th anniversary, a new Double Degree (Bilingual) Nursing Program was launched in collaboration with the School of Health Care and Social Welfare at Mälardalen University in Sweden. The program aims to prepare nursing students to be able to perform at an international standard of nursing care and practice. It is the ultimate goal that the students become qualified and competent in providing quality care to the people they serve; to nationals and non-nationals alike. Lessons learned from bilingual nursing programs from around the globe were also considered.

Several studies focused on the negative learning process and outcomes of the students in the bilingual nursing programs. In the United States, for instance, nursing students in bilingual nursing programs were often found to have low learning performance (Colosimo & Xu, 2006; Evans & Stevenson, 2009; Sanner & Wilson, 2008) and a low professional self-concept (Angel, Craven, & Denson, 2012; McDermott-Levy, 2011). In China, relatively few of the students were successful in the program due to the fact that they were not proficient enough in
English (He, et al., 2011) to comprehend what had been taught. The significant role of nursing instructors was addressed. In Saudi Arabia, the emphasis was also on the role of nursing educators and their teaching strategies as a means to the success of the programs (Suliman & Tadros, 2011). The purpose of this study was to investigate the lived experiences of nursing students in the Nursing (Bilingual) Program so as to identify critical success factors.

METHOD

The major interest of this study was to understand and interpret the meaning of the lived worldview through the eyes of the nursing students in the bilingual program. In addition, it is the firm belief of the researcher that the students hold “the truth about the reality of their experiences.” Hence, a phenomenological research design was used.

A purposeful sample was used for this study. The inclusion criteria were 1) participants who were in the third year of their study in the bilingual program at Rangsit University, Thailand, 2) GPA 3.00 or higher, and 3) an English proficiency level at 500 or higher.

With the approval of the Rangsit University Institutional Review Board, the selected 5 participants were invited to voluntarily participate in the study. No incentive was offered for their participation. The participants were advised of the anonymity and confidentiality of the interview data and their right to refuse to participate without any negative consequences. Informed consents were then signed prior to the interviews.

Open unstructured interviews were conducted by a seasoned interviewer who was not related to nor involved with the program. Aimed at entering the students’ worlds and gain a better understanding from their point of view, no research questions were deliberately formulated. However, a prompt sheet was used, not in the form of actual questions, but rather as a broad guide to the issues relating to the study and to ensure a certain level of consistency across all of the interview sessions. Each participant selected an off-campus location for their interview. All interviews, were audiotaped, lasted approximately 1 hour and were guided by the process of saturation, i.e., when the interviewed data became repetitive. The tapes were transcribed verbatim after the completion of each
interview. The audiotapes and transcriptions were coded to ensure anonymity. The transcriptions were then sent back to the students for verification.

The interviews were analyzed using Colaizzi’s (1978) phenomenological analysis. Following Colaizzi’s method the interview data were reviewed in order to gain a sense of the whole. Following that, significant statements were extracted, meanings formulated, and themes organized from those meanings. Themes were then integrated into the study findings and the essential description of the phenomenon was formulated. Finally the students were asked to evaluate the results of the analysis for validation.

RESULTS

At the final step of data analysis three themes emerged that reflected the students’ experiences during their three years studying in the program. The themes followed a trajectory of experiences which the students described as (1) family support, (2) individual characteristics/skills, and (3) teaching strategies.

Family Support

Every participant, at least once, referred to “mom” or “dad” as the person the students turned to for advice and support. One participant spoke of her parents thusly: “After graduating from high school I didn’t know what I wanted to do. The bilingual nursing program at Rangsit University sounded good, although expensive, and my parents were completely supporting of me in my decision…. I am very close to my dad. He’s able to teach and support me in many ways”.

Another participant spoke about her mother: “Even though I’m apprehensive regarding the use of English my mom loves everything that has to do with English. I think my mom’s very wise and will always look after me…. throughout my three years of study, mom has always encouraged me to perform well in school; sometimes I need money and ask my mom; she complained about my spending but always gave me it when I needed it”.

Individual characteristics/skills

When asked to reflect on the learning experience during their three years of study in the program, participants identified several characteristics/skills i.e., “force myself to work harder and read more”, “have to be more diligent”, “have to try
harder to get through each period”, “have to accept the change and deal with it one day at a time”, “my reading skills are developing and so I know how to read and understand what I read more effectively”

Teaching strategies

Participants reflected on their learning activities during studying in the program. Learning activities i.e. self-directed learning and discussion forums were identified as a new way to learn and sometimes caused frustration but the students were able to discuss with the instructors. One participant stated thus: “The faculty tried to assist us to improve on our English, like English camp, home-room sessions (using only English), class presentations, etc”. Another student spoke about the learning activities: “Using English nursing textbooks forced us to try harder to read and understand the content…..the way the teacher guided us to think and discuss the subject in class helped me to understand the content better”.

DISCUSSION

The Double Degree (Bilingual) Nursing Program at Rangsit University was established as a part of a sustainable solution to Thailand's healthcare situation. To mitigate the impact of the nursing shortage the school needs to be able to effectively and efficiently lower the attrition rate in the bilingual nursing program and increase the enrollment number. To be able to assist the students is to understand “What does it take to be successful in the program?” from their lived experiences. The findings of this study provide an insight into the uniqueness of the students in the bilingual nursing program in Thailand. These students, as Guhde (2003) emphasized, not only have to be proficient in academic English but also in nursing terminology and content which of course is in a second language for them. The impact of non-traditional teaching/learning activities on the students’ performance identified in this study are similar to those found by Mattila, L., Pitkäjärvi, M., & Eriksson, E. (2010), Sanner, S., & Wilson, A. (2008), and Starr, K., (2009). Furthermore, considering culture and family values/support, some of the findings may be considered to be unique to Thai students.
CONCLUSION

Bilingual nursing education is believed to be the best way to prepare students for a globalized healthcare system. The success of the bilingual nursing students is dependent on innovative teaching strategies, student support systems and screening for the right students. By understanding the unique characteristics of students who are attracted to the program and the key success factors that facilitate their learning in the program the school will be able to select the most qualified students (or students most likely to succeed) and provide them with the most effective teaching strategies starting with a comprehensive orientation program.

REFERENCES


SPIRITUAL WELLBEING AMONG CANCER SURVIVORS: 
JOURNEY THROUGH A VALLEY OF DARKNESS

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ABSTRACT

Seven cancer survivors were the main participants. Two participants confined to a tertiary hospital battling the disease were also included to validate the intensity of pain and suffering.

This study attempted to discover every step of a cancer survivor's struggles and how they endure their ordeals and challenges during the difficult times. It aimed to address the following sub-problems:

1. What are the things that helped the participant get through the difficult times during the illness?
2. How did nurses contribute to the healing process?

This grounded theory study utilized the non-probability approach. The researchers identified the core category: the spiritual wellbeing of cancer survivors through “the valley of darkness”. From the main theme, seven emerging patterns came to light: a sense of shattered wholeness and integrity, accepting and living the reality of the illness, power and determination of the inner self/spirit to heal, taking responsibility to restore balance and wellness, connecting and drawing strength from God or a higher power, others and self, nurse-patient dyad/interaction and transcendence.

The transformation process of the participants is evolutionary, characterized by spiraling wherein progression and regression may happen. Individuals’ spiritual zeal, will power and determination steer the transforming process from a state of illness to a sense of wellness.

Nurses play a big role in the transformation process; their therapeutic presence is important to help the patient transcend from a difficult situation. Nurses must establish a
strong nurse-patient dyad, place the patient at a center of care and assist with respect and reverence so as to attain a new experience of wellbeing.

**Keywords:** Spiritual wellbeing, cancer survivors

**INTRODUCTION**

“Cancer makes a woman out of you. After that you become a warrior. Survival is not so much about the body, but rather it is about the triumph of the human spirit.”

*Danita Vance*

Cancer has a global impact on individuals’ lives. It affects not only physical functioning but also self-esteem, role, relationships, control, perceptions and behavior. Cancer survivors have described “wellbeing” as an important outcome of a complex interaction between physical, psychological, emotional, social and spiritual, adaptation and other contextual factors. However, the patients’ understanding of wellbeing in the context of living with cancer is not clear; more so, how they reached the feeling well state has not been established. Capturing the dynamic experience of illness to wellness from the patients’ perspective will greatly help in identifying factors that drove them to survive the awfulness and dreadfulness of cancer.

The researchers hoped to discover every step of a cancer survivor’s struggle, every painful choice and subsequent achievement made. It is only with the benchmark of a sad memory one can learn the amazing strength of a human being after a nerve wrecking battle with a disease. Through the stories of cancer survivors, one may realize the fruits of survival and hold them until one will unexpectedly need them. Thus, this study focused on looking at how cancer survivors endured their ordeals and how they faced the many challenges they experienced during their difficult times. Surely each person has a unique story of fighting, beating, living with and overcoming cancer. It is the ardent hope of the researchers to find the inspiration and encouragement among people who need to live their own survivor’s story. They want to gather seeds of hope to pour into other hurting hearts to help them face the challenge because the truth is some people do not possibly know how they will respond to suffering until they are plunged into the situation. With this thought, maybe nurses can offer solutions to mitigate the burden of cancer patients - if not to prevent the progress of the disease.
PROBLEM STATEMENT

The study primarily aimed to describe the experiences of cancer survivors from the time of diagnosis until remission - and to describe the process of attaining wellbeing among cancer survivors. Specifically, it aimed to address the following sub-problems:

1. What are the factors that helped the participants go through the difficult times during the illness?
2. How did nurses contribute in the healing process?

SIGNIFICANCE OF THE STUDY

Nursing Practice

Results of this study will help develop a comprehensive view of how wellbeing can be attained in an intrusive and stressful illness that cause so much pain and suffering in individuals and their significant others. It will help nurses and healthcare professionals to become more family oriented and to recognize the needs and involvement of the primary caregivers who suffer with the patients. Likewise, it will help psychiatric or mental health nurse practitioners in developing a treatment plan for oncology patients and their families through individual, group and family psychotherapy, crisis intervention, case management and consultation.

Nursing Research

Grounded theory as a research approach in this study opens a window for investigation that allows description of experiences which is important in refining and expanding the body of knowledge particularly in the field of Oncology Nursing. Likewise it will satisfy the two main goals of research which are theory building and theory testing.

Nursing Education

The result of the study will help improve nursing education programs for cancer patients. An increased understanding of the holistic care needs of cancer patients will enable nurse educators to disseminate a more individualized and phase-specific nursing intervention that will help clients to develop a greater capacity to accept loss, overcome grief and adjust to life changes.
METHOD

This study was guided by the grounded theory method as described by Glaser and Strauss [1]. Grounded theory aims to explore processes, actions and meaning through constant comparisons - generating theory grounded in empirical data. The goal of such theory is to account for a pattern of behavior which is relevant and problematic for those involved.

According to Polit and Beck [2] and Streubert and Carpenter [3], grounded theory has become an important research method for the study of nursing phenomenon and has contributed to the development of middle range theories of phenomena relevant to nurses. Grounded theory tries to account for actions in a substantive area from the perspective of those involved (cited in Glaser, 1998). Grounded theory researchers seek to understand actions by focusing on the main concern or problem the individuals’ behavior is designed to resolve, to identify the manner or core variable in which people resolve this main concern, to discover the main concern or problem and the Basic Social Process (BSP) that explains how people continually resolve it.

The study described the experiences of cancer survivors and the issues that almost shattered their whole being. These include the way they maintained their stamina and wellbeing amidst deep suffering and pain.

Participants

The researchers utilized the non probability approach, specifically; theoretical and purposive samplings were used. Corbin and Strauss [4] defined Theoretical Sampling as data gathering based on evolving concepts. The idea is to look for situations that would bring out the varying properties and dimensions of a concept. This is supported by Polit and Beck [2] cited in Glaser (1978, p.36) when they defined theoretical sampling as “The process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides what data to collect next and where to find them in order to develop their theory as it emerges”.

Participants included:

1. Seven cancer survivors (main participants), particularly those in remission where the signs and symptoms of the disease have disappeared.
2. Two cancer patients confined to a tertiary hospital trying to battle the disease process were included in order to validate the intensity of pain and suffering.

3. Cancer survivors with different socio-demographic and clinical characteristics such as gender, marital status, economic status, employment, clinical diagnosis and religion.

Procedure

Data were collected from 9 in-depth interviews lasting from 60 to 90 minutes each. The interviews took place in settings that included homes, offices and venues of choice of the participants. Data were gathered using audio-tape with the exception of two cases. One participant refused personal interview and instead sent her written response to the interview guide via email; the other preferred a telephone interview. The interviews were then transcribed verbatim. A semi-structured interview guide was used in the study using open-ended questions in order to give the participants enough flexibility to answer questions or specify indicators other than those listed in the questionnaire.

Corbin and Strauss [4] stated that based on their experience, the most in-depth interviews are those that are unstructured; that is, they are not dictated by predetermined sets of questions. In the study, interview research guide questions were then limited as follows:

1. Can you please tell me about your experiences dealing with cancer?
2. What are the things that helped you get through the difficult times during the illness?
3. How did nurses contribute to the healing process?

Data Analysis

The researchers followed the grounded theory data analysis process as described by Streubert and Carpenter [3] and Corbin and Strauss [2] “The researcher does not go out and collect the entire set of data before beginning the analysis. Analysis begins after the first day of data gathering. Data collection leads to analysis. Analysis leads to concepts. Concepts generate questions. Questions lead to more data collection so that the researcher might learn more about those concepts. This circular process continues until the research reaches the point of
saturation; that is, the point in the research when all the concepts are well defined and explained”. Thus, the researcher followed this sequence:

1. The researchers collected data through personal and telephone interviews, participant observation, field notes, and diaries.
2. Began open coding or Level I coding which entails line by line examination of data. The code can be a word or phrase taken directly from data.
3. Reviewed data and compared it to other data and to the codes that have already been developed.
4. Proceeded to Level II coding where researchers grouped or clustered together data that represented the same facets of the same concept using constant comparison technique so that variations and commonalities can be determined. This is known as ‘axial coding’ which is crosscutting or relating concepts to each other. It allowed researchers to group data into similar categories and develop themes or concepts.
5. Asked questions about the data and continually captured thoughts about the emerging concepts in order to generate hypotheses about how concepts are related.
6. Performed Level III coding, described the emerging central phenomenon or core category which occurred over and over in the data and then linked various data.
7. Did selective coding when the core variable became clear which means limiting coding to only those data that pertained to the core variable.
8. Wrote research findings when theoretical saturation was reached.

Ethical Considerations

The researchers considered the ethical implications of conducting a grounded theory investigation or any qualitative research. A recruitment letter was given and informed consent was obtained. The participants were assured of anonymity and confidentiality. They were also advised that they could withdraw from the study at any time.

Rigor

To ensure that the emerging patterns that would lead to the emergence of the central phenomenon or core category would fit – relevance, modifiability and
trustworthiness of data was sought using the criteria of credibility, originality, accuracy and usefulness. Credibility and originality of the data were obtained by gathering rich, in-depth data from interviews, field notes and transcribing verbatim as well as line by line coding using the participants' words as much as possible. The results of the interviews were confirmed for accuracy and usefulness in a number of different ways:

1. Respondent validation at different stages of the research process was obtained through feedback from participants regarding the researcher’s interpretation of the data. This is to allow for further collaborative exploration and theory development.

2. Audit trail - excerpts from the transcript illustrating the coding applied to the data and the later refining and grouping of these codes into larger categories can be traced back to the data.

A reflective diary was kept to enable the separation of the researchers’ thoughts and feelings concerning the data.

SUMMARY OF PARTICIPANTS’ SOCIO-DEMOGRAPHIC AND CLINICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Gender</th>
<th>Profession</th>
<th>Marital Status</th>
<th>Religion</th>
<th>No. of children</th>
<th>Clinical Diagnosis</th>
</tr>
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<tr>
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<td>70</td>
<td>F</td>
<td>Nurse, Dean</td>
<td>Widow</td>
<td>RC</td>
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<tr>
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<td>F</td>
<td>Nurse, Dean</td>
<td>Married</td>
<td>RC</td>
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<td>In ductal Left Breast Cancer (2nd Stage)</td>
</tr>
<tr>
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<td>F</td>
<td>Doctor, Corporate Executive</td>
<td>Married</td>
<td>RC</td>
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<tr>
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<td>42</td>
<td>F</td>
<td>University Executive</td>
<td>Single</td>
<td>Born Again Christian</td>
<td>None</td>
<td>Cervical Cancer (2nd Stage)</td>
</tr>
<tr>
<td>VH</td>
<td>55</td>
<td>F</td>
<td>Nurse</td>
<td>Married</td>
<td>Renewed</td>
<td>2</td>
<td>Intraductal</td>
</tr>
</tbody>
</table>
DISCUSSION OF FINDINGS

From the stories narrated by the participants, the researchers identified the core category: “The spiritual wellbeing of cancer survivors: a journey through the valley of darkness”. It explains the cancer survivors’ journey of traversing a path of breathless darkness towards the possibility of finding light. Cancer was/is experienced as a devastating, life altering/threatening condition, and the participants had to deal with the pain, suffering and difficult losses. They described various ways in which they experienced and struggled to transcend and attain wellness.

From the main theme, seven emerging patterns came to light which were derived from the categories namely: sense of shattered wholeness and integrity, accepting and living reality of illness, power and determination of the inner self/spirit to heal, taking responsibility to restore balance and wellness, connecting and drawing strength from God or higher power, others and self, nurse-patient dyad/interaction and transcendence.

A literature review was done to develop theoretical sensitivity for the phenomenon. According to Creswell [5] the literature review of qualitative research is especially necessary to position the study and ground it within the literature. Accordingly, the researcher(s) should use a number of sources to develop theoretical sensitivity.
“Spiritual wellbeing among cancer survivors: a journey through a valley of darkness”

The central theme speaks of a spirit-centric transformation among cancer survivors. Their pain and sufferings, described as “a valley of darkness” induced a striving for higher integration to find balance. Their spiritual strength drawn from an almighty God/higher power helped them strive for development, to become more of a whole at a higher level of integration. Their spiritual zeal and conviction/faith declaration coupled with their will power and determination steered the transforming process to a point where participants believed they were cured and were experiencing a sense of wellness. This finding is reflected and echoed by Elizabeth Kubler-Ross [6] in her book, when she said:

“This life of mine, which began halfway around the world has been many things – but never easy. This is a fact, not a complaint. I have learned there is no joy without hardship. There is no pleasure without pain. Would we know comfort of peace without the distress of war? If not for death, would we appreciate life? If not for hate, would we know the ultimate goal is love?”

The participants experienced falling into the very depths of an unfathomable despair which can be felt in their statements; exemplars are as follows: (To keep the identity of the clients, the initials of noted nursing theorists were used.)

F.N.: “The pains and trauma are too horrifying to remember…what lies ahead of you is death”

M.R.: “Stage IV cancer was a death sentence!…I felt I was dying and slowly consumed by drugs…I could smell myself rotting and decaying…felt rotten and dying inside.”

J.W.: “My whole being was shaken; my emotions and mind were like roller coasters. They go up and down when my body felt pain and my senses failed. My mind would go wild and create pictures of disaster.”

C.R.: I was numbed all over from head to foot. I started crying and sobbing and I couldn’t afford medical expenses…”

H.P.: “The cancer is from my neck down to my anus… The procedure scared me to death…the invasive procedures were already a nightmare…tormenting fear invaded me.”
A.M.: “Facing death made me shudder and sick to my stomach... it was a breathless darkness. I had to reach rock bottom in order to realize that God is my rock and salvation.”

It was at the deep moments of despair among participants that they came face to face with mortality. Here the awareness of death became imminent. They felt the sudden disintegration of their wholeness and disruption in their everyday life. The realization of their finiteness through the slow decaying or death of their physical bodies made their spirits rise and anchor on an almighty power. Here, death or brokenness was necessary for them to discover the strength of their spirits that carried them through the tunnel of breathless darkness into the light: into wellbeing. Even those who claimed to have high levels of spiritually connected and asked for more strength from a powerful God to help them survive the pain and suffering caused by the illness. For the non-believer, the illness became a path to spirituality. They were driven to the edge, they had reached rock bottom. But it was in the pit of despair that made them discover the barren soul and spirit... spiritual dearth led them to seek relief... it drove him to find their rock and salvation... it led them to connect with God, accept nothingness, acknowledge the power of their creator... draw strength from Him... and claim that though they could feel death coming; they were well inspirit and well in soul.

1. **Sense of shattered wholeness and integrity.**

   This patterned emerged from the reduction of the following clusters: physical affliction, mental or psychosocial affliction, emotional and spiritual afflictions, social concern and financial constraint. Examples which showed these afflictions include excerpts of their stories: “I would create pictures of disaster”, “The fear, the anxiety...”, “The personal blow was too much...”, “Funds to support treatment and medications became a concern”. There was a clear fragmentation of their whole being. One participant remarked, “My whole being was shaken”.

   What the participants experienced and sensed as physical, mental, emotional, spiritual, social and even economic turmoil or afflictions are manifestations of patterning wholeness rather than of individual systems within a whole. The sudden and frightening experience of impending death threatened their beliefs of life. What seemed to be a smooth sailing life turned to unbearable
suffering that end into the disintegration of self and eventual death. Their experience is parallel to the basic assumptions of Martha Rogers that the human being is a unified whole possessing individual integrity and manifesting characteristics that are more than and different from the sum of its parts; and identifying individuals and reflecting their wholeness are life patterns. These patterns allow for self regulation, rhythmicity, and dynamism according to George [7].

2. Accepting and living reality of illness

This pattern emerged from the following clusters: accepting reality of illness, rediscovering life values, restructuring life perspective. Exemplars from the interviews of the participants include: “Acceptance helped me to move on…”, “I readily accepted my condition…”, “The reality of death is a signal for you to act”. Acceptance was the beginning of the personal transformation process for the participants. It was the first and important step before the participants could commit and adopt positive attitudes in coping with cancer. They regarded this acceptance as a turning point and integrating the disease into their system. The realization of their illness helped them to move on to their journey through a difficult and challenging time in order to attain wellness. Similarly this helped them to restructure their perspective of life and change previous lifestyles and open themselves to alternative ways of healing. This is evident in the following statements: “I immediately sought medical attention…” “My reaction was a signal for me to act fast…”, “I looked back to how I spent my life…”, “Cancer cells grow with poor lifestyles and attitudes”.

A study by Zahourek [8] entitled, “Intentionality: Evolutionary Development in Healing: A grounded Theory Study for Holistic Nursing” revealed that the healing process begins with a sense of actual, or threatened, fragmentation and a subsequent recognition of the need to restore the experience of wholeness. The recognition of the need which is synonymous with accepting the reality of their condition drove the participants to search for solutions to their problems which are similar to the response of the participants in this study.

3. Power of the spirit/inner self to heal

The third emerging pattern was identified from a cluster that conveys substantive codes with very strong impacts and influences on the whole being to
transcend as perceived by all the participants themselves. This pattern emerged from the following clusters: spiritual zeal and conviction, and power of the inner self. The majority of the participants believed that it was their spirit, the spirit of God in them that gave them the power to fight their condition. Their spirits mobilized their personal power and determination to develop ways of participating in all activities that are transformative, making them experience a sense of wholeness in the end. Exemplars from the interviews that evidently show this include: “The inner self drives you or pushes you to get up… it confronts you to keep on moving”, “It is replacing the weakness with strength… strength from God…strength I could feel inside; my spirit”, I anchored my spirit on God and started an all new path.,” “Desire emanates from the spirit… desire or will and the spirit “The will of the spirit to fight the disease is paramount”, “God gave us solutions; they are within our reach and power.”, “Your faith should help you persist.”, “The moment of shock was temporary because I am deeply rooted in Christ… as is my spiritual life…”, “My spiritual level was high; that sustained me to go through all….”. Finally, an excerpt from the statements of Socrates speaks of the power of the spirit to help one to transcend: “I have reached rock bottom in order to realize that God is my rock and my salvation… it is in the spirit… I draw electricity from Him so that I may live.”

Most of the participants claimed that spirituality is ever present in them. It became only apparently awakened and made stronger as each individual experienced the painful reality of the disease. They needed that spiritual power to help them deal with their own battle. The researcher found Bible verses that support this phenomenon experienced by the participants: The Good News Catholic Bible [9] in the Book of 2 Corinthians 4 verses 16 – 18 says: “Even though our physical being is gradually decaying, yet our spiritual being is renewed day after day. And this small and temporary trouble we suffer will bring us tremendous and eternal glory, much greater than the trouble. For we fix our attention, not on things that are seen, but on things that are unseen. What can be seen last only for a time but what cannot be seen lasts forever”.

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4. Taking responsibility to restore balance and attain wellness

This pattern emerged from the following clusters: taking responsibility, diagnostic procedures, drugs and treatment options; exploring and trying new approaches to healing, mental health/alertness, physical activities, feeling management.

The participants after realizing their mortality became responsible for their survival. They became aware that they themselves are the main source of their own support. The majority evaluated and reassessed their previous beliefs and practices and became open to alternative ways of healing. They changed their lifestyles and moved on to an ultimate transformation. Exemplars from their own statements show how they exerted efforts to restore balance and wellness: “I discarded my box of medicine and planned my own regimen… I needed to act as fast as I could… I decided to stop all my medications and start an all new option”, “Why accept defeat without putting up a fight?…”, “I immediately wanted to undergo any procedure or treatment to arrest the possibility of metastasis… I was on constant watch regarding my condition”, “A treatment package patterned from the United States emerged which I had to religiously follow”, I underwent 10 series of chemotherapy, 25 radiations and 8 linear radiations…”

A phenomenological study conducted by Coward and Kahn [10] on the experience of self-transcendence in women newly diagnosed with breast cancer showed that the women made a quick response to do things with reference to their condition. The discovery of breast cancer was associated with shock, fear of dying, loss of identity as a healthy person, and an urgent need to learn enough about breast cancer and treatment to advocate for oneself. When diagnosed, they quickly reached inwardly for strength and confidence in their ability to educate themselves as they navigated the diagnosis and treatment process. The women, like the participants in this study immediately took the responsibility to do something to get out of their situation.

5. Connecting and drawing strength from God/Higher Power, others and self

This pattern emerged from the following clusters: spirituality and religion, relying on social interaction/activities, personal/will power and determination. The pain and trauma of a life threatening illness paved the way for the participants to reach out for a higher order of spirituality, for others and for one’s strength. When faced with the reality of death, they opened themselves to the possibility of healing
and life and death. Amid both ways, they needed God/and or a higher being. Connection with God became a source of spiritual strength to endure the pain and suffering. They reached out to significant others to help them survive the painful process of attaining wellness or accepting death. Social activities and interaction - especially their work made them busy. Social interaction kept cancer out of their minds. Likewise they turned to themselves for inherent strengths and life sustaining potentials. They reached inside themselves for hope and strength. This is evident with their actual statements: “If you believe that someone powerful will take care of you, you will endure… I draw my strength from God, from my family, friends, my career goals…”, “I am deeply rooted in Jesus Christ… all things work together for good to those who love the Lord.my nourishment, my life comes from Him, “I didn’t need help I saw my mortality…until you come face to face with death… until you realize your weakness… then you draw strength from someone”.

Arman and Rehnsfeldt [11] cited Ericksson (1994, 1997) who said, “Unbearable suffering is immobile and quiet, but with support from compassionate others, the person can turn toward a development away from the suffering”. Similarly, in the study of Clark and Daroszewski [12] on lived experiences of spirituality in Taiwanese women with breast cancer, they found that a sense of relationship was pervasive in the lives of the participants. Data drawn from the life experiences of the participants reflected the importance of relationships with their loved ones, with a deity and with themselves. This was manifested in the participants of the study.

6. Nurse-patient dyad/interaction

This pattern emerged from the following clusters: physical care, emotional care, psychosocial care, spiritual care, individualized care, expectations from patients, and absence of nurse-patient interaction. Access to professional and social support greatly helped the participants during their hospitalization period. Participants had different experiences in terms of nurse contribution. Some observed nurses to be more focused on giving physical or routine care. There were some nurses who really gave individualized care. However, expectations from the participants demanded a holistic perspective of health care that would address their needs as a whole person. Their statements revealed the aspects of being human. The mind, body and spirit interact in a dynamic way in the whole
person as evidenced in the following excerpts of their stories: “They were there performing routine nursing functions...fixing bed linen, serving food... giving sponge baths...(physical)... “Their warmth, like calling you by name, their motivating words were all so encouraging...(emotional/mental). “The prayer group in the Philippine General Hospital was composed of chief nurses and supervisors who painstakingly and religiously prayed for me; to them I am very grateful”, “Nurses made me feel at peace... (spiritual).

The relationship between nurse and patient is influential in the outcomes of the patient. It is therefore important that the nurse must be sensitive to the holistic nursing care needs of the patient. According to Peplau, nursing is therapeutic because it is a healing art, assisting in individuals who are sick or in need of health care. Nursing can be viewed as an interpersonal process because it involves interaction between two or more individuals with a common goal. In nursing, this common goal provides the incentive for the therapeutic process in which the nurse and patient respect each other as individuals; both of them learning and growing as a result of the interaction. An individual learns when she or he selects stimuli in the environment and then reacts to these stimuli. When the nurse and patient first identify a problem, they begin to develop a course of action to solve the problem. It is believed that nursing is a learning experience of oneself as well as of the other individual involved in the interpersonal action. George [7]

7. Transcendence

This pattern emerged from the following clusters: creating meanings, expanding and extending oneself, concept of wellness/end goals.

Apparently the participants evolved to a higher plane of wholeness. They verbalized that their lives became more enriched by the whole ordeal. They manifested the capacity for reaching beyond personal concerns and taking on activities and purpose to help others as well as becoming advocates of the causes of the disease and being productive. Cancer became an opportunity for change, self evaluation and transformation from a state of illness towards the possibility of wellness overtime. These factors are evident in the following exemplars from the transcripts of their interviews: “Actually, this experience has made my life better”, “My condition made me whole as a person...I became an advocate of healthy food. I go around convincing my co-physicians to integrate food supplements in
their practice”, “I conduct lectures to help people understand these essentials that helped me regain a normal life”, “I want to help others realize that we need to feed our cells properly…we need to feed our spirit”, “My condition became life changing because I saw how God worked in mysterious ways”, “Keeping oneself busy and productive in some kind of work is essential; for me teaching is therapeutic because you help with putting people in the right direction”, “Moving from that life threatening experience to healing is a journey”.

Despite their horrible experience with cancer, the participants were able to rise up from their misfortune through transcending - finding new meaning as they went through the process of facing the reality of the disease, accepting and living the reality of illness, mustering the power and determination of their inner selves/spirit to heal, taking responsibility to restore balance and wellness, connecting and drawing strength from God or a higher power, others and themselves. Consequently, through a strong nurse-patient dyad/interaction, a new concept of wellbeing was attained by the participants.

A study conducted by Sarenmalm, Thoren-Jonsson, Gaston-Johansso and Ohlen [13] showed similar transition among women with recurrent breast cancer. The study described the personal transition process by which women constructed meaning as they adjusted to living with a persistent, and in some cases an impending death threat. The women described various ways in which they experienced and made sense of their illness.

**CONCLUSION**

The study reveals that the transformation process of the participants is evolutionary. It is characterized by spiraling wherein progression and regression may happen. Healing evolves from physical infirmity that triggers a sense of loss of wholeness and at the same time, a drive to regain what has been lost. Their physical pain and sufferings, described as “a valley of darkness” induced a striving for higher integration to find balance. Their spiritual strength drawn from an almighty God or higher power helped them strive for wellness. The spiritual dimension is seen as the unifying force that pulls the human being with all its other fragmented dimensions to transcend, become whole and find a new experience of wellbeing. The spiritual zeal, conviction or faith declaration coupled with their will
power and determination steered the transforming process into a point where the participants believed they were cured and were experiencing a sense of wellness.

RECOMMENDATIONS

Nurses play a big role in the transformation process. They must be present to help the patient transcend from their difficult situation. Nurses must establish a strong nurse-patient dyad and should place the patient at the center of care assisting with respect and reverence as they move upward to engage in new physical activities, incorporate new mindsets and behaviors, renew relationships, find meaning and expand in their environment in order to attain a new experience of wellbeing.

REFERENCES:


FACTORS PREDICTING PHYSICAL ACTIVITY AMONG PERSONS WITH TYPE 2 DIABETES AT THAI NGUYEN HOSPITAL, VIETNAM

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ABSTRACT

Background: Physical activity is related to management of type 2 diabetes in men and women. For people with type 2 diabetes regular physical activity may control blood glucose. Understanding about factors influencing physical activity can enhance physical activity behavior among persons with type 2 diabetes.

Objectives: This descriptive predicting study aimed to examine factors predicting physical activity among persons with type 2 diabetes at Thai Nguyen Hospital, Vietnam.

Methods: Eighty two diabetes patients who met inclusion criteria were selected by simple random sampling technique during March to April, 2014. Instruments consisted of the demographic data form, the global physical activity questionnaire, the knowledge of physical activity questionnaire, exercise barriers scale, exercise self-efficacy scale, and social support for exercise questionnaire. Data were analyzed using descriptive statistics and multiple regression.

Results: The results of the study showed that 47.6% of participants performed physical activity less than 1.5 to 3 hours per week. The mean scores of knowledge of physical activity were close to median score (M = 10.85, median score = 11). The mean scores of perceived barriers to physical activity werees lightly higher than median score (M = 36.72, median score = 35). The mean score of perceived self – efficacy relating to physical activity and social support were lower than median score (M = 33.26, median score = 50; M = 56.83, median score = 60, respectively). Perceived barriers, perceived self-efficacy and social support could predict 68% (R² = .68, F [4,77] = 41.26, p < .001) of physical activity (β = -.50, p < .001, β = .25, p < .05, β = .25, p < .05, respectively).

Conclusion: The findings suggested that nurses should work to decrease barriers, increase perceived self-efficacy and social support in order to improve physical activity.
behavior among persons with type 2 diabetes in diabetes education and focus on intervention research in the future.

**Keywords:** Physical activity/Knowledge of physical activity/Perceived barriers/Perceived self-efficacy/Social support/Type 2 diabetes.

**INTRODUCTION**

Diabetes is a chronic disease that causes undue morbidity and mortality worldwide. There were more than 285 million adults with diabetes in 2010 in which 90 to 95 percent of those patients had type 2 diabetes and the number of diabetes patients is increasing globally [1]. Vietnam is one of the countries with the highest growth rate of diabetes patients with the current estimate of over 6% of its total population. In 2008, the World Health Organization [WHO] estimated approximately 17,000 deaths in Vietnam due to complications of diabetes [2]. The Vietnam Endocrine and Diabetes Mellitus Organization at Central Endocrine Hospital reported that after 10 years, i.e. studies from 2002 to 2012, prevalence of diabetes had increased from 7.7% to 12.8% [3].

The cause of increasing morbidity and mortality associated with diabetes is caused by the lack of blood glucose control [4]. It is associated with accelerated heart attacks, stroke, eye problems, kidney failure, and foot ulcer [5,6]. However, several researches established that participation in regular physical activity can improve blood glucose control [7]. Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure [8]. Adults with diabetes should be advised to perform moderate-intensity aerobic physical activity [9] for at least 30 minutes per day, 3 days per week.

In Vietnam, diabetes experts recommend physical activity in type 2 diabetes sufferers as an important self-care aspect for blood glucose control but studies regarding physical activity among type 2 diabetes in Vietnam are still limited. Mostly, persons with type 2 diabetes lack physical activity [10]. They think that only medicine will help them control blood glucose. Persons may not have the knowledge and skills in physical activity such as knowledge regarding safety and avoidance of dangers in practice. Besides that, they have a lot of barriers to regular physical activity such as lack of time. Moreover, factors also related to physical activity include self-confidence and self-motivation. The main reasons related to physical inactivity in persons with type 2 diabetes is that they lack
knowledge of physical activity [11]. They have high perceived barriers [12], they feel low perceived self-efficacy [13], and they lack social support [14].

The above reasons and evidence of literature reviews serve as motivation for this study to explore factors predicting physical activity among persons with type 2 diabetes in Thai Nguyen Hospital, Vietnam. Factors include knowledge of physical activity, perceived barriers, perceived self-efficacy and social support.

MATERIALS AND METHODS

This study was descriptive and predictive design.

Sample

The sample size in this study was 82 patients calculated by Tabachnick and Fidell (1989) (N ≥ 50 + 8M). Simple random technique was used to select patients. Subjects were persons with type 2 diabetes living in Thai Nguyen province, Vietnam who visited the Out-patient Diabetes Clinic at Thai Nguyen National General hospital, Vietnam. Inclusion criteria were: (1) diagnosed with diabetes for at least 6 months, (2) aged between 20 and 65 years, (3) able to communicate, read and write using Vietnamese, (4) was willing to participate in the study, (5) did not have movement limitation or serious illness.

Research Instruments

1. Demographic data form developed by the researcher which included age, gender, marital status, educational level, occupation, co-morbidities and clinical data.

2. Global Physical Activity Questionnaire (GPAQ) used to measure the time spent on doing physical activity in each patient over a week. This questionnaire was developed by experts at the World Health Organization [15] and has been translated into Vietnamese via a previous study [10]. This questionnaire had 16 items and was divided into four parts. They were: (1) activity at work, (2) travel to and from places, (3) recreational activities, and (4) sedentary behavior. Test-retest reliability coefficient was conducted. The correlation coefficient index of this instrument was r = .73.

3. Knowledge of Physical Activity Questionnaire (KPAQ) was used to assess knowledge information related to physical activity. This instrument was developed by the researcher based on literature review. This questionnaire included 4 parts
with 22 items: (1) benefit of regular physical activity for diabetes patients, (2) intensity of physical activity, (3) appropriate time spent doing physical activity, and (4) danger avoidance concerning physical activity. Possible answers were "True", "False", or "Don’t know" responses. Content validity index of this instrument was .82. Reliability was .86 using Kuder Richardson formula 20.

4. Exercise Barriers Scale (EBS) was used to measure the perception of individuals concerning barriers towards participating in physical activity as developed by Pender et al. [16]. This instrument had 14 items. Each item had a four point scale ranging from 1 (Strongly disagree) to 4 (Strongly Agree). The Cronbach’s α coefficient of this instrument was .89.

5. Exercise Self-Efficacy Scale (ESES) was used to assess perceptions of patients about the degree of confidence in performing physical activity as developed by Bandura [17]. This instrument had 18 items; each item had a 100 point scale ranging in 10 units from 0 to 100. The Cronbach’s α coefficient of this instrument was .97.

6. Social Support for Exercise Questionnaire (SSEQ) was used to assess perceptions of patients on the subject of support of family and friends regarding performing regular physical activity as developed by Sallis et al [18]. This questionnaire consisted of 10 items. Each item had a five point scale ranging from 1 (None), to 5 (Very often). The Cronbach’s α coefficient of this instrument was .91.

The KPAQ, EBS, ESES, and SSEQ were translated from the original English version into Vietnamese using backward translation technique [19].

Data collection procedures

The researcher submitted research proposals for ethical approval to the Institutional Review Board of the Nursing Faculty, Burapha University. After the researcher got approval, the researcher sent a letter to ask permission for data collection from Burapha University to Thai Nguyen National General Hospital, Vietnam. Accordingly, the researcher went to the Outpatient Diabetic Clinic to recruit subjects following the inclusion criteria using simple random technique. Then, the researcher informed participants about the purpose of the study, ethical issues, data collection procedure and asked for their permission to collect data. After the researcher received each participant’s permission, the researcher gave the consent form to participants. Then the researcher invited those participants to
a private room and distributed all 6 questionnaires to participants. After each participant finished answering the questionnaires, all questionnaires were checked immediately for completeness and accuracy.

Data analysis used descriptive statistics and multiple regression coefficients.

RESULTS

The average age of the participants was 52.66 years (SD= 8.95). Most participants were female (51.2%), married (80.5%) had completed an educational diploma (32.9%) and worked as officers (29.3%). Mean duration of diabetes was 4.7 years (SD = 2.69) while the co-morbidity of most participants was hypertension (23.2%). Most participants controlled blood glucose via pills (80.5%).

The research findings showed that generally the participants exhibited low physical activity each week. The largest number (47.6%) of participants performed physical activity less than 1.5 hours per week. The mean score of knowledge of physical activity was close to the median score (M = 10.85, median score = 11), perceived barriers to physical activity was slightly higher (M = 36.72, median score = 35), perceived self-efficacy towards physical activity was low (M = 33.26, median score = 50), and social support in relation to physical activity was low (M = 56.83, median score =60).

Table 1. Mean, median and standard deviation of knowledge, of physical activity, perceived barriers, perceived self-efficacy and social support (n=82)

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<td>Knowledge of physical activity</td>
<td>0 - 22</td>
<td>3 - 20</td>
<td>11</td>
<td>10.85</td>
<td>3.33</td>
</tr>
<tr>
<td>Perceived barriers</td>
<td>14 - 56</td>
<td>14 - 55</td>
<td>35</td>
<td>36.72</td>
<td>10.05</td>
</tr>
<tr>
<td>Perceived self-efficacy</td>
<td>0 - 100</td>
<td>10 - 59</td>
<td>50</td>
<td>33.26</td>
<td>10.77</td>
</tr>
<tr>
<td>Social support</td>
<td>20 - 100</td>
<td>20 - 62</td>
<td>60</td>
<td>56.83</td>
<td>15.01</td>
</tr>
</tbody>
</table>

Multiple regression analysis showed that perceived barriers ($\beta = -.50$, p < .001), perceived self-efficacy ($\beta = .25$, p < .05) and social support ($\beta = .25$, p < .05) could predict 68% of physical activity ($R^2 = .68$, F [4,77] = 41.26, p < .001). Only knowledge of physical activity ($\beta = .13$, p > .05) could not predict physical activity significantly.
Regression model was: Physical activity in one week = 2.2 - .06 (Perceived barriers) + .03 (Perceived self-efficacy) + .02 (Social support).

Table 2. Statistical values of the multiple regression analysis between independent variables and physical activity (n = 82)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>B</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived barriers</td>
<td>-.06***</td>
<td>-.50***</td>
</tr>
<tr>
<td>Perceived self-efficacy</td>
<td>.03*</td>
<td>.25*</td>
</tr>
<tr>
<td>Social support</td>
<td>.02*</td>
<td>.25*</td>
</tr>
<tr>
<td>Knowledge of physical activity</td>
<td>.03</td>
<td>.13</td>
</tr>
</tbody>
</table>

Dependent variable = physical activity, * = p < .05, ** = p < .01, *** = p < .001.

DISCUSSIONS

The perceived barriers, perceived self-efficacy and social support could predict 68% of physical activity among persons with type 2 diabetes. Perceived barriers was the best predictor (β = -.50).

This study found that most barriers among participants came from the obstacle of their daily jobs. They indicated that physical activity took too much time, also there were few exercise places, and exercise places were too far their homes. Moreover, they lacked encouragement, support and motivation from families and their relationships during the practice process. That's why the high perceived barriers were related to low physical activity among these participants. That result is supported by Pender's theory [20] which explained that barriers consist of perceptions concerning the unavailability, inconvenience, expense, difficulty, or time consuming nature of a particular action. Consequently, barriers usually prevent a behavior's acquisition. When readiness to act is low and barriers are high, the action is extremely unlikely to occur. When readiness to act is high and barriers are low, the action is more likely to happen. Perceived barriers affect directly the health promotion behavior through creating a barrier to act and also indirectly through decreasing commitment and devotion to the action's planning [20]. This reasoning provides evidence to explain why perceived barriers are associated with physical activity among persons with type 2 diabetes in this study. This result was also found in previous studies [13,21,22].

The association between perceived self-efficacy and physical activity can be described in that most participants lacked confidence in performing physical
activity daily. Those findings can also be explained in Pender’ theory in that perceived self-efficacy is a judgment of one’s ability to accomplish such behavior. It is also competence in a particular domain which motivates individuals to engage in health promoting behavior [20]. In other words, persons with type 2 diabetes who have high self-efficacy will perform more physical activity behaviors. Nevertheless, the results in this study found that perceived self-efficacy could predict physical activity because participants lacked confidence to exercise in bad weather, while feeling anxious or while feeling pressure from work. Moreover, it was difficult to be confident again in doing physical activities after they had an illness or an injury that caused them to stop exercising in the first place. Also, participants had many barriers or lacked knowledge regarding physical activity, so participants did not have perceived self-efficacy regarding performing physical activity. This finding was consistent with many previous studies [14, 23, 24].

Social support from family and friends in this study could predict physical activity. Most participants were lacking cooperation from family and friends such as not wanting to exercise with the participant, they lacked discussion and plans for exercise on recreational outings with the family, they lacked help in planning activities and they lacked the sharing of exercise as a hobby with friends. Besides that, perhaps both family and friends also lacked knowledge about the benefits of physical activity behavior in order to control blood glucose. Therefore, the participants in this study also were not interested in encouraging participants or in promoting physical activity behavior. That social support is related to health behavior as discussed by [20]. Social support affects health-related behavior indirectly; it includes an individual’s moderation of their behavior due to improved mental health (e.g., renewed sense of optimism), social responsibility, or social obligation to the support source [25]. Previous studies have asserted that social support could be a predictor of physical activity among type 2 diabetes [14].

The results in this study show that knowledge of physical activity could not predict physical activity among persons with type 2 diabetes. It can be explained that some participants had known that physical activity could control blood glucose, but they still did not want to perform physical activities. The reason can be explained in that they had high perceived barriers, low confidence in themselves and low support from family and friends to perform physical activity. Hence, the changing of knowledge pertaining to physical activity could not change
physical activity behavior in this study. Additionally, diabetes educators at Thai Nguyen Hospital provided knowledge regarding diet and checking of blood glucose and they discussed a little about physical activity for participants. Thus, participants also lacked knowledge concerning physical activity. Accordingly, the changing of knowledge of physical activity could not affect physical activity behavior. Some studies found that knowledge of physical activity correlated poorly with physical activity behavior in the general population [26] and similar findings have been reported in people with diabetes [27].

This research has shown that perceived barriers, perceived self-efficacy and social support affect physical activity among persons with type 2 diabetes at Thai Nguyen Hospital, Vietnam. So, nurse educators should create physical education classes which are related to physical activities for diabetes patients, their families and their friends. They may discuss and exchange knowledge together regarding finding solutions to decrease barriers, increase self-efficacy and enhance support not only from their family but also from their friends to promote physical activity among type 2 diabetes patients.

ACKNOWLEDGEMENTS

The researchers would like to thank the Thai Nguyen National General Hospital in Vietnam and all participants who made this study possible.
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EVALUATION OF THE DOUBLE DEGREE NURSING PROGRAM, FACULTY OF NURSING SCIENCE, RANGSIT UNIVERSITY

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ABSTRACT

Background: In 2010, the Faculty of Nursing Science, Rangsit University, Thailand designed a double degree nursing program in collaboration with Mälardalen University in Sweden. The aim was to educate student nurses who will be culturally and linguistically competent in providing nursing care. To abide by the Thai Qualifications Framework for Higher Education regulations, the faculty must assess the program for the purpose of improvement by the end of 2014.

Objective: To assess the operational outcomes of the Double Degree Nursing Program.

Methods: Using a descriptive design, a purposive sample of 70 nursing students was selected from sophomore to senior classes. Research instruments included self-report questionnaire forms to assess students' perceptions of input, process, and learning outcomes of the program. The overall reliability by Cronbach’s alpha coefficient indicated high reliability at 0.97. Data were collected throughout August to September 2013 and analyzed using descriptive statistics i.e. percentages, frequency, mean and standard deviations.

Results: For English language skills, the students were found to be improving when compared to the time prior to entering the program. The program overall was found to be appropriate and beneficial to the nursing profession, able to educate professional nurses to be knowledgeable not only in nursing science but also in related sciences and, considering the current situation, the program was rated “quite suitable” to “most suitable”. For input, more than 50 percent agreed that those who were entering the program should possess English proficiency at a “good” to “excellent” level.
**Conclusions:** Overall, the program was found to be suitable under the current situation and for professional development. The process of selecting students for the program remains crucial to the success of the program - especially in language competency.

**Keywords:** evaluation, double degree nursing program.

**BACKGROUND**

The Faculty of Nursing Science, Rangsit University is an educational institute which provides education and qualifies graduates who can serve the current health system in Thailand as well as internationally. In 2010, the Faculty of Nursing Science, Rangsit University, Thailand designed a double degree nursing program in collaboration with Mälardalen University in Sweden. This program contains bilingual teaching using Thai and English. The aim is to educate student nurses who will be culturally and linguistically competent and able to provide nursing care either internationally or to international patients domestically.

According to the Thai Qualifications Framework for Higher Education, the six domains of learning outcomes are 1) ethics and morality development, 2) knowledge, 3) cognitive skills, 4) interpersonal skills and responsibilities, 5) analytical, communication, and numerical skills, and 6) professional nursing skills. All domains were assessed [1]. To abide by the Thai Qualifications Framework for Higher Education (2009) regulations the faculty must assess the program for the purpose of improvement by year’s end, 2014 [1].

The CIPP model which was developed by Daniel L. Stufflebeam in 1966 [2] was used as the conceptual framework for the study. The four areas of context, input, process and product were applied to evaluate the program.

The contextual evaluation included philosophy, objectives, credits requirement, content, characteristics of instructors and characteristics of nursing graduates. Qualification of students and educational supportive systems were evaluated as an input. The process of teaching and learning with emphasis on self-directed learning was assessed in the process. The six domains of learning outcomes based on the Thai Qualifications Framework for Higher Education was evaluated as a product.

In Thailand, the CIPP model is widely used in the evaluation of Nursing Programs. Several studies have revealed that [3,5] curriculum is appropriate for use in the range of a moderate to high level. However, the physical environment to
support activities in the learning process such as classroom environment, computer systems, laboratory rooms and conference rooms need to be sufficient enough to support educational efforts [4].

METHODS

Using a descriptive design the purposive sample of 70 nursing students falling within the inclusion criteria were willing to participate in the study and were selected from sophomore to senior classes. Research instruments included self-report questionnaire forms with five rating scales ranging from 1-5 (less suitable-most suitable) to assess the students’ perceptions of input, process and learning outcomes of the program. The validity of the instrument was approved by three experts in nursing who had developed the curriculum. The reliability of the students’ perceptions of input, process, learning outcomes and overall reflections concerning the program were by carried out with Cronbach’s alpha coefficient at 0.91, 0.92, 0.88 and 0.97 respectively. Data were collected throughout August to September 2013 and analyzed using descriptive statistics i.e. percentages, frequency, mean and standard deviations.

Ethical consideration

Ethical consideration on human rights protection was supported by the Faculty of Nursing Science, Rangsit University. All students who participated in the study received information regarding the purpose of the study, the research process, and protection of their rights from the researcher. Students were assured of their right to participate or withdraw from the study with no affect on appraisals or grading.

RESULTS

For English language skills (reading, writing, listening, and speaking), the students were found to be improving when compared to the time prior to entering the program.

The program’s overall content was found to be appropriate and beneficial to the nursing profession, able to educate professional nurses who are knowledgeable not only in nursing science but also in related sciences and,
considering the current situation, the program was rated “quite suitable” to “the most suitable”

Nevertheless, more than 50 percent agreed that those who were entering the program should possess English proficiency at the “good” to “excellent” level.

Support facilities weighing in at the “high” and “highest” level were internet network, instructor to student ratio (78.8%), classroom environments (72.7%), learning resources (60.6%), and activities related to cultural differences (54.6%).

For evaluation process, results stated that 66.7% of the students were satisfied with the teaching-learning process at the “high” and “highest” level. The students expressed satisfaction regarding documentation and teaching materials (85.8%) designed for self-directed learning (84.7%) and critical thinking especially in clinical practice (75.7%). However, the percentage of agreement regarding assignments in each course was at 39.4%.

In terms of the product, the students agreed that learning outcome domains rated at the “high” to “highest” level in the domain of moral and ethical development, interpersonal skills and responsibilities, professional nursing skills, cognitive knowledge, analytical skills, communication and numerical skills.

**DISCUSSION**

The results found in the study revealed that the nursing program of the Faculty of Nursing Science, Rangsit University is appropriate for the nursing profession. This is because the program was designed to develop student nurses who will be culturally and linguistically competent able to provide nursing care internationally or care for international patients. Although the majority of students didn’t meet English language criteria before admission, teaching strategies emphasized self-directed learning with bilingual assistance in order to improve their language competency.

According to the Thai Qualifications Framework for Higher Education, the instructors in each course have to create course guidelines including learning objectives, process, outcomes and evaluations before classes begin. Teaching strategies to develop moral and profession ethics, knowledge, cognitive interpersonal skills and responsibilities, analytical skills, communication and numerical skills, and professional nursing skills were designed based on previous evaluation. As a result, the students perceived the nursing program as appropriate
and beneficial to the nursing profession. However, students enrolled in the program must initially meet English language proficiency criteria.

CONCLUSIONS/RECOMMENDATIONS

Overall, the program was found to be suitable, under the current situation, for professional development. The process of selecting students for the program remains crucial to the success of the program.

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REFERENCES:

FACTORS RELATED TO HEALTH-RELATED QUALITY OF LIFE AMONG HEART FAILURE PATIENTS IN VINH PHUC PROVINCE, VIETNAM

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*Master of Nursing Sciences

ABSTRACT

Objectives: The purpose of this study was to examine the relationships between selected factors including age, comorbidities, severity of symptoms, social support and health-related quality of life among heart failure patients in Vinh Phuc province, Vietnam in 2013.

Methods: Ninety two patients were recruited via simple random sampling technique. Medical Outcomes Study Short Form-36 (SF-36) questionnaire was used to explore the perception of heart failure patients in VinhPhuc province by Pearson product-moment correlation coefficient.

Results: The findings of this study indicated that patients with heart failure perceived their total health-related quality of life at a low level ($\bar{x} = 46.2, SD = 6.6$). Only social support was correlated with the health-related quality of life of heart failure patients ($r = .38, p < .01$).

Conclusions: Based on the findings, nurses should not only focus on physical functioning but also emotional and social functioning. Thus, nursing interventions should address not only the biological aspects of patient functioning but also the psychological and social aspects of functioning.

Keywords: Heart failure patient, health-related quality of life, comorbidities, severity of symptoms, social support.
INTRODUCTION

Heart failure (HF) is the leading cause of death worldwide and in the United States: The American Heart Association (2009) estimates that about 300,000 individuals die from HF per year [1,2]. Issues related to heart failure also affect Vietnam’s population of approximately 88 million, and the number of adults diagnosed with heart failure was 320,000 posing an increase to a total of 1.6 million in 2012. However, cost of treatment to individuals with HF in Vietnam is very expensive [5].

Many previous studies have indicated that several factors negatively or positively correlate with health-related quality of life (HRQOL); such as age, co-morbidities, severity of symptoms and social support, which are predictive of quality of life (QOL) aspects [3,7]. Most HF patients usually complain about physical problems such as shortness of breath, chest pain, difficulty in sleeping, fatigue, etc. [10,11]. Interestingly, HF patients with more social support have higher HRQOL scores and changes in social support also predict changes in HRQOL [1]. There were strong relationships between symptoms and various aspects of general and disease-specific QOL aspects [19].

Frequently, Vietnam heart failure patients suffer from complications of heart failure or co-morbidities resulting in admission to hospital. These are the reasons why heart failure patients have been recognized and studied. While Vietnam needs knowledge and quality care for heart failure patients, there are limitations. Thus, studying heart failure is considered helpful to better understand the phenomenon of heart failure patients in Vietnam. This study based on the HRQOL model of Ferrans [4] focuses on the factors of each domain. Literature review provided fundamental knowledge that was useful to improve quality of care for heart failure patients in Vietnam. Therefore, the present study was conducted to explore the relationships between HRQOL and age, comorbidities, severity of symptoms, and social support among heart failure patients in Vinh Phuc province, Vietnam.

MATERIALS AND METHODS

A descriptive correlational design was used to investigate relationships between selected factors and health-related quality of life among heart failure patients in Vinh Phuc, Vietnam.
Sample

92 heart failure outpatients diagnosed with heart failure who had visited the Cardiac Outpatient Department (C-OPD) of any of three general hospitals in VinhPhuc province in 2013. Sample random sampling technique was used to select patients.

Setting

This study was conducted in the C-OPD in three general hospitals in Vinh Phuc province that offer a wide variety of health services for outpatients following their scheduled appointments for treatment.

Research Instruments

The five questionnaires used included Demographic and Clinical Data, Medical Outcomes Study Short Form-36 version 2, Charlson Co-morbidities Index, Memorial Symptom Assessment Scale - Short form, Multidimensional Scale of Perceived Social Support. The questionnaires were translated from English to Vietnamese by English-Vietnamese-English translation methods.

Part 1 Demographic and Clinical Data: consisting of eight close-ended questions involving gender, marital status, living conditions, education level, occupation, and period of time from heart failure to diagnosis.

Part 2 Medical Outcomes Study Short Form-36 version 2 (SF36-V2). The Medical Outcomes Study Short Form-36 version 2[14] (SF-36V2) Questionnaire was used to measure overall health-related quality of life of heart failure patients over the previous 4 weeks. The form consists of 36 items in eight subscales. Each subscale is scored between 0 and 100; with high score meaning high HRQOL. Cronbach's alpha in this study was 0.81.

Part 3 Charlson Co-morbidities Index (CCI) was originally developed by Charlson[15]. The CCI questionnaire lists 19 co-morbidities that are highly prevalent among the heart failure population. In addition, each condition was weighed and calculated as 1, 2, 3, or 4. The higher score indicates that an individual heart failure patient has a higher chance of mortality because of co-morbidity conditions. Cronbach's alpha of this study was 0.71.

Part 4 Memorial Symptom Assessment Scale -Short form (MSAS-SF). The severity of symptoms of heart failure patients was measured using the MSAS-SF [16].
The scale consists of 32 possible symptoms experienced by heart failure patients during the previous 7 days. Each item includes five-point scales, from 0 to 4 scores. A score of zero means no symptoms present and no severity, while a score of 4 means a high level of symptoms. The higher number of severe symptoms indicates greater frequency, severity and distress from symptoms. Cronbach's alpha in this study was 0.78.

Part 5 Multidimensional Scale of Perceived Social Support (MSPSS) was originally developed by Zimet [17]. It was used to measure social support. The MSPSS has 12 items and measures perceived social support from three sources: family (items 3, 4, 8, and 11), friends (items 6, 7, 9, and 12), and significant others (items 1, 2, 5, and 10). The participants respond to answers on a seven-point Likert scale ranging from 1 “very strongly disagree” to 7 “very strongly agree”. The higher total score meant the higher perceived social support [17] Cronbach's alpha for the total scale was .84.

Data collection

Approval for this study was obtained from the Institutional Review Board (IRB) of the Faculty of Nursing, Burapha University after permission to collect data from the director of three general Vinh Phuc hospitals (Vinh Phuc, Phuc Yen, and Lap Thach hospital). The researcher met chief personnel of the cardiac department to elicit their cooperation in the data collection process. The number of patients who came in for a follow-up visit to their cardiologists were tallied, focusing on these doctors and on the day prior to the actual follow-up day. The researcher was present at the cardiac department at 8 am. to noon and 1 pm. to 5 pm. on appointment days following heart failure patients' scheduled appointments for treatment. Next, the number of heart failure patients present in each cardiac department was checked again by contact with cardiac department doctors. After that, these participants then were recruited to the study using simple random sampling. The researcher explained the information about the purposes and the methods of the study. Next, informed consent was obtained from participants. The questionnaires were given to the participants and then the researcher explained how they could complete all items in the questionnaire. Participants returned their questionnaires to the researcher after finishing.
Data analysis

Descriptive statistics and Pearson product moment correlation were used to analyze the data.

RESULTS

Demographic data

Ninety two heart failure patients voluntarily participated in this study. Participants’ mean ages were 53.57 years (SD = 13.25) and their range was 43 - 83 years. Almost all participants were married (95.7%) and were living with their families (93.5%). About 37% of participants (n=34) had completed high school level education and about forty eight percent of participants (n=44) had completed a bachelor’s degree. Most participants (78.3) were unemployed. By classifying the severity of heart failure disease in these participants via New York Heart Association classification, the findings showed that there were no participants in class I. But most participants were in class III (52.2%) and class IV (41.3). Forty-seven participants (51.1%) had been diagnosed about 25-36 months previously.

Relationship between HRQOL and age, comorbidities, severity of symptoms, and social support

The results revealed that age, comorbidities, and severity of symptom did not correlate with total HRQOL and every subscale of HRQOL. Only social support had a positive relationship with total HRQOL among heart failure patients (r = .38, p < .01) (Table 1)

Table 1. Level of social support and HRQOL

<table>
<thead>
<tr>
<th>Variables</th>
<th>Possible range scores</th>
<th>Actual range scores</th>
<th>M</th>
<th>SD</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRQOL</td>
<td>0-100</td>
<td>27-59</td>
<td>46.2</td>
<td>6.6</td>
<td>Low</td>
</tr>
<tr>
<td>Physical component</td>
<td>0-100</td>
<td>22-57</td>
<td>37.33</td>
<td>12.04</td>
<td>Low</td>
</tr>
<tr>
<td>Mental component</td>
<td>0-100</td>
<td>25- 93</td>
<td>58.24</td>
<td>10.60</td>
<td>High</td>
</tr>
<tr>
<td>Social support</td>
<td>12-84</td>
<td>44-84</td>
<td>66.07</td>
<td>8.33</td>
<td>High</td>
</tr>
</tbody>
</table>
Table 2. Relationships between HRQOL and age, co-morbidities, severity of symptoms, social support among heart failure patients (n=92)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Co-morbidities</td>
<td>.42</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Severity of symptoms</td>
<td>.56**</td>
<td>.47**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Social support</td>
<td>.04</td>
<td>-.08</td>
<td>-.08</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>5. Total HRQOL</td>
<td>.12</td>
<td>-.11</td>
<td>.12</td>
<td>.38**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

** p < .01

From Table 2, the results revealed that age was not related to total HRQOL. Also, the co-morbidities and severity of symptoms did not correlate with total HRQOL. Finally, only social support had a positive relationship with total HRQOL among heart failure patients (r = .38, p < .01).

DISCUSSION

The present study found that the total HRQOL of the participants was low (\(\bar{x} = 46.2, SD = 6.6\)). This could be explained by the pathology of heart failure disease [1,3,7,8]. This is consistent with the outcomes of current studies [19] regarding symptom severity, prevalence, and burden on QOL among patients with heart failure (n = 58). The Zambroski’s study concluded that patients with HF experience high levels of symptoms and symptom burden that affect their QOL and activities of daily living. In summary, The Physical Component Summary Scale (PCS) and the Mental Component Summary Scale (MCS) from the findings of this study indicated that the lower level Physical Component Summary Scale mean was 37.33 (SD = 12.04) and Mental Component Summary Scale mean was 58.24 (SD = 10.60). These findings were consistent with those of Sneed, Paul, Michel, Vanbakel, and Hendrix (2001) who found that MCS scores in ambulatory patients with heart failure were (\(\bar{x} = 46.60, SD = 12\)), but showing different Physical Component Summary Scale mean scores (\(\bar{x} = 32.8, SD = 8.80\)), respectively. This can be explained by the impact of physical symptoms in patients with heart failure affecting all activities in daily life; whether at work or at home. In addition, the results also found that Mental Component...
Summary Scale scores of SF-36v2 were high. To explain this phenomenon, these patients were married and had high social support. This provided them with much social support and promoted their mental health because these patients were married and had high social support levels: this also promoted their mental health. This helped them perceive their general health as good as well. These results are consistent with previous research [3,7].

Results indicated no correlation between age and HRQOL. Literature indicated that most heart failure patients were older [6]. Yet, in this study, most of the participants were adults (X̄= 53.57, SD=13.25), and therefore results differed from those found in the literature. Interestingly, the results of this study indicated that age was associated with MCS and not associated with PCS. One explanation may be due to different norms, cultures and strong relationships between family members among Vietnamese people which may lead to different perceptions of HRQOL between Vietnamese heart failure patients and those in other countries.

Results indicated that comorbidities were not significantly associated with HRQOL. One possible explanation is the specificity of the sample. Patients in this sample had low levels of comorbidity. Most of the participants (n=76, 82.7%) in this study had one comorbidity; therefore, they did not suffer from severe comorbidities. Another explanation was related to the measure itself. The Charlson Comorbidity Index was designed based on the strength of the specific association with mortality [16]. One explanation is that data was collected only in outpatient units and during hospital visits on appointment days. So, patients did not have any symptoms. Secondly, most HF patients were married and lived with their family, therefore perceived high support. It is possible that these HF patients may have adapted to their chronic disease and adjusted their perception of their HRQOL. Another possible explanation for the different findings may also be the methods used for the measurement of severity of symptom prevalence. In this study, symptom prevalence was measured over the previous 7 days using an original tool developed for cancer populations. Consequently, measuring symptoms over the previous 7 days is important to differentiate symptom prevalence in heart failure outpatients.

The results indicated that social support had significant positive relationships with HRQOL. This means that the heart failure patients who experienced higher levels of social support perceived a significantly higher level of HRQOL. This may
possibly be explained by a higher level of social support among Vietnamese heart failure patients because 93.5% participants lived with family, and 97.3% were married. This could be related to Vietnamese culture, in which there are generally good relationships between family members, friends and significant others where they may care for and provide support for each other.

There were several limitations related to study design and implementation of the present study which need to be addressed. The first limitation of the study was in its setting. The study sample was recruited from outpatients of a Cardiac Department from only three hospitals in Vinhphuc province. Therefore, the results cannot be generalized to other clinics and geographical areas. Second, although the investigator of this study had identified some other factors, these were not examined in this study, and this might also have confounding effects on the studied relationships such as the New York Heart Association, functional class and gender.

The findings indicated that HRQOL among heart failure patients correlated with only social support; did was not related to co-morbidities, severity of symptoms and age. Accordingly, the findings of this study suggest that nurses and other healthcare providers should be concerned about facilitating social support for heart failure patients in order to promote their quality of life. For future research, HRQOL amid HF patients in other units should be studied.

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