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Aims and Scope

International Journal of Nursing and Health Science is an international peer-reviewed journal. The journal aims providing academic platform for scholars, graduate students, academics and health care professionals to publish their intellectual contributions in area of nursing and health sciences. The journal publishes review articles, original research articles, and other related health professional articles bi-annually.

Objectives

1. To publish knowledge, concepts, theories, innovations, guidelines and new technologies in nursing and health science;
2. To be a supportive resource for academics, students, and instructors in health institutions and organizations in Thailand and international
3. To promote research and development of knowledge in nursing and health science;
4. To be a center of knowledge and experienced exchange among health professional scholars, academics and practitioners

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Editor's Message

Dear members/publishers,

Christian university of Thailand has been approved to publish "the International Journal of Nursing and Health Science (IJNHS)". Our purpose is to disseminate information, knowledge and experience in education, practice and investigation between nursing, medicine and all the sciences related to healthcare. The aim of the journal is to supply nurses and the healthcare practitioners with resources by providing the nursing and health science knowledge, concept and research to improve health status and quality of care for individuals, families and communities. It also strengthens the quality of nursing and health management in education, services, organization and profession. The journal will publish original papers, reviews, special and general articles, and case management bi-annually.

We would like to invite you to submit papers for consideration of publication in the international journal of nursing and health science and/or subscribe the IJNHS.

Yours sincerely,

Assistant Professor Dr. Janjira Wongkhomthong
President and editor-in-chief
International Journal of Nursing and Health Science (IJNHS),
Christian University of Thailand

Content

The Effect of Reflexology in Post Operative Pain Management among Women after Cesarean Section.

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Abstract

An Experimental study to determine the effectiveness of reflexology (foot massage) in post operative pain management among women after Cesarean section in Christian Medical College and Hospital, Vellore, Tamil Nadu. About60 post operative women who met the inclusion criteria were randomly selected to Experimental and Control group. The women in Experimental group received reflexology for 20 minutes every 6 hours for the first 24 hours post operatively. The women in Control group received only the routine pain medicationevery 6 hours. Pain was assessed using numerical pain scale and observation checklist. The study findings revealed that the mean pain scores in the women of the Experimental group is 4, 1.9, 2.1, 2.3, 1.7 at 0, 6, 12, 18 and 24 hours post operatively. In Control group the mean pain scores are 5.1, 4, 5.2, 3.5, 3.8 at 0, 6, 12, 18 and 24 hours post operatively. The mean pain score of the women in Experimental group is 2.420 and women in Control group is 4.06 and there is significant reduction of pain score in women of Experimental group compared to the women inControl group with the p value of 0.0001. About 70% of women in Experimental group had no pain at 6, 12, 18, 24 hours post operatively and above 35% of women had mild pain in the Control group at 6, 12, 18, 24 hours post operatively. Reflexology has found to be an effective non - pharmacological pain management among post operative cesarean section women.

INTRODUCTION

Pain is an unpleasant sensory and emotional experience. Pain can affect the physiological, emotional, affective and psychological dimension of an individual: hence it is termed as a complex, multi-dimensional experience. Pain is personal, subjective in expression with no objective measurements (Jensen, 2005).

Childbearing and child birth are normal events in every woman's life. Outcomes of any pregnancy should be fruitful and also without any problem to mother and baby. The increased awareness of the public on prenatal health care encouraged mothers to adopt hospital deliveries. In hospitals the delivery can be normal, instrumental or caesarean delivery. Caesarean sections have become almost the common operation in obstetrics and it can be the best life saving technique for both mother and baby. Labor pain is a normal physiological process so mothers prepare themselves adequately. But in case of Caesarean sections, pain is inevitably severe and slightly prolonged due to surgical intervention. The post operative pain may be acute, sharp, stabbing and shooting in nature, which usually disappears as the wound heals. Post operative pain can have a significant effect on patients' recovery (Apfelbaum, 2004).

Pain can be managed both pharmacologically and non - pharmacologically. Adequate pain management, increases mothers participation in baby care and early recovery. Inadequate pain management may contribute to delay in healing, longer stay in hospitals, tachycardia, muscle tension, stress and anxiety (Carroll & Bowsher, 1994). There are many non pharmacological measures for pain management. Activities such as cutaneous stimulation, acupuncture, acupressure, reflexology, guided imagery have been used clinically with positive results. These therapies are thought to cause physiologic changes and decreases pain perception and promote healthy living. Reflexology is one of the non pharmacological methods of pain management and is been widely practiced in many countries. Reflexology is unique and simple method. Reflexology is becoming increasingly popular as part of the alternative health care movement (Dale, I997).

Reflexology is a complementary therapy that has great potential for use

by nurses in a multi-disciplinary pain management programme. Reflexology is safe, simple to learn, effective and non-invasive method of pain management. Reflexology is one of the few natural therapies to be adopted by health professionals and is being used in medical settings (SueEhinger, 2003).

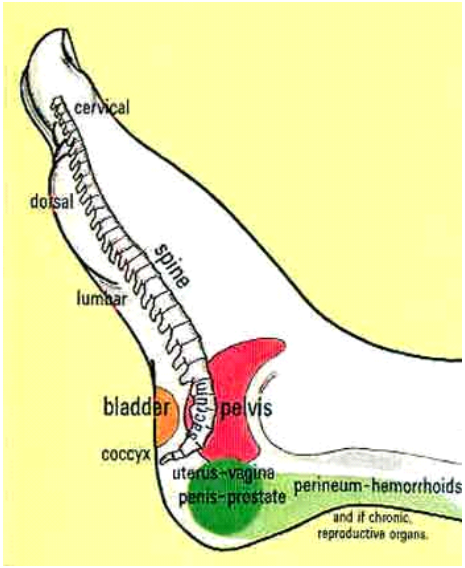
Many recent research studies have reported that there is increase use of complementary and alternative therapies since 1990.The field of alternative and complementary therapy is quiet vast comprising of more than 300 different types of therapies like Mind - Body interventions, alternative systems of medical practice, manual healing method, pharmacological or biologic treatment, herbal medicine, diet and nutrition (Ronald & Wayne, 1997).

The technique applied in reflexology

Pressure is applied to the feet and hands using specific thumb, finger and hand techniques. Stretch and movement techniques are used to provide relaxation to the foot. Oil, cream and lotion are not utilized in traditional reflexology work. Tools or instruments are used for self help application only due to safety concerns.

Reflexology in post operative Caesarean patients has to be done on the pelvic area of the foot, which is the reflex point. The massage in this area will stimulate the nerve endings by releasing substances which reduces the pain perception in the individual.

The figure below shows the point for massage (Massage - for 15 to 20 minutes). Following the technique of reflexology



OBJECTIVES OF THE STUDY

1. To assess the postoperative pain in women who underwent Caesarean section in the Experimental and Control group.

2. To find out the effectiveness of reflexology in reducing pain among women who underwent Caesarean section.

3. To compare the pain perception of women who underwent Caesarean section in the Experimental group and Control group.

4. To identify relationship between pain relief with selected demographic and clinical variables in the post operative Caesarean women.

HYPOTHESIS

There will be a significant reduction in post operative pain of women who undergo Caesarean section by the use of reflexology in Experimental group assessed by Numerical Pain Scale with level of significance 0.05 compared to Control group.

METHODOLOGY

The research approach used was a quantitative research approach. Experimental repeated measures design. The study was conducted in the post natal wards (G_4S, G_3S) of CMCH, Vellore. Sample consisted of 60 women who underwent Caesarean section and fulfilled the inclusion criteria in CMC Vellore.

All the post Caesarean women who fulfilled the inclusion criteria were selected. The sample was assigned to Experimental and Control group randomly. The first sample was selected by using a lot method and there after every alternate sample was assigned to Experimental group and the rest to Control group.

INSTRUMENTS

1. NUMERICAL PAIN RATING SCALE: - It is a Standardized free scale used for assessing the intensity of pain experienced by the patients.

2. OBSERVATION CHECKLIST: - Observation check list was used to assess non verbal expressions and activities of post Caesarean women while they are in pain during first 24 hours of post operative period.

3. INTERVIEW QUESTIONNAIRE: - The questionnaire was prepared by modifying McGill and Melzacks pain questionnaire. The questions were made to evaluate the post operative pain and to find the effect of foot massage in reducing pain. Content validity of the instrument was established with the guidance of the experts. The score of Content validity is 0.89.

DATA COLLECTION PROCEDURE:

The women were selected within 2 hours post operatively. The arrival time of the women to the ward after surgery

was taken as 0 hour. The pain assessment was done in the Control group and Experimental group at 0, 6, 12, 18, 24 hours post operatively in the Experimental group the intervention (reflexology) was given for 15 to 20 minutes on both the legs at 0 hrs, 5hrs 30 minutes, 11hrs 30 minutes, 17hrs 30 minutes, 23hrs 30 minutes post operatively. The pain assessment was done by Numerical Pain Rating scale, Observation Check List periodically at various time periods. The information regarding post operative pain and the effect of foot massage was interviewed by the researcher after 24 hours post operatively.

DATA ANALYSIS AND FINDINGS :

Table 1

Distribution of subjects according to Demographic variables

Demographic variables	Control Group (N = 30)		Experimental group (N = 30)		χ^2 value	P value
	No	%	No	%		
Age (years)						
< 20	3	10	3	10		
21 – 30	25	83	23	76.7	0.75	0.68
31 – 40	2	6.7	4	13.3		
Educational Status						
Illiterate	1	3.3	2	6.7		
Primary school	11	36.7	1	3.3		
Secondary school	10	33.3	8	26.7	2.162	0.339
Higher secondary school	3	10.0	10	33.3		
Graduate	5	16.7	9	30.0		
Occupational Status						
Housewife	22	73.2	26	86.7		
Coolie	2	6.7	1	3.3		
Teacher	3	10.0	3	10.0	1.667	0.197
Clerical work	1	3.3	-	-		
Engineer	2	6.7	-	-		
Economic Status(In Rupees)						
< 2000	6	20.0	6	20.0		
2001 – 5000	10	23.3	9	30	2.85	0.41
5001 – 10000	6	20	11	36.7		
> 10001	8	26.7	4	13.3		

Foot Note: The chi square value is obtained by classifying age <25 and age>25, education into illiterate and literate, occupational status into house wives and working women.

Table 1 reveals that majority of women 25(83%) in Control and 23(76.7%) in Experimental group fall in the age group of 21 – 30 years. 10(33.3%) women in Experimental group are literate, had education up to higher secondary school level. Majority of women in both the groups, 22(73.2%) in Experimental group and 26(86.75) in Control group are housewives. Since there is no statistical significant differences between both the groups, the groups are said to be homogenous.

Table 2

Distribution of samples according to Clinical variables

Clinical variables	Control group (N = 30)		Experimental group (N = 30)		χ^2 value	P value
	No	%	No	%		
Parity						
Primi para	11	36.7	10	33.3	0.78	1.00
Multi para	19	63.3	20	66.7		
Analgesics used						
Inj.pethedine + Inj.ketanov	10	33.3	11	36.7		
Inj.Tramadol + Inj.ketanov	16	23.3	17	56.7		
Inj.Pethidine + voveran.suppositries	1	3.3	-	-	1.27	0.73
Inj.Tramadol+voveran.suppositries	3	10.0	2	6.7		
No.of dosage of analgesics						
2	-	-	5	16.7		
3	-	-	15	50.0		
4	2	6.7	9	50.0	27.80	0.001**
5	9	30.0	1	3.3		
6	14	46.7	-	-		
7	5	16.7	-	-		
Duration between analgesics						
< 5 hours	26	86.7	2	6.7		
5 – 10 hours	4	13.3	17	56.7	39.6	0.001**
> 10 hours	-	-	11	36.7		
Body Weight (kgs)						
40-50	5	16.7	1	3.3		
51-60	5	16.7	18	60.0		
61-70	10	33.3	6	20.0	5.46	0.065
71-80	7	23.3	3	10.0		
>81	3	10.0	2	6.7		

Table 2 projects that there is no significant difference in both the groups on Parity, body weight and analgesics used. There is a significant difference in the duration between analgesic administered and the number of dosage of analgesics used between the Experimental and Control group with a

p value of 0.001. The women were given different combinations of pain medications.

Table 3

Relationship between analgesics used and pain scores at 6 hrs post operatively in Experimental group.

Drugs used	N (30)	Mean	S.D	F Value	P Value
Pethidine, Ketanov, Voveran Suppositeries combination.	11	2.27	0.905	0.918	0.411
Tramadol, Ketanov, Voveran Suppositeries combination.	19	2.075	0.80		

The above table projects that there is no significant relationship between the different combination of analgesics used and the pain scores at 6 hours post operatively among women in the Experimental group.

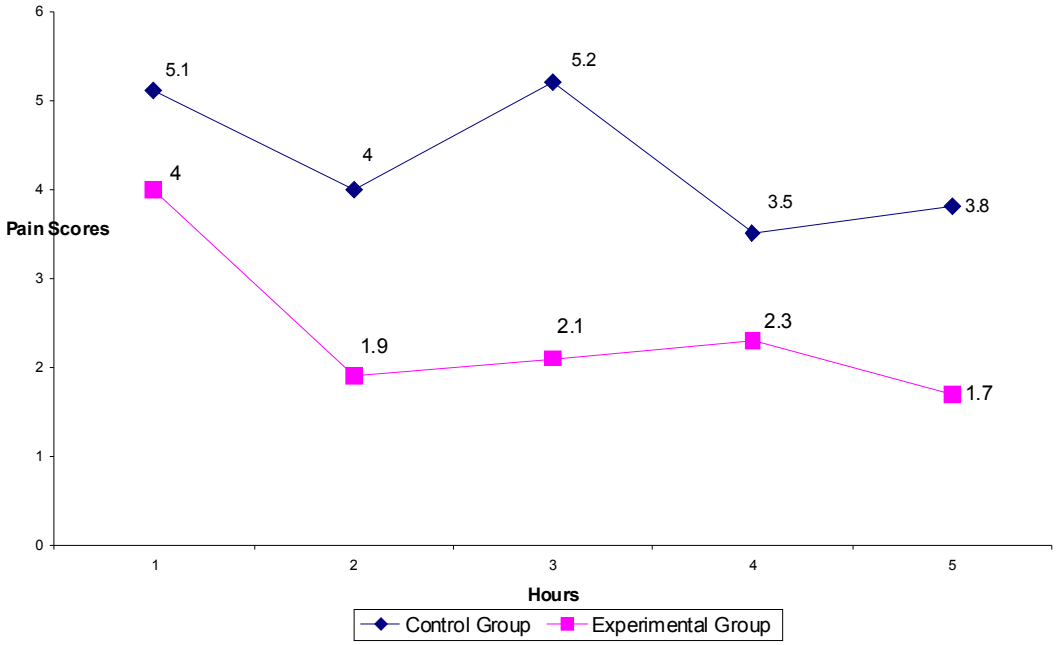
Table 4

Relationship between analgesics used and pain scores at 6 hours post operatively among women in Control group.

Drugs used	N (30)	Mean	S.D	F Value	P Value
Pethidine, Ketanov, Voveran Suppositeries combination.	11	3.60	1.50	0.434	0.730
Tramadol, Ketanov, Voveran Suppositeries combination.	19	4.025	1.10		

The above table projects that there is no significant relationship between the different combinations of analgesics used and the pain scores of women at 6 hours post operatively in the Control group.

Figure 3. The Mean pain scores in Experimental and Control Group at specific time points of post operative period



The above figure gives the mean pain scores of the Experimental and Control groups. There is a decrease in pain scores of the Experimental group compared to the Control group. At 0 hour the pain scores of the Experimental group is less compared to the Control group. At 24 hours the Experimental group Women show decrease in pain scores compared to the Control group women. The women in the Control group have experienced increase in pain at 12 hours post operatively with pain score of 5.2. The women in Experimental group have experienced more pain at 0 hours post operatively with pain score of 4.00.

Table 5

Pain scores of the post caesarean women in Experimental and Control group using observation checklist

S. No	Category	0 Hrs				6 Hours				12 Hours				18 Hours				24 Hours			
		Exp.		Control		Exp.		Control		Exp.		Control		Exp.		Control		Exp.		Control	
		No.	%	No.	%	No	%	No.	%	No.	%	No.	%	No	%	No	%	No	%	No	%
1.	Severe pain (>75%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Moderate pain (50-75%)	1	3.33	1	3.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Mild pain (Below 50%)	12	40.0	18	60.0	4	13.3	10	33.3	7	23.3	9	30	4	13.3	10	33.3	2	6.6	17	56.6
4.	No pain (0%)	17	56.6	11	36.6	26	86.6	20	66.6	23	76.6	21	70	26	86.6	20	66.6	28	93.3	13	43.3

Table 5 highlights that none of the women had severe pain in both Experimental and Control group according to non - verbal behaviors. Moderate pain was felt by 3% of women in Control and in Experimental group at 0 hour. Above 70% of women in Experimental group had no pain at 6, 12, 18, 24 hours post operatively.

Table 6

Non-verbal behaviors of women based on Observation checklist

S. No	Observations	0 Hrs				6 Hours				12 Hours				18 Hours				24 Hours			
		Exp.		Control		Exp.		Control		Exp.		Control		Exp.		Control		Exp.		Control	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No	%	No	%
1.	Grimace	13	43.3	17	56.7	2	6.7	6	20	6	20	6	20	4	13.3	8	26.7	1	3.3	11	36.7
3.	Closes eyes tightly	4	13.3	5	16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Cries	-	-	3	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Closes first tightly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Respiratory rate increases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Guards abdomen	8	20.7	7	23.3	2	6.7	8	26.7	1	3.3	6	20	2	6.7	5	16.6	-	-	11	36.7
7.	Makes incomprehensible Sound	6	20	5	16.7	-	-	-	-	1	3.3	-	-	-	-	-	-	-	-	1	3.3
8.	Bites lips	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
9.	Verbalizes pain	12	40.0	17	56.7	1	3.3	4	13.3	-	-	1	3.3	1	3.3	3	10.0	-	-	2	6.7
10.	Looks Restless	1	3.3	1	3.3	-	-	-	-	-	-	1	3.3	-	-	-	-	-	-	-	-

Inference : The above table projects that the non verbal expression in both the groups are similar only at 0 hours. The Experimental group women shows less non verbal behaviors compared to the women in control group.

Table 7

Post operative pain experience of women in both the groups according to pain questionnaire.

PAIN EXPERIENCE	EXPERIMENTAL GROUP (N = 30)		CONTROL GROUP (N = 30)	
	n	%	n	%
Maximum pain experienced				
Soon after surgery	-	-	4	13.3
First 6 hrs after surgery	12	40.0	21	70.0
6 hrs – 12 hrs after surgery	10	33.3	3	10.0
12 – 24 hrs after surgery	8	26.7	2	6.7
Minimum pain experienced				
Soon after surgery	6	20.0	5	16.7
First 6 hrs after surgery	4	13.3	2	6.7
6 hrs – 12 hrs after surgery	5	16.7	7	23.3
12 hrs – 24 hrs after surgery	15	50.0	16	53.3
Nature of pain experienced				
Burning pain	4	13.3	2	6.7
Pricking pain	13	43.3	15	50.0
Squeezing pain	4	13.3	8	26.7
Shooting pain	1	3.3	1	3.3
Pulling pain	8	26.7	4	13.3
Dosage of pain medication used				
< 3	5	16.7	-	-
3	15	50.0	-	-
4	9	30.0	2	6.7
5	1	3.3	9	30.0
6	-	-	15	50.0
> 6	-	-	4	13.3
Pain relief experienced after pain medication				
< 30 minutes	24	80.0	13	43.3
30 min – 1 hr	6	20.0	15	50.0
> 1hr	-	-	2	6.7

The above table shows that 12(40%) women in Experimental group and 21(70%) women in Control group had maximum pain in first 6 hrs post operatively. About 15(50%) women in both the groups had minimum pain between 12 – 24 hrs Post operatively. Pricking pain was experienced by 13(43.3%) women in Experimental group and by 15(50%) women in Control group.15 (50%) women in Experimental group received only 3 doses of pain medication and 15(50%) women in Control group received 6 doses of pain medication revealing that there is a increase use of pain medication in the Control group compared to the Experimental group.

Table 8

Comparison of pain score (summary measure)* in Experimental and Control group

Variables	Control group (N=30)		Experimental group (N=30)		't' value	P value
	Mean	S.D	Mean	S.D		
Numerical pain score	4.066	0.984	2.420	0.84	-6.960	0.0001***

*Foot note: Summary measure was computed by taking the pain scores of the women at various time periods.

***P = <0.0001

Inference:

The mean pain score was calculated from the summary measures of numerical pain scores at different time periods (0, 6, 12, 18, 24 hours post operatively) in both Experimental and Control group. The above table projects a significant reduction of pain scores in Experimental group compared to the pain scores in the Control group with p value of 0.0001.

Table 9

Comparison of mean pain scores at 0 hour and 12 hours in Experimental group (Pretest and post test).

(N=30)

Numerical score	Pre-test (0 hours)	Post-test (12 hours)	Paired 't' value	P value
Mean	4.00	2.10	3.49	0.002*

*P = < 0.050

Inference:

The mean pain scores at 0 hours and 12hours were calculated. A paired't' test was done to find the effectiveness of the foot massage in Experimental group. The above table shows a significant reduction of pain scores at 12 hours post operatively compared to 0 hours of post operative period of women in Experimental group.

Table : 10

The effect of reflexology among women in Experimental group assessed by questionnaire: (n=30)

QUESTIONS	n	%
Pain relief experienced after reflexology		
< 30 minutes	29	96.7
30 min – 1 hr	1	3.3
> 1 hour	-	-
Feeling experienced during reflexology		
Comfortable	29	96.7
Painful	-	-
Tingling	1	3.3
No effect	-	-
Pain relief experienced		
Mild relief	2	6.7
Moderate relief	21	70.0
Complete relief	7	23.3
Frequency of massage needed		
Every 2 hrs	5	16.7
Every 4 hrs	13	43.3
Every 6 hrs	10	33.3
Every 8 hrs	2	6.7

Inference:

The above table shows that 29(96.7%) women in the Experimental group had pain relief within 30 minutes after foot massage and had comfortable feeling during the massage. Moderate pain relief was experienced by 21(70%) women after reflexology and 7(23.3%) of women had complete pain relief after reflexology.

Table: 11

Relationship between selected Demographic and Clinical variables with pain score (summary measure) of Post operative women in Experimental group

Demographic /Clinical variables	N (30)	Mean	S.D	F value	P value
Age(in years)					
< 20	3	16.6	1.01		
21 – 30	23	2.46	0.78	1.596	0.221
31 – 40	4	2.75	0.98		
Education					
Illiterate	2	17	0.42		
Primary school	1	2.0	-		
Secondary school	8	2.6	0.76	0.552	0.699
Higher secondary school	10	2.3	0.87		
Graduate	9	2.4	0.98		
Occupation					
House wife	26	2.45	0.79		
Coolie	1	1.4	-	0.745	0.484
Teacher	3	2.4	1.33		
Economic Status					
< 2000	6	2.43	0.85		
2001-5000	9	2.02	0.80	1.090	0.371
5001-10000	11	2.55	0.85		
> 10001	4	2.45	0.82		
Parity					
Primi para	10	2.40	0.92	0.008	0.929
Multi para	20	2.43	0.82		
Body Weight (kgs)					
40-50	1	3.0	-		
51-60	18	2.16	0.86	1.056	0.399
61-70	6	2.73	0.68		
71-80	3	2.80	0.91		
> 81	2	2.90	0.98		

The above table reveals that there is no significant difference between pain scores and above clinical and demographic variables in the Experimental group.

Table : 12

Relationship between selected Demographic and Clinical variables with pain score (summary measure) of Post operative women in Control group

Demographic /Clinical variables	N (30)	Mean	S.D	F value	P value
Age(in years)					
< 20	3	5.1	0.83		
21 – 30	25	4.0	0.95	2.71	0.085
31 – 40	2	3.3	1.14		
Education					
Illiterate school	1	3.40	-		
Primary school	11	4.10	0.90		
Secondary school	10	4.56	1.14	1.880	0.145
Higher secondary school	3	3.06	0.23		
Graduate	5	3.72	0.60		
Occupation					
House wife	22	4.22	1.05		
Coolie	2	3.30	0.14	0.946	0.454
Teacher	3	3.33	0.30		
Clerical work	1	4.60	-		
Engineer	2	3.90	0.989		
Economic Status					
< 2000	6	4.06	0.67		
2001-5000	10	4.08	1.11	1.040	0.989
5001-10000	6	4.16	1.12		
> 10001	8	3.97	1.08		
Parity					
Primi	11	3.76	6.902	1.684	0.205
Multi	13	4.24	1.010		
Body Weight (kgs)					
40-50	5	4.0	0.60	0.901	0.478
51-60	5	3.48	0.96		
61-70	10	4.06	1.10		
71-80	7	4.22	0.95		
> 81	3	4.80	1.21		

The mean pain scores from the summary measures at various time periods assessed by the Numerical pain rating scale were taken to find the relationship with selected Demographic and Clinical variables in Experimental and Control group. One way ANOVA was the statistical test used to find the relationship. There is no significant relationship between the mean pain scores of the Experimental and Control group with the selected Demographic variables like Age, Education, Occupation, Economic Status and no significant difference among the Experimental and Control group with the Clinical variables like Parity and Body weight of the women.

DISCUSSION

OBJECTIVE: 1:

To assess the post-operative pain among the women in Experimental and Control group.

The data was analyzed by taking the mean pain scores at 0 hrs,6 hrs,12 hrs, 18 hrs, 24 hrs in both Experimental and Control group and was plotted on a graph. The mean pain scores in the Experimental group were 4, 1.9, 2.1, 2.3, and 1.7 at 0, 6,12,18,24 hrs post operatively assessed by the numerical pain rating scale. The group clearly depicts that the mean scores at different time periods were significantly less compared to the mean pain scores in the Experimental group.

Observation check list data was analyzed to know the non-verbal behavior of women who underwent Caesarean section to pain in both Experimental and Control group. This data reveals that non verbal behavior were more at 0 hrs post operatively in both the groups. The common Non-verbal behavior observed were Grimaces, Guarding the abdomen and Verbalizing pain. The pain perception was categorized based on non-verbal behavior into severe pain (>75%), mild pain (50-75%), moderate pain (below 50%), no pain (0%). The women in both Experimental and Control groups did not have severe pain based on the observation. 10(3.33%) women in both the groups had moderate pain at 0 hrs post operatively. 18(60%) women in Control group and 12(40%) women in Experimental group had mild pain at 0 hrs post operatively. At 24 hrs 6.6% of women in Experimental group and 56.6% of women in Control group had mild pain. More than 70% of women in Experimental group had no pain at 6,12,18,24 hrs post operatively assessed by numerical pain scale. This shows that the Experimental group women over 24 hours had less pain, compared to Control group assessed by the observation check list.

The above finding predicts that Observations cannot assess pain accurately compared to the subjective response. Pain is unique to every individual and it is subjective in nature. Assessing pain objectively will not give good and relevant information. Objective assessment will not help the nurses to manage pain effectively.

The pain perception assessed by the pain questionnaire reveals that the maximum pain was experienced by 40% of women in Experimental group and 70% of women in Control group in the first 6 hours post operatively. Minimum pain was experienced by 50% of women in Experimental group and 53.3% of women in Control group during 12 - 24 hours post operatively. The nature of pain experienced by the women in the first 24 hours is mainly pricking type. The

Experimental group women received less dosage of pain medication compared to the Control group about 50% of women in Experimental group had only 3 doses of pain medication and 50% of women in the Control group received 6 doses of pain medication in the first 24 hours post operatively. This finding demonstrates that the pain perception in the Experimental group is less compared with the Control group. However the combinations of drugs administered to the women were different according to the firms and the physicians under whom the women were admitted. The women were given combination of inj. Pethidine, inj. Ketanov and Voveran suppositories combination and inj. Tramadol, inj.Ketanov and Voveran suppositories combination. To eliminate the bias a statistical analysis was done to fine the difference in the effect of the different combination of drugs on pain score at a particular time point post operatively among women by using anova. The analysis reveals that there is no difference in the effect of different combination of the drugs used on post operative pain.

OBJECTIVE: 2:

To find out the effectiveness of reflexology in pain management among women in Experimental group.

The pain scores assessed by Numerical pain rating scale at various time periods (0, 6,12,18,24 hrs) post operatively reveals that there is a significant difference in the pain scores at 0 hrs to 2 hrs.

0 hrs is taken as the pre-intervention pain score and the pain score at 12 hrs is taken as the post-intervention score. A paired't' test was done to find significance of the pain score. The statistical test reveals that there is a highly significant reduction of pain score in the Experimental group between the pre and post interventions (P=0.0001).

The effect of reflexology was assessed by using a questionnaire this revealed that 96.7% of women in the intervention group felt comfortable during the massage session and had pain relief within 30 minutes after the massage. 23.3% of women had complete relief of pain after the foot massage and 70% of women had moderate pain relief after the foot massage. 43.3% of women verbalized that they need massage every 4 hours in the first 24 hours post operatively. These expressions give us the evidence that foot massage was beneficial and satisfying for the post operative women in relieving pain.

OBJECTIVE: 3:

To compare the pain perception of women who underwent Caesarean section in the Experimental and Control group.

A summary measure of the pain scores at various time periods (0, 6,12,18,24

hrs) were taken in both the groups and mean pain score was calculated with this summary measures. There mean pain score were compared between the experimental and control group using independent't' test. The analysis reveals that there is a highly significant decrease in pain scores in Experimental group compared to the Control group (P=0.0001).

Mean pain scores were calculated at various time periods (0, 6,12,18,24 hrs) post operatively in both the groups and were plotted on a graph. The graph projects that the mean pain scores are comparatively less in Experimental group than in Control group.

The observations of non verbal behavior done by using an observational checklist also projects that more than 75% of women in experimental group had no pain. In Control group less than 65% of women had no pain. Since pain is a subjective expression, this inference cannot be very much valid than the numerical pain scores.

OBJECTIVE: 4:

To identify relationship between pain relief with selected demographic and clinical variables i the post operative Caesarean women.

The mean pain scores from the summary measures at various time periods assessed by the Numerical pain rating scale were taken to find the relationship with selected Demographic and Clinical variables in Experimental and Control group. One way ANOVA was the statistical test used to find the relationship. There is no significant relationship between the mean pain scores of the Experimental and Control group with the selected Demographic variables like Age, Education, Occupation, Economic Status and no significant difference among the Experimental and Control group with the Clinical variables like Parity and Body weight of the women.

RECOMMENDATION:

Implication for nursing practice:

1. The nursing personnel should know the importance of pain assessment and pain management.

2. The nurse should be motivated to identify and manage pain effectively.

3. Nurses should not be satisfied by managing pain with pharmacological method, rather should be sensitive to use non pharmacological pain management methods like reflexology.

4. Nurses should be educated about reflexology, its technique and its

importance in pain management.

5. The massage can be taught to the relatives and to the patients to manage pain at home.

6. Reflexology could be done not only for pain management but can be used to improve comfort and well being of the patients.

7. Special skill development/ training programme, to learn and improve technique of foot massage could be reinforced among care providers to improve quality care.

SUGGESTION FOR FURTHER STUDY

1. A similar study can be replicated in a larger setting with a larger sample size.

2. A study can be conducted to see the effectiveness of pain relief by reflexology among women who are in first stage of labor.

3. A study can be conducted to compare the effect of reflexology on post operative pain management among primary Caesarean women and secondary Caesarean women

CONCLUSION:

The study findings support the hypothesis that there will be a significant reduction of pain scores in the Experimental group compared with the pain scores of the Control group by the use of reflexology. Nurses can use this art of therapeutic foot massage to reduce pain. It is cost effective, improves comfort, and enhances psychological and physical well being. Touch develops good interpersonal development between the patient and the care giver. Foot massage is perceived by the women soothing, relaxing and effective measures to decrease pain post operatively.

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The Correlation between Nursing Care Quality and Patients' Satisfaction who were using the Health Insurance in Bantul General Hospital, Yogyakarta, Indonesia

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Abstract

Hospital is a health service bussines based on the principle of trust. Issues of quality services and patient's satisfaction become a critical factor for success. Patient's satisfaction is a situation where patient and families assume that the costs incurred in accordance with the quality of care received and the progress of health condition experienced.

The aim of this research was to understand the correlation between the quality of nursing care and Patients' satisfaction who were using health insurance in Senopati Panembahan Hospital Bantul, Yogyakarta.

This research was non-experimental research with cross sectional design. Samples were taken from 30 Patients with specific wards the class III. Method of sampling in this study was accidental sampling.

The result showed that there were correlation between the quality of nursing care and the patient's satisfication in the wards with a value of p=0.000 and r=0.614 correlation value. Quality nursing care is quite good with a percentage of 86.7%. Satisfaction level with the percentage of satisfied patients classified as 83.3%.

In conclusion, the research proved that there were positive correlation between the quality of nursing care and patients' satisfaction that were using health insurance in Panembahan Senopati Hospital Bantul.

Keywords: nursing service, level of satisfaction, patient

INTRODUCTION

Main factors affecting the quality of service are expected service and perceived service. If the services received or perceived as expected, so the perceived service quality considered as good. If the quality of service it receives is considered as an ideal quality, whereas when the quality of service received is lower than expected, then the quality of service is considered poor. Services given by nurses is affected. *2

Good service quality is one important factor to reach customer satisfaction. Quality services in the context of hospital services means providing care for patients and their families based on the quality standards to meet their needs and desires, so as to obtain the satisfaction that can ultimately improve the trust of patients and their families to the hospital. *4

Patients as service users demand quality services from the hospital. Last time, patients used the hospital services for their sickness. Now the patient is more clever, well informed and pay more attention to quality issues so that personal satisfaction to be some sort of requirement that wish to be fulfilled in addition to their healing. * 1

Customer satisfaction measurement is very important for the company in order to evaluate the company's current position in comparison with competitors and end use, as well as to find which parts of the company that need improvement. Feedback from customers both directly or through customer satisfaction instrument become important tool for measuring customer satisfaction. *5

B. METHODOLOGY

This research was a non-experimental research with cross sectional approach. Accidental sampling was used to find respondent in this research by sampling in this study is accidental sampling by taking questionnaires to patients who meet certain requirements are determined at random. *3 The respondents were patients who got the insurance called jamkesmas. patients treated in inpatient wards. as many as 30 patients with the following criteria: Patients who were adults (+17 years), patients with good consiousness, patients who were hospitalized minimum for 3 days or were allowed home. The data was collected by distributing questionnaires. Once the data is collected the data analysis was conducted. This study was conducted to

determine the relationship between two variables that are ordinal scale non-parametric in this study using the Spearman Rho test the relationship quality of nursing care on patient satisfaction who had jamkesmas insurance in Panembahan Senopati Bantul Hospital.

C. RESULTS

Table 1.

The frequency distribution of the Quality of Nursing Care in Hospital Panembahan sanopati bantul In 2012

	Frequency	Percentage
Enough	4	13,3
Good	26	86,7
Total	**30**	**100**

Data Sources : Primary

Table 1, shows that the overall quality of hospital care in Panembahan Senopati Bantul were 26 (86.7%) stated either and 4 respondents (13.3%) stated enough.

Table 2.

The frequency distribution of patient satisfaction in Panembahan Senopati hospital Bantul Year 2012

	Frequency	Percentage
Enough	5	16,7
Satisfied	25	83,3
Total	**30**	**100**

Data Sources : Primary

Table 2 shows that 25 respondents (83.3%) said that they were satisfied, and as many as 5 respondents with the percentage (16.7%) stated enough.

Table 3.

The correlation between Nursing Care Quality and Patient Satisfaction who had JAMKESMAS insurance In Panembahan Senopati Bantul Hospital

			Quality	Satisfaction
Spearman'rho	Nursing Care Quality	Correlation	1.000	.614
		Sig.(2tailed)	-	.000
		N	30	30
	Patient Satisfaction	Correlation	.614	1.000
		Sig.(2- ailed)	0,000	-
		N	30	30

Data Sources: Primary

Table 3 Based on the results of the study, there was influenced of the relationship between the quality of nursing care on patient satisfaction in hospitals Panembahan Senopati Bantul. With stastistic Spearman Rank test on two variables: quality of nursing care to patient satisfaction with p = 0.000. Because the value of P = 0.000 <0.05 implies that in a significant difference between the quality of nursing care on patient satisfaction in hospitals that used insurance in Bantul District Hospital. The result of r = 0.614, it means there was strong correlation between the two variables.

D. Discussion

1. Nursing Care Quality

The results of the quality of nursing care in hospital acquired Panembahan Senopati Bantul District Hospital by 5 elements. Those are tangibels (real evidence), reliability, responsiveness, asurance, empathy categorized either as much as 26 persons (86.7%).

Nursing services on an inpatient room is one of variable of many types of services other services. According to Parasuraman et al cit Trisnawati (2008) identified five dimensions that determine the quality of service that includes tangibels (real evidence), reliability, responsiveness, asurance (guarantee), empathy which in practice these are one unified whole and can not be separated in order to maintain and improve the quality of nursing services so that these dimensions should be in equilibrium with each other.

Good service quality dimensions that includes 5 tangibels (real evidence), reliability, responsiveness, asurance (guarantee), empathy. This research was supported by the results of the study of

Latif, et al (2005) with the title of Quality Care and Patient Satisfaction at General Hospital Hole Baji Napier stating that where the outcome of each dimension is the quality of nursing care tangibele by 79 (85,9 %) with a significant value of p = 0.038, empathy by 94 (96.9%), with a significant value of p = 0.017, reliability 73 (77.7 %), with a significant value of p = 0.044, responsiveness, 87 (89.7 %), with a significant value of p = 0.35, asurance with significant p value = 0.029. It can be concluded that in order to create a good services, nurses must consider five dimensions of quality of nursing care that is tangibels (real evidence), reliability, responsiveness, asurance (guarantee), empathy.

2. Patient satisfaction

Patient satisfaction is an emotional reaction to the quality of service being experienced and perceived service quality is a thorough opinion or attitude associated with the virtue of service. In other words, customer satisfaction is the perceived service quality of consumer interest in this case is the patient. Quality health care is health care that can satisfy every user of health care services in accordance with an average satisfaction level of residents as well as its provider in accordance with the code of ethics and standards of professional service available. Danskyn said that the customer or patient satisfaction is the basic principle of quality management.

Patient satisfaction is one indicator in assessing the quality of care in hospitals. This is supported by research from Soraya , B (2006) entitled Analysis of Inpatient satisfaction Against Special Pavilium nursing services at Ibn Sina Islamic Hospital Pelembang Khadijah. These results indicate that patients who are satisfied only 49 %. (satisfaction in tangibles dimension of 53 % , 52 % relibility dimensions, dimensions responsivencs 49 %, 50 % and dimensions asurance empathy dimension 53 %). Factors affecting significant relationship with education and patient satisfaction are the factors that most affect patient satisfaction is dominan education with OR = 7.557.

3. Relation to the Nursing Care Quality Patient Satisfaction.

Aspects of service quality as an indicator of hospital patient satisfaction tends to be a phenomenon that is widely accepted among experts. The most important thing is that satisfaction is the result of the reaction, as a form of endorsement servant attitude toward patients in hospitals dimensionless lot. Health services are adequately addressed at the level of excellence in health care creates a feeling of self-satisfaction on every patient. This research was supported by the results of the study

Wijono (2005) with the title of Study About Quality of Service and Customer Satisfaction in the Islamic Hospital in Klaten Manisrenggo where regression analysis results showed that the quality of medical care have significant and positive impact on patient satisfaction (coefficient of 0.054) with the level of significance of 7 %. Quality of care paramedics have significance and influence on consumer satisfaction pasif (coefficient of 0.069) with a significance level of 8.8 %. Quality of medical support services have significant and positive impact on customer satisfaction (coefficient 0.062) with a significance level of 8.9 %.

Nursing is spearheading the health services in hospitals and is the primary mirror of the success of the overall health care. High quality nursing services must be performed by a professional nursing personnel in a professional manner as well. Every aspect of the treatment and care of patients by health care team should be documented so as to provide a snapshot of the overall health condition of the patient, as well as a legal evidence for patients, families, and other health team and others in need.

Results of this study was in accordqnce with a research by research Trisnawati (2008) with the title of Nursing Care Quality Improvement Efforts based on the format analysis of documentation study in Nursing Inpatient room intalation Dr. Soetomo hospital results that the format needs to be better revised. Format and ease of nursing care dukumentation format showed no difficulty. Mation about the charging time is less so necessary arrangements so that the charging time according to the format well stocked. Suda largely motivated nurses to fill up the nursing documentation form.

The workload in the morning and evening is dominated by functional activities, while at night time they may take a rest too long. Performance is based on the application of nursing care nursing documentation showed that nurses often do not fill : evaluation documentation format (81,7 %) intervention documentation format (59.8 %) and nursing plan format (51.2 %) so that it can be concluded that the better format charging the nursing documentation will better the quality of services to be provided to the patient[7].

Patient satisfaction is an important indicator of the effectiveness of a health care institution. Efforts made by management to improve the quality of care needs to continue in order to increase customer satisfaction. Customers will be satisfied if they got the products and services that meet their needs in a timely manner at a price that is deemed appropriate by the customer. Satisfaction based on continuous improvement so the

quality should be better al the time so that customers remain satisfied and loyal[5].

Aspects of their community or patient satisfaction as a measure of quality of health care, is a unique and complex phenomenon, can be aligned and not aligned with the code of professional conduct and quality standards set by the government. This peculiar phenomenon can not be ignored by the organizers and health workers. Results of this study tends were the determinant of patient satisfaction. Patients assessment on hospital quality comes from the experience of patients. Aspects of the patient's hospital experience, can be interpreted as a treatment or action by the hospital that is or ever lived, felt, and responsibility borne by someone who needs health care hospital.

This research was supported by the results of the study Supriyadi (2008)[5] Statistical test results obtained by the value of p = 0.000 means no relationship between satisfaction with the service patients' installation Wamena hospital outpatient patient perception of care in hospital outpatient installation Wamena, where the participation of health insurance for poor people called askeskin, regional origin and respondents who never went to another place simultaneously affect satisfaction with the Wamena hospital outpatient services by 34.7 %. 65.3 % of the influence of other variables that are not in tiliti in this study. Perception of the respondents had the strongest relationship with job satisfaction. It was shown by the greatest beta value and statistically significant (p < 0,05). Influence on the respondents' perception towards satisfaction of Wamena hospital services by 52.6 % , while 47.4 % were due to other variables.

D. CONCLUSION

There was a positive correlation between the nursing care quality and patients satisfaction who had jamkesmas insurance in Panembahan Senopati Bantul. The higher the quality of nursing care, the better the patient's level of satisfaction, with a value of p = 0.000. Quality of nursing care in hospitals Panembahan Senopati Bantul evidence based on the dimensions, reliability, responsiveness, assurance, empathy is good. Patient satisfaction in hospitals Panembahan Senopati Bantul based on dimensions of attitudes, knowledge, skills, facilities, procedures are satisfied.

E. SUGGESTIONS

1. For Panembahan Senopati Bantul Hospital

To improve the nursing care quality in the hospital of Panembahan Senopati Bantul. Especially in real evidence aspect, reliability and security.

To increase patient satisfaction in all aspects of the attitudes, knowledge, skills, facilities and procedures.

2. For nurses

As a reference to improve the quality of nursing care to patients, while maintaining and improving the quality of nursing care with full awareness and commitment to the nursing profession.

3. For other researchers

To do research using a larger population, the variables and the wider use of the method of data collection is more complete, and explore other variables related to the quality of nursing care.

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Caring Phases For Stroke Patients Provided by Family Caregivers

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Abstract

The situation of caregiver in Thailand had been initially reviewed by Sasipat Yodpetch (2004), which portrayed elderly caregiving provided by caregivers. From the report of "impact of demographic change in Thailand" in 2011 (Jones and Im-Em, 2011), it showed that the large majority (88%) of persons aged 60 and over indicated that they could take care of themselves. However, there are some older patients with Non-communicable disease (NCD) who really need caregiver such as Stroke patients. This study aimed to explore phases of caring for stroke patients provided by family caregivers.

Methods : Exploratory descriptive design and secondary analysis were used in the study. Interviewed data from three cooperative studies with three Master students which involved stroke care, and emphasized on family caregivers were analyzed and synthesized in order to draw the essence of caring phases for stroke patients provided by family caregivers. The 'participants' included two stroke patients and 21 family caregivers.

Results: Caring for the stroke patients by family caregivers was categorized into three phases: critical care in intensive care unit, hospitalized care

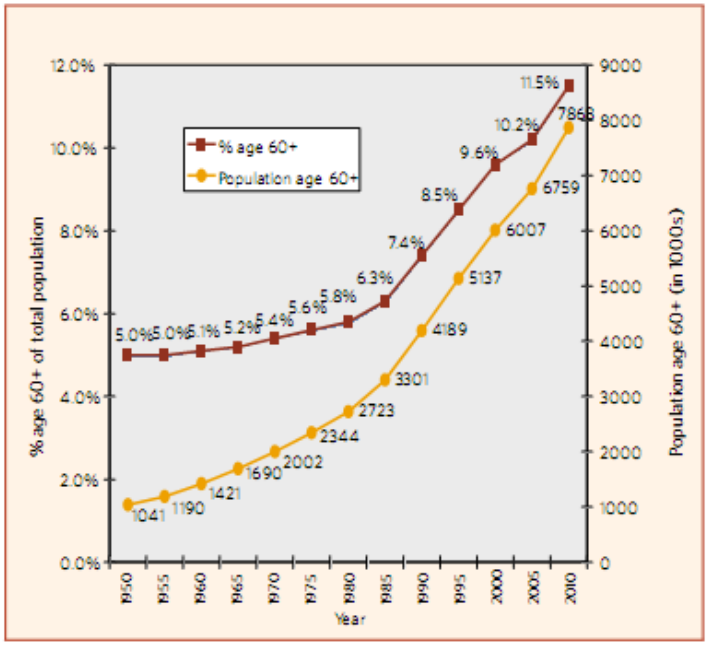
after survival from critical condition, and rehabilitation care. Stroke patients in ICU needed to be cared for by professional nurses, however, their family caregivers were also concerned about their health conditions. The caregiving process in this phase was consisted of 1) the observation of abnormal symptoms before admission to the intensive unit, 2) preparation to accept patients' health conditions while being in critical care; 3) understandings on complexity of symptoms and curative treatment; 4) feeling of uncertainty in patients' health condition; and 5) participation in decision making and caring provision by health care providers. The hospitalized care after survival from critical condition was consisted of 1) learning of illness in order to help patients after the critical condition; 2) protection patients from life threatening; and 3) beginning of rehabilitation. The rehabilitation care was started in the hospital and moved on to caring them when they returned home. Then, the family members had become "caregivers". Therefore, this stage showed responsibilities of caregivers to provide care to stroke patients in order to help improve their health conditions. They included 1) acceptance of being "caregiver"; 2) preparation of environment for rehabilitation; and 3) cooperation with patients to perform rehabilitative activities. The findings reveal that nurses should create a partnership with family caregivers to assist them in the three phases.

Keywords : Stroke, Caring, Caregiver

Background : The situation of caregiver in Thailand had been initially reviewed by Sasipat Yodpetch (2004), which portrayed elderly caregiving provided by caregivers. As Thailand's population growth is predicted to decline further in the near future, it is the changing population structure that is emerging as an issue of critical importance – specially changes in age structure, which numbers of elderly people are rapidly increasing. From the report of "impact of demographic change in Thailand" in 2011 (Jones and Im-Em, 2011), it showed that the large majority (88%) of persons aged 60 and over indicated that they could take care of themselves and thus presumably did not need a caregiver. Among those who did not indicate that they could take care of themselves, mostly had a caregiver.

The elderly caregivers are categorized by several dimensions, such as: roles of caregiving: primary and secondary caregivers; types of caregiving: formal and informal caregivers; situation of caregiving: family, institution, and community caregivers (Sasipat Yodpetch, 2004). Generally, the caregivers of the elderly are involved with patients, whom

they are blood relatives, mainly their children. They took care of elderly on daily basis including physical, mental, and financial supports. The problems in providing care arose from lack of knowledge of caregivers, for example, on how to deal with senility and chronic illness. Consequently, role conflict and the problem from handling too many responsibilities, and obscure burdens have caused the physical, mental, and financial problems to the caregivers (Sasipat Yodpetch, 2004).



Source: United Nations *World Population Prospects: The 2008 Revision* (Medium Variant)

Figure 1 : Population Ageing and Growth of the Older Population, Thailand 1950–2010 (From Jones and Im-Em, editor, 2011: Impact of demographic change in Thailand, United Nations Population Fund)

From the integrative review of elderly caregiver (Sasipat Yodpetch, 2004: 18–19), it was found that primary caregivers were family members who had main responsibilities on providing continuum care for elderly. They spent most time in a day to care for the elderly and to help with the usual activity of daily living. The secondary caregivers were family members who had participated in providing

care from time to time and help support some activities which needed to be done for the elderly such as; driving them to hospitals, finding appropriate community resources, and supporting the primary caregivers. Occasionally, the secondary caregivers replaced the primary caregivers' role to provide direct care to the elderly when needed.

Stroke is the second leading cause of death across the world (Bonita, 2004: 391). It is a disease that predominantly occurs in mid-age and older adults. WHO estimated that in 2005, stroke accounted for 5.7 million deaths world wide, equivalent to 9.9 % of all deaths. Over 85% of these deaths will have occurred in people living in low and middle income countries and one third will be in people aged less than 70 years (WHO, STEPwise approach to stroke surveillance, retrieved on January 12, 2013) http://www.who.int/chp/steps/stroke/en/index.html).

The study of the prevalence of stroke and stroke risk factors in Thailand by the Thai Epidemiologic Stroke (TES) Study was a community based cohort study that had been conducted in five geographic regions of Thailand. A baseline health status survey was started in 2004 and enrollment continued until the end of 2006. All participants who were suspicious of being stroke victims were verified. In this analysis, baseline data of 19,997 participants aged 45 to 80 years were identified and analyzed as a cross-sectional analysis (Hanchaiphiboolkul, et al., 2011: 427-436). The study revealed that among 376 subjects who were proven to have a stroke, the geographic variation in stroke prevalence was found to be more in Bangkok, central and southern region of Thailand. Hypertension, Diabetes mellitus, and hypercholesterolemia were also the co-factors associated with higher stroke prevalence in those areas (Hanchaiphiboolkul, et al., 2011 : 427-436).

The death rate among stroke patients in Thailand has shown that 36 people died from stroke every day, or about three people every two hours, and the death rate from the disease is likely to be increased to 17 percent in 2015 (Bureau of Policy and Strategy, Ministry of Health, 2010: 1). The Prasat Neurological Institute showed that stroke has been the most important health problem within three years from 2007 to 2009, and the most expenses in health care service (Prasat Neurological Institute report, retrieved on February 5, 2013/ http://pni.go.th/pnigoth/?page_id=1840). In addition, stroke is also the most common cause of long-term disability among adults (Riachy, et al. 2008: 2). Therefore, patients with stroke need to be cared for and also they need to live happily in their family household regardless of their health

conditions. Accordingly, caregiver is an important person who is expected to make this happen.

From the study of 20 stroke caregivers in an eastern province in Thailand done by Jullamate, Azeredo, Paul, and Subgranon (2006: 128-133), the majority of Thai informal stroke caregivers were female with mean of age at 53.10, mostly daughters and wives, except only two caregivers who were nieces. Interestingly, there were five male caregivers who were four husbands of patients and one son. Half of them could not work outside the home or be absent for long periods, and some even gave up their jobs because they needed to provide caregiving activities continually. Mostly, they provided care to the stroke patients for 24 hours a day. In the study, the needs which the caregivers required included assistance, information, and social support. Assistance was described by the caregiver as physical assistance to manage all the difficult activities e.g. lifting and moving patients, communication with patients who had cognitive impairment and depression. However, the psychological assistance was also slightly mentioned by the caregiver since they lived together with other family members who provided the psychological support from time to time. Information was added as a need of caregiver since they wanted to be better educated regarding the disease and caregiving activities at home. The social support referred to the financial need which they had to use for caregiving activities such as transportation for patients to the hospital and providing comfort to the patients.

Another study focused on family strength in caring for stroke survivor at home done by Niyomthai, Tonmukayakul, Wonghongkul, Panya, and Chanprasit (2010: 17-31). This phenomenological study described family strength as the competency of a family when faced with a stressful life event. The strength emerged from families overcoming caregiving hardships through: hope for stroke family member's long existence; building up as a 'can do' person through accumulated experiences; and establishing co-responsibility in handling caregiving and family tasks. The families with high-hardiness continuously strove to overcome caregiving hardships and had hope for the stroke member's long existence, while families with moderate-hardiness demonstrated less effort to overcome caregiving hardships and held no hope for the stroke member's long existence. Primary caregivers among families with high-hardiness revealed more self development in caregiver role than did those with moderate-hardiness. Families with high-hardiness shared caregiving and family task responsibilities, while families with moderate-hardiness lacked collaboration regarding caregiving and family tasks. Consequently, nurses

should be aware of family hardiness and strength in order to provide appropriate care for family caregivers.

Aside from the studies of stroke caregiver which had been conducted in 2006 and 2010, there is one current study on physical and mental health of adult caregivers who provided unpaid care to Thai family members with disability, mental illness, or who were frail or aged (Yiengprugsawan, Harley, Seubsman, and Sleigh, 2012: 1-9). Among 60,569 participants in the study who were distance-learning students of an open university in Thailand, it was found that one-third (20,345) had caregiver status. Thirty nine hundred and nine of them were full-time caregivers while the rest were part-time caregivers. Approximately equal proportions of males and females were caregivers. Full-time caregivers compared to non-caregivers were more likely married (65.6% vs 54.0%), being unpaid family members, (11.4% vs. 6.6%), and were rural residents (51.7% vs 41.4%). Caregivers were more likely engaged in health risk behaviors including smoking and drinking and reported higher body mass index compared to non caregivers. When compared to male non-caregiver counterparts, being a part- or full-time male caregiver was associated with lower back pain (Adjusted Odds Ratios 1.36 and 1.67) and psychological distress (AOR = 1.16 and 1.68). Caregiver status was not significantly associated with 'poor or very poor' self-assessed health for males. When compared to female non-caregivers, being a part- or full-time female caregiver had effects on health: 'poor or very poor' self-assessed health (AOR = 1.21 and 1.34), lower back pain (AOR = 1.47 and 1.84) and psychological distress (AOR = 1.32 and 1.52). Younger participants were more likely to report psychological distress than older participants: this was also noted for those who were never married, divorced, separated or widowed compared to married respondents.

The previous studies showed the reality of caregiver in Thailand which also emphasized on stroke caregivers. However, the remaining of stroke caregivers related to the caring phases for "Stroke patients" has not been included. Thus, it is important to nurses who are responsible for caring of the stroke patients as well as their caregivers in order to help them cope with the illness condition. Learning about how the caregivers cope with 'Stroke' and how they perceive the illness condition in terms of illness phase is also crucial for nursing care planning and interventions. Therefore, this study will explore the phases of caring for stroke patient provided by Thai family caregivers.

Purpose: To explore phases of caring for stroke patients provided by Thai family caregivers.

Methods : Exploratory descriptive design was used in the study. Indepth-interviewed data from three cooperative studies with three Master students of Advanced Adult Nursing program which involved stroke care, and emphasized on family caregivers were used (Pengkaew, Changmai, and Hinjiranan, 2008; Thanakumma, Hinjiranan, and Changmai, 2010; Weerasathian, Hinjiranan, and Changmai, 2012). The three studies had been conducted in 2008, 2010 and 2012. The 'participants' included two stroke patients and 21 family caregivers. The secondary analysis of these saturated data were employed in order that the researchers could synthesize and draw the essence of caring phases for stroke patients provided by Thai family caregivers. This study was also obtained permission from the Institutional Review Board of Christian University. Rights protection was used to assure the confidentiality of participants in terms of anonymity and providing adequate information.

Results: When the raw data findings from these three studies were analyzed, what the researchers considered as the main result is the caring for the stroke patients by family caregivers which can be categorized into three phases: critical care in intensive care unit, hospitalized care after survival from critical condition, and rehabilitation care.

Critical care in intensive care unit

Stroke patients in ICU needed to be cared for by professional nurses, however, their family caregivers were also concerned about their health conditions. The caregiving process in this phase was consisted of 1) the observation of abnormal symptoms before admission to the intensive unit, 2) preparation to accept patients' health conditions while being in critical care; 3) understandings on complexity of symptoms and curative treatment; 4) feeling of uncertainty in patients' health condition; and 5) participation in decision making and caring provision by health care providers.

The observation of abnormal symptoms before admission to the intensive unitMostly caregivers admitted that they learned about abnormal symptoms before patients were admitted to the hospital at ICU. They shared their experiences on these abnormal symptoms:

"I heard something dropped on the floor, then I looked at him and asked if he was ok...Suddenly I saw him had a saliva dribbling and wry mouth... (a wife, case 2)

"At first he had a wry mouth" (a daughter, case 5)

"...I could see the abnormal thing happened... he had one-sided weakness and he couldn't walk" (a daughter, case 7)

"He had a wry mouth, weakness of his leg and tilt walking" (a wife, case 10)

"I remembered we got ready to travel south to the beach during new year..He (father) helped with the shopping. Then he invited everyone to join drinking beer. I saw him zipped just a little, then he complained of having dizziness and went to take a nap. When he got up he had a very serious headache and right hand numbness. He said he couldn't take it any more, so we took him to the hospital and right to the ICU" (a daughter, case 18)

"Yes, she had hypertension but he always saw the doctor every one or three months...depended on her condition. On the day that she had stroke...she got up early as usual, sitting on a chair, then she fell down from the chair like having syncope. I was about a meter far away from her. So I rushed into her and we went to the hospital right away." (a daughter case 21)

After recognition of these abnormal symptoms, the caregivers hurried to bring patients to the hospital and they were admitted immediately to the ICU.

Preparation to accept patients' health conditions while being in critical care

When patients were admitted in the ICU, family caregivers prepared themselves to accept the serious health conditions. They were aware of some abnormal signs and symptoms which might have happened to patients.

"I was there with him (patient), I didn't get any sleep. I was afraid that something might happen to him, like...aspiration...he had secretion and he was on the ventilator, anything could happen at night. I couldn't sleep...must be ready to help him..." (a daughter, case 3)

"I am very careful being with him (in ICU), since the doctor said that he would have weakness arm and leg...specially the right side..." (a wife, case 4)

"I had to prepare and be ready to help her (mother) since her condition was very serious" (a daughter, case 13)

"...yes, I would say...on the first day that he (father) admitted in ICU, I couldn't take it. My mother couldn't stay here with him. I was with him all the time. I must accept that he was in critical condition...the doctor said... do not expect too much, then I know..." (a daughter, case 18)

Understandings on complexity of symptoms and curative treatment

After the caregivers settled in accepting the patients' health conditions while being in critical care, they started to learn and understand the complexity of symptoms and curative treatment.

"I noticed the unstable symptoms... She (mother) had no response,

weakness, unable to lift arms or legs..." (a daughter, case 6)

"At first...I must accept that he (father) would not make it...Actually he was better yesterday, then he was unconscious again... His heart was very weak and slow beat" (a daughter, case 18)

"Since this problem was about the blood vessels in his brain, if he received too many drugs which affected the vessels, I was afraid that the vessels would be broken..anyway, he needed them, right?" (a wife, case 19)

Feeling of uncertainty in patients' health condition

Since Stroke is a serious health problem as the symptoms can be various depending on the severity, therefore the caregivers felt uncertain in patients' health condition.

"I don't know what will happen, not sure...I heard that some people who had the same problem, couldn't walk when they woke up, they couldn't even talk..." (a wife, case 4)

"From the film, we saw the big broken vessel... brain edema...if we decided to have a surgery...we were not sure that she would be ok since she is very old, 84. We cannot take a risk. She also had diabetic, so we were not sure what will happen." (a daughter, case 21)

"Then the doctor said that it was not a good idea to have a surgery for *him (husband)... In the first place he told us that there would be a way for surgery. Oh..no...I don't know what to do...I told my son that do whatever you thought it was good for your father... if he was lucky, then he would get better..."*(a wife, case 20)

Participation in decision making and caring provision by health care providers.

Even though nurses and doctor provided the care for stroke patients, caregivers were also likely to participate in decision making and caring with treatment by health care providers.

"The doctor said that he (father) could not have a surgery, just only medication that the health care team could help him. So I told my mother and we decided to go for a symptom management. We agreed that whatever happened, we needed to accept it(a daughter, case 18)

"They (doctor and nurses) said the surgery maybe good or maybe not...so we decided to have a surgery for him. It could be our 'hope' to help him. I was here yesterday with him...he was unconscious but to me... he seemed to be conscious since he hold my hand" (a wife, case 20)

Hospitalized care after survival from critical condition

The hospitalized care after survival from critical condition was consisted of 1) learning of illness in order

to help patients after the critical condition; 2) protection patients from life threatening; and 3) beginning of rehabilitation.

Learning of illness in order to help patients after the critical condition

The caregivers started learning of illness while patients were admitted in ICU. They continued the learning process in order to help patients after the critical condition.

"I am learning...the doctor explained to me about his (husband) illness and the curative treatment. Nurses also taught me about stroke. It made me understand more about this illness." (a wife, case 8)

"I followed the lessen that physiotherapist has taught me... how to do little exercise to prevent complications" (a daughter, case 5)

"They taught me how to exercise in order to prevent joint stiffness... when we go home I would know what to do." (a daughter, case 6)

"I keep an eye on him...if there is something wrong...like more weakness or facial palsy, I will call on the nurse. Actually she taught me how to observe the abnormal signs and symptoms. She said he could get worse again" (a daughter, case 7)

Protection patients from life threatening

When Stroke patients were getting better from the critical condition, caregivers did not ignore any abnormal signs or symptoms which had happened. They always observed the patients to find out some abnormal conditions in order to protect them from life threatening.

"I saw he had a stiff tongue...then the (health care) team took him for an MRI. The result showed that there was a little spot in his brain. We needed to be careful...at this stage we must take really good care for him. It was like a dead grass that we had to care of again...If we took a closer look and care, it would survive." (a wife, case 4)

"They (doctors and nurses) gave a special care to him, the medication which he needed and Panadol when he had fever. I knew that if he could not breath I must tell the doctor and that meant he needed to have a tracheostomy, a minor surgery to keep him alive." (a daughter, case 18)

"We hope that he will get better. If he continues having this condition, I will accept it. If he had disability, I don't mind. We would care for him no matter what he would be. The doctor said that if he got worse, we can take the respirator off and let him go. No way...I would not do that, we will protect him and never let him go." (a wife, case 20)

Beginning of rehabilitation

The rehabilitation started in the hospital. Caregivers did not wait until patients were discharged from the

hospital. It was important that patients needed the rehabilitation as soon as possible to prevent complications.

"They started the rehab for him so soon. Now he was still in the hospital to continue the rehab." (a wife, case 2)

"Yes, I can do it.... I started giving him a massage, I fed him and assisted him to help himself, to use left hand to eat as soon as possible. (a daughter, case 5)

"At first I just saw what they (nurses) did to him. There were a few nurses to help do a rehabilitation in the beginning. I learned from them and started doing it by myself right away. (a daughter, case 7)

"When they (Physiotherapists) came, they taught me how to do the rehab for him. I jotted it down, step by step, so I can do it when we return home." (a wife, case 9)

Rehabilitation care

The rehabilitation care was started in the hospital and moved on to caring them when they returned home. Then, the family members had become "caregivers". Therefore, this stage showed responsibilities of caregivers to provide care to stroke patients in order to help improve their health conditions. They included 1) acceptance of being "caregiver"; 2) preparation of environment for rehabilitation; and 3) cooperation with patients to perform rehabilitative activities.

Acceptance of being "caregiver"

Even though there were some issues in the family regarding to the illness of stroke patients, family members had come to the solution of "caregiver role". One family member was responsible for caring of the patient, as primary caregiver, while some other family members took part in the caregiving as supporters or secondary caregiver. All of them accepted that the caregiving had happened in the family and they were the part of it as "caregiver".

"...if it continues like this (patient's health condition), I must be the one who takes care of her" (a daughter, case 18)

"Whatever happened to him, we will handle it. I told my children that I will take a good care of him even if he was disabled" (a wife, case 20)

"Caring him at home is not a problem. I don't feel anxiety. When I needed anything, my son can do a shopping for us, while I look after my husband. Even if I need help, my daughter is also at home. She doesn't have a job outside, just stay at home... no worry." (a wife, case 20)

"We have two house mates to help if we need help. They learned that my mother has stroke and when they visited her at the hospital, they prayed for her to get better. They want her to come home. At home they will help provide care for her." (a daughter, case 21)

"I am not sure that I can take role of caregiver but I will do my best. I search for brochures to read and try to understand. I need more information so that I can take care of her (mother) when she returns home." (a daughter, case 1)

"I read the handbook and brochure they gave to me so that I can do it when we return home. I must understand it since when we are home, I will be his caregiver." (a wife, case 9)

Preparation of environment for rehabilitation

In order to succeed in rehabilitation, the need of environmental preparation is required. Family caregivers were concerned on how to adjust the environment help improve patients' health during rehabilitation.

"I asked my neighbor to help adjust the environment to be appropriate for her rehab. They made the parallel bar for her to walk and exercise. Also, they helped make a sling for her to exercise arms and legs." (a daughter, case 13)

"My son made a sling for me so that I can exercise. Then I got much better. I use the wheel chair to help when I walk. He also made the sand bag for me to lift it up, to strengthen my muscle." (a patient talking about his son, case 14)

"The doctor suggested us to build a hand rail at the stairs so that it will be safe."(a daughter, case 6)

"We have a bed, a hospitalized bed at home. It is not a modern one but very handy. My brother bought an exercised-bicycle for him so he can have an exercise everyday." (a wife, case 9)

"I am thinking what will help him call us. The bell is probable good enough but we have to make mutual agreement that if he vibrates only once, it means he wants a pee. If twice, it means he needs a bowel movement. A board communication is fine... I think he is ok with it." (a wife, case 9)

Cooperation with patients to perform rehabilitative activities

During the rehab phase, it was noted that patients were the center of care. To achieve optimal outcomes, the caregivers worked cooperatively with patients to perform rehabilitative activities.

"When I felt withdrawn, I would think of my mother. If I expressed the feelings in front of her, she would feel the same. I just made her belief that her illness wasn't that bad. She must cooperate with me as she is a center of care. I also cooperate with her... to help her get better, for example, if she wanted to eat, she had to practice her tongue and muscle around her mouth. If she wanted to speak, she had to practice everyday." (a daughter, case 3)

"When I talked to him, I would encourage him to fight against his illness. His mind-set should be adjusted to fight for happiness and then, other family member would fight with him, too. So he was very important of his rehabilitation process. I always told him that everything depends on his mind." (a wife, case 9)

"There was a neighbor who had the same problem. He was the center of his rehab and he was very diligent. So I would encourage him to follow the physiotherapy plan to get better soon." (a daughter, case 5)

"I helped grandma everyday. We worked together to exercise her legs by walking at the parallel bar, and her arms by using sling. It made her health even better." (a granddaughter, case 13)

Discussion and Conclusion

Stroke is the most common cause of long-term disability among adults (Riachy, et al. 2008: 2). On the stroke patients' experiences of illness, family caregivers play a major role to help them get through the illness. The findings revealed that during the critical period, nurses seem to be main health care professional to provide care for them. However, caregivers can be a part of the care in participation in decision making and caring provision by health care providers. It supports the findings from the study focused on family strength in caring for stroke survivor done by Niyomthai, Tonmukayakul, Wonghongkul, Panya, and Chanprasit (2010: 17-31). This phenomenological study described family strength as the competency of a family when faced with a stressful life event. The strength emerged from families overcoming caregiving hardships through hope for stroke family member's long existence. The hospitalized care after the survival required caregivers to seek information and knowledge to help learn of patients' illness. It reflects the needs of caregivers of assistance, information, and social support (Jullamate, Azeredo, Paul, and Subgranon, 2006: 128-133). In addition, they overcome the hardship of being caregiver by building up ability through accumulated experiences; and establishing co-responsibility in handling caregiving and family tasks (Niyomthai, Tonmukayakul, Wonghongkul, Panya, and Chanprasit,2010: 17-31). When patients are at home in their rehabilitation stage, caregivers also need to accept the role of "caregiver" and to work with patients on rehabilitation activities. Family caregivers need to overcome caregiving hardships to develop "strength" in caring for stroke survivor (Niyomthai, Tonmukayakul, Wonghongkul, Panya, and Chanprasit, 2010: 17-31). Therefore, nurses should create a partnership with family caregivers to assist them in the three phases.

Contribution to Knowledge Development

The findings of this study provide information regarding the caring phases for Stroke patients provided by Thai family caregivers. Although, this was a qualitative research, it supports the family caregivers' adaptation when they confronted the critical situation of family member's illness. In addition, the findings should enhance the knowledge regarding the factors associated with family caregiver adaptation in each phase of their caring for the Stroke patients. There should be further research to find out the family caregiver adaptation and their burden of caring for the patients in association with quality of life.

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Normalizing of Desired Health: Perception and Process of Modifying Health Behavior for Controlling Blood Glucose and Lipid among Thai Women with Metabolic Syndrome

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Abstract

This study aimed at describing perception and process of modifying health behaviors for controlling blood glucose and lipid among Thai women with metabolic syndrome. Grounded theory was carried out. Twenty-five participants were asked to take part in in-depth interview for two-times after obtaining their informed consent. Data were tape-recorded, transcribed, and analyzed. Three coding procedures, open, axial, and selective, were performed. Theoretical sampling and constant comparative analysis were also use to verify emergent concepts. The core category was normalizing desired health comprising of three subcategories: raising awareness of modifying effective actions.Raising awareness was composed of four concepts: 1) perceiving of unhealthy, 2) being anxious of high blood glucose and lipid profiles, 3) being pressure, and 4) being fear of illness. Considering of modification of healthier behaviors was constructed based on three concepts: 1) planning of modifications, 2) initiation of intended behaviors, and 3) seeking medical treatments. Lastly, maintaining of effective actions comprised of three concepts: 1)performing of modified behaviors, 2) monitoring of modified behaviors, and 3) evaluating of modified behaviors. These findings can be used to promote self-management to perform healthy behaviors to control diabetes and metabolic syndrome.

Keywords : Metabolic syndrome, grounded theory, life style modification, glycemic control, dyslipidemia

Introduction

Metabolic syndrome is known to be risk factor for developing several health problems among population worldwide including diabetes, cardiovascular disease, kidney disease, fatty liver disease and its related complications. These pathologies occur because of prolonged hyperglycemia and dyslipidemia. Recent knowledge proposes that metabolic disturbances causing by unhealthy and over eating along with less physical activity and exercise are major impact onto metabolic syndrome trajectory. Early prevention and detection of metabolic syndrome are key strategies to improve health management outcome.

The known risk factor of metabolic syndrome is overweight or obesity due to intake of high calorie diet or unhealthy diet and lack of exercise. There are two main characteristics of metabolic syndrome: elevated plasma glucose and lipid profiles (Vykoukal& Davies, 2012). Hyperglycemia occurs when plasma glucose is higher than normal values. It can be elevated fasting or postprandial blood glucose levels. Prolong elevated postprandial blood glucose between one and two hours after meal results in elevated fasting plasma glucose (Bruce &Byme, 2009). Impaired glucose tolerance (IGT) is diagnosed when two-hour postprandial plasma glucose is between 140 and 199 mg/dL. Impaired fasting glucose is diagnosed when fasting plasma glucose is between 100 and 125 mg/dL (ADA, 2012).

Metabolic syndrome in women includes five manifestations that include: 1) abdominal obesity with waist circumference 36 inches or higher, 2) fasting plasma glucose is higher than 100 mg/dL, 3) triglycerides is higher than 150 mg/dL, 4) high density lipoprotein-cholesterol is lower than 50 mg/dL, and 5) blood pressure is 130/85 mm Hg or higher. Metabolic syndrome is diagnosed when three of five symptoms are met the criteria (Potenza &Mechanick, 2009).

Prior research found that 10-25% of women have metabolic syndrome. Un-recognized and un-treated metabolic syndrome cause many serious health problems including type 2 diabetes, cardiovascular disease, hypertension, stroke, chronic kidney disease, end-stage renal failure, and its related complications (Gade, Schmit, Collins, &Gade, 2010). These consequences can be prevented by modifying of healthy life styles, particularly in diet, exercise, and body weight reduction. However, more than 60% of the women with metabolic syndrome could not achieve good glycemic and lipid control. Thus, the aim of this study was to explore the women's perceptions regarding the metabolic syndrome and the process of health modifying surrounding management of self-care for achieving target of

glycemic and lipid control. There were two main research questions:

a. How do Thai women perceive regarding the metabolic syndrome?

b. What modifying process do Thai women with metabolic syndrome practice concerning health management for self-care.

METHODS

Research Design

This study was carried out using grounded theory approaches. It was employed because the researchers aimed at generating substantive concepts and theory describing the modification process of health management for self-care regarding improvement of the metabolic syndrome. Current knowledge surrounding individual's response and interaction within their contextual perceptions and meaning provided are lacking. Previously, grounded theory research is suggested to apply in order to gain abstract categories of basic social process underpinning a paradigm model describing phenomena being studied. Therefore, it was used in this study.

Setting and Ethical Considerations

The research project was approved by the Research Ethics Committee of Faculty of Nursing and Faculty of Medicine, Prince of Songkla University, Thailand. The study was conducted in Endocrinology and Metabolism Clinic of a tertiary care hospital which is referral center for treatment of individual with metabolic syndrome around southern Thailand.

Participants

At the beginning of the study, purposive sampling was used to recruit the participants for the study. Characteristics of the potential participants were identified as followings: 1) being women aged 20-50 years, 2) having a history of metabolic syndrome including fasting plasma glucose higher than 100 mg/dL, triglyceride higher than 150 mg/dL, HDL-cholesterol lower than 50 mg/dL, blood pressure higher than 130/85 mm Hg., and waist circumference higher than 35 inches, 3) initiating of modification of health behavior in order to improve the metabolic syndrome.

Data Collection

The potential participants were approached by registered nurses providing care in the clinic. In case of willing to take part in the study, the researcher would tell them about the study objectives and interview procedures. Written-informed consent was obtained before initiation of the interview. The interview was done in two or three times on appointment date during waiting time

to see the doctor. Each session took 30-45 minutes. Semi-structured interviewed guide, concerning perceptions, a history of metabolic syndrome, treatments, and modification of health management, was used along with audio-tape recorded and field notes. Data were transcribed and prepared for analysis in two-column written documents.

Data Analysis

Qualitative data analysis for grounded theory was performed through open coding, axial coding, and selective coding (Corbin & Strauss, 2008). Data analysis initiated with open coding in order to see the emerging concepts. Then, axial coding was used to formulate the categories. Finally, the core category and subcategories was constructed through the process of selective coding, inductive reasoning, and constant comparative analysis (Glaser, 2005).

RESULTS

The findings showed that Thai women with metabolic syndrome modified their health behaviors in order to improve their conditions by using the process of normalizing their desired health. The emerging core category was composed of three subcategories: 1) raising awareness, 2) considering of modification of healthier behaviors, and 3) maintaining of effective actions.

Raising Awareness

Firstly, raising awareness was identified. It was composed of four concepts: 1) perceiving of unhealthy, 2) being anxious of high blood glucose and lipid profiles, 3) being pressure, and 4) being fear of illness.

Perceiving of unhealthy

Thai women with metabolic syndrome perceived that they are unhealthy because some symptoms or health problems occur such as uncomfortable, difficult to breath, fatigue, headache, dizziness, insomnia, using medications every day, and delayed healing of wound. The participant's experiences supporting this concept was showed below.showed below.

I perceived that my health was worse because I felt fatigue easier. Sometime I had headache, dizziness and uncomfortable. Then, I decide to reduce amount of food and rice, particular at dinner. [NY., aged 32 years, body weight 82 kgs]

Being anxious of high blood glucose and lipid profiles

They are anxious of their high blood glucose and lipid profiles after receiving the blood test results. They tried to restrict calorie before they came to see the doctor on appointment. Additionally, they worried about increasing

of the values after they could control them within normal ranges. The expressed their experiences as follows.

I came to see the doctor on appointment date at my first postpartum visit and had a 75g testing of blood sugar. One week later I have told that my blood sugar was so high, about 250 mg. At first, I frighten of it and was being anxious. After receiving advices to control diet and do some exercises, I thought that I should modify my health behavior right now. [SP. aged 28 years, body weight 78 kgs]

Being pressure

Thai women with metabolic syndrome perceived that they are under pressure from themselves, their family and social because of anticipating of its impact on their health. Being pressure experiences motivated their awareness to modify health behaviors as the following supporting idea.

Currently, I was under pressure because I fear that my husband might have a new partner owing to my obese shape was not attractive him. Sometimes, I went to shopping and saw beautiful dress that I like but I cannot wear because of my big size. So I taught that I should reduce my weight. [SK., aged 34 years, body weight 92 kgs]

Being fear of illness

Manifestations of the metabolic syndrome were warning signs of future illness for the women. In addition they have experiences that others had diabetes, heart disease, cardiovascular accident, and related complication. They were fear of getting sick and die from the disease as their words.

After knowing of high blood sugar and fat, I was fear of being sick such as stroke or heart disease. I have two children and they are so young, 6 years and 8 years. I did not want to die before my son and daughter have enough growth. [AR. aged 30 years, body weight 74 kgs]

Considering of Modification of Healthier Behaviors

The second subcategories was considering of modification of healthier behaviors. It was composed of three emerging concepts: planning of modification, 2) initiating of intended behaviors, and 3) seeking medical treatments.

Planning of modification

When they raised awareness and considered to modify their health behavior to improve their metabolic syndrome. They started with planning and making intention to modify their eating habits and plan to do more exercise such as joking, walking, bicycling, swimming, and went to fitness room. They had to manage their time for these healthy activities as the example of descriptions below.

I did not like my fat body and I fear of being sick, then I intended to go to fitness near my home every week I can. I plan to complete my house work and prepared some food for my family. I like to play bicycling and waist vibration. [SD. aged 32 years, body weight 68 kgs]

Initiating of intended behaviors

After they planned to modify their health behaviors, they initiated of intended behaviors including preparing and cooking by themselves rather buying some food from market, choosing food that contained less fat, avoiding pork with subcutaneous fat, chose fish menu, used more vegetable and ate more fruit rather than proceed food. In addition, they engaged in doing more physical activity and exercise that included choosing to walk instead of using motor cycle, walking in the morning or the evening, went to aerobic group exercise in the community.

Seeking medical treatments

Seeking medical treatments was one of modification of healthier behavior after they perceived of unhealthy due to their obesity, high blood glucose and lipid profiles. They sought to medical treatments and advices from community hospital or referral center for the metabolic syndrome in order to improve and reverse their conditions.

Maintaining of Effective Actions

The third subcategory of normalizing desired health of Thai women with metabolic syndrome was maintaining of effective actions. After they initiated to modify healthier behaviors, they usually performed those behaviors, monitored, and evaluated of the modified behaviors. Performing of modified

behaviors

They tried to perform the modified behaviors regularly by themselves or with their family. Example of modified eating behaviors including changing food menu to vegetarian or adding more vegetable, reducing amount of rice, ate less in the evening, avoiding to go to the evening market and party. After they completed housekeeping, they go outside with their husbands and children for doing some exercise such as joking, brisk walking, swimming, or playing badminton, avoiding watching television for a long time.

Monitoring of modified behaviors

They attempted to monitor their activities in order to maintain healthy behaviors by weighing every day or week, observe body shape, skin, or feces. Some of them fear of discontinuation of healthy behaviors but they motivated themselves or they received emotional supports from their significant persons including their

son, daughter, husbands, mother, father, sister, or brothers.

Evaluating of modified behaviors

Finally, they evaluated the modified behaviors by testing their blood glucose and lipid profiles at the hospital. They also concern of fluctuation of the values. As a result, they had better health as they needed.

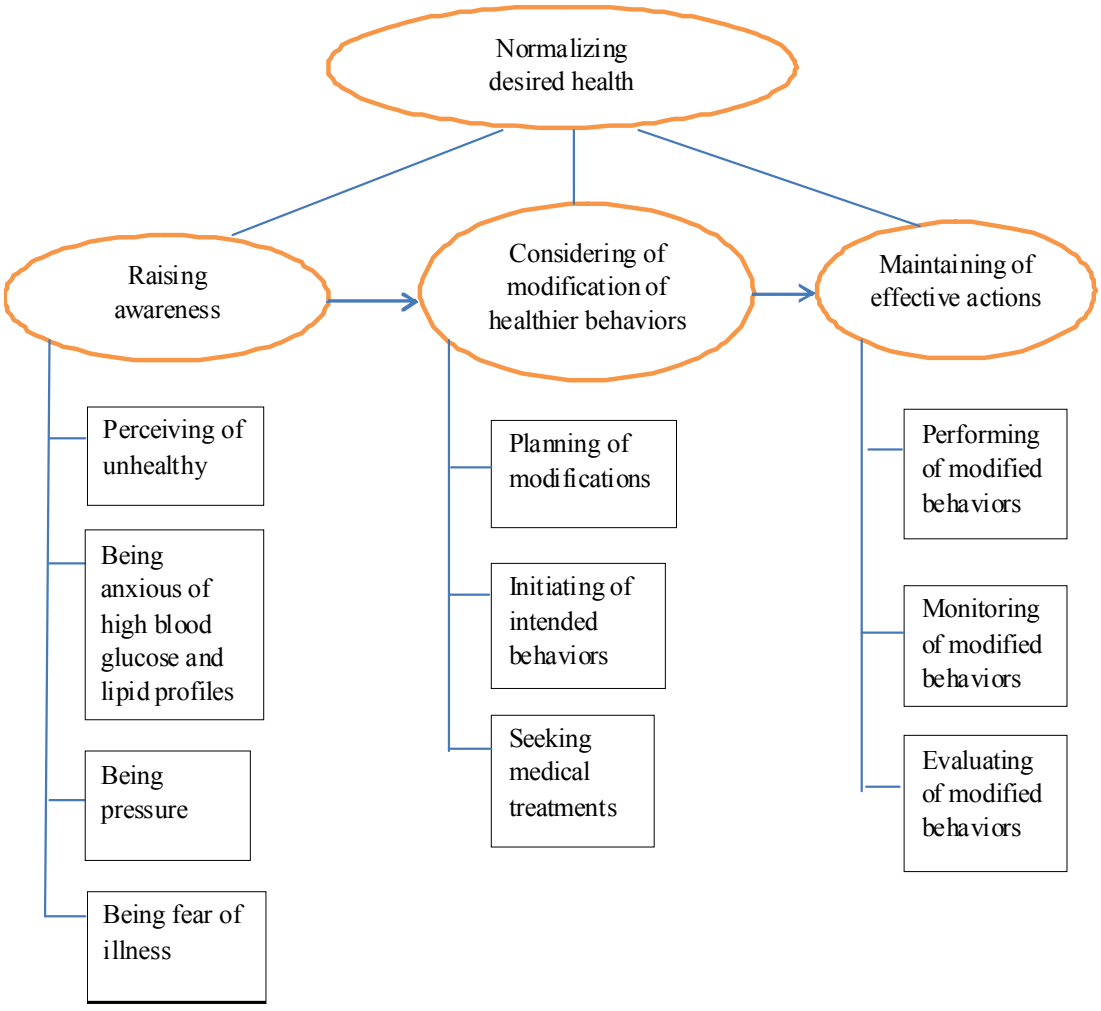

Figure 1. Substantive model of normalizing desired health: Modifying process of healthier behaviors to improve metabolic syndrome

Discussion

The process of modifying health behaviors to improve the metabolic syndrome used by Thai women was normalizing desired health comprising three steps of change: raising awareness, considering of modification, and maintaining of effective action. The finding showed that perception of health problems related to the metabolic syndrome was significant trigger to raise awareness and motivate their willing to participate in healthier behavior in order to improve their consequences. It was supported by the previous study revealed that after being diagnosed with the metabolic syndrome and being informed of increased risk of cardiovascular disease, the women were more likely to change their behaviors (Jumean, Korenfeld, Somers, et al., 2012). Being informed of blood glucose and lipid levels are also influence consciousness to modify health behavior (Frisman&Betero, 2008). After they were concern of their metabolic disturbance conditions, they experienced under pressure because of being fear of illness and related consequences. These findings are relevant with African-American women with type 2 diabetes behaviors that they are more likely to improve glycemic control when they had some health problems (Miller, Marolen, & Beech, 2010). These findings supported the self-determination theory explaining perception of occurring of some health problems initiate the decision-making regarding modification of physical activities and weight control (Silva et al., 2010).

Raising awareness towards the need of modification of health behavior leads to the stage of considering of modification of healthier behaviors. They plan to modify their daily life activities such as deciding of food menu and the way of cooking, choosing place, time, and type of exercise. They try to incorporate healthier behaviors with taking care of their children and family members. Most of the participants intend to adopt some strategies that help them to control blood sugar and lipid profiles before seeking medical treatments. After they cannot improve their glycemic control and metabolic disturbances, they would come to see the doctors. Once they initiate to engage in modified behavior, they attempt to continue the desired outcomes by following medical treatment and advices. At this stage, they also monitor and evaluate their own practices by recording the blood test results and observe their health status such as ability to perform daily activities, exercise, emotion, sleeping, and elimination pattern. In case of remain of perceived health problemsor unimproved of blood glucose and lipid profiles, some of them try to seek medical treatments from another place. This used strategy indicates that health care providers are

key persons to support the healthier behavior to achieve a good control of blood glucose and dyslipidemia (Frisman&Betero, 2008).

In addition, receiving motivation from health care providers and family supports enhanced their concerns and competency to maintain healthy behaviors (Chang, Fritschi, & Kim, 2012). Participation in group activities such as aerobic exercise in the community was important strategies to improve the metabolic syndrome. It promotes using of muscle utilizing of blood glucose and reducing deposit of body fat. Therefore, they can lose extra weight gain (Beavers, 2013). Previous research supported that participation of community leader to provide facilities for doing exercise was positively influence in diabetes prevention and controlling of the metabolic syndrome (Reddy et al., 2011).

Implications

Promotion and support ofhealthybehavior modification to improve a good control of hyperglycemia and dyslipidemia should be plan and monitor aiming to achieve normal health and lifestyle. Further researches can be implemented to test the empirical data of the normalizing the desired health constructing three phases: raising awareness, considering of modification and maintaining of effective actions.

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Factors Associated with Unhealthy Eating Behavior of Undergraduate Nursing Students

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Abstract

Unhealthy eating habits of Undergraduate Nursing Students (18-25 years old) are an important vital public health concern that large health and economic implications, as they are a high-risk group for weight gain and for developing lifestyle diseases including obesity and Diabetes Mellitus. The dietary habits they develop during their young adult years often become their life-long patterns, and consequently affecting their health. Even though many food preferences are established early, because Undergraduate Nursing Students make more and more independent eating decisions as they move through adolescence and young adulthood, the transition to independent living during the university days is an important event that gives them the opportunity to eat and drink whatever they want without thinking so much about their health.

The main purpose for this study was to examine the factors associated with unhealthy eating behavior of undergraduate nursing student. The participants (n=70) included undergraduate nursing students from the College of Nursing, who represented a range of ages, gender, educational background of parents, current residence, monthly income of parents, health problems, financial problems, and religion. It was found that undergraduate nursing students know about healthful eating habits, however, they opt to practice unhealthy eating habits. The findings of this research are consistent with the findings of some past research done in the same area.

Keywords : Eating Habits, Nursing Students, Compliance

BACKGROUND AND SIGNIFICANCE OF THE STUDY

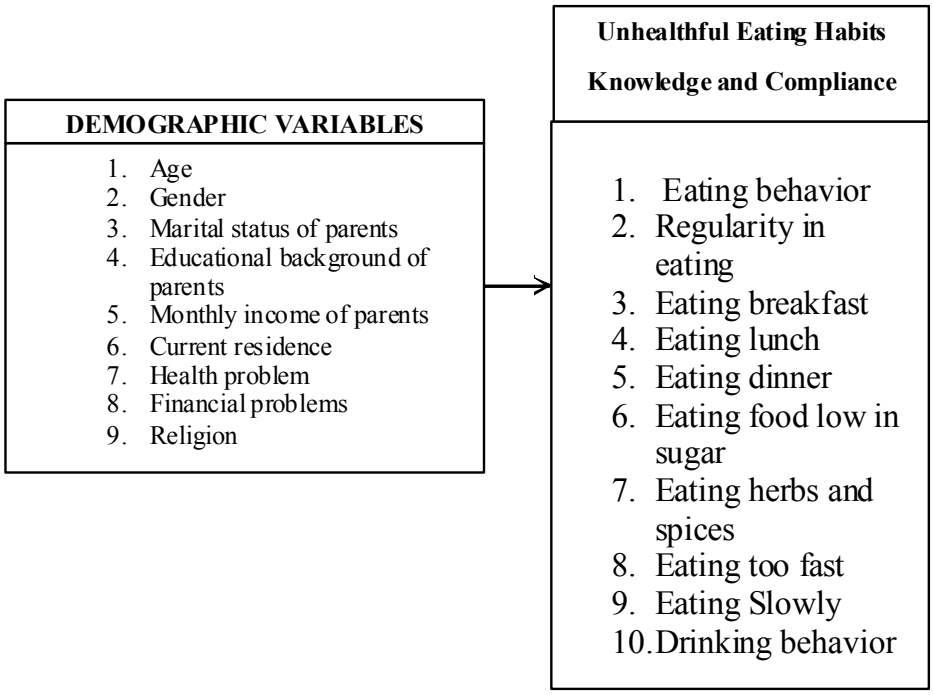
Undergraduate university students in general and undergraduate nursing students in particular are in critical period regarding unhealthy changes in eating behaviors. Health eating and drinking leads to good health and longevity, but unhealthy diet lead to poor health, diet related diseases, and

sometimes to death. Diet related diseases include cancer, cardiovascular disease, stroke and many others. Nursingstudents need to be healthy, strong, make good decisions as they care for their patients. To protect nursing students and save the most lives from chronic diseases and death, researchers, policy makers, nursing educators and administrators, should focus their efforts in helping theses students to stop engaging in unhealthy eating and drinking behaviors. The purpose of this study was to explore which factors might influence undergraduate nursing students' eating behavior, using a quantitative research design. Furthermore, we aimed to collect ideas and recommendations in order to facilitate the development of effective and tailored intervention programs aiming to improve healthy eating behaviors in undergraduate nursing students. This study goes along with Holistic wellness model, which consists of five elements good health: physical, social, emotional, occupational, and intellectual, (Kolander C. A, Ballard D.R., Chandler C. K., 2011:70).

Undergraduate nursing students use eating as a way to socialize - going out for lunch or to dinner with friends and colleagues, snacking while watching a movie, eating junk food and sometimes drinking alcohol under influence from each other. Nursing students should eat a well-balanced meal which includes foods from different food groups and provides them with a variety of nutrients. A well balanced diet is low in fat and salt. It contains fiber and vitamins, Meeks Linda and Height Philip. (2006:58). For Undergraduate nursing students, maintaining good eating habits is even more of a challenge. Family eating is inversely related to obesity trends, meaning that eating as a family could have a positive effect on what and how people eat. However, most undergraduate nursing students college students are, for the first time, suddenly faced with the need to learn how to eat without the family members. With this respect undergraduate nursing students choose either to eat by themselves or, more likely, with fellow students, often at restaurants or on-campus dining. Eating, in these circumstances, turns into a social event, where people eating and drink as they want and therefore end up eating larger or multiple portions and drinking more and more wine and beer. This type of overeating can often be coupled with malnutrition, in which eaters ingest too many calories, but not enough essential vitamins and minerals. This research study was based on Health Belief Model, one of the first theories of health behavior which was developed in the 1950s by a group of U.S. Public Health Service social psychologists who wanted to explain why so few people were participating in programs to prevent and detect disease. The health belief model

proposes that a person's health-related behavior depends on the person's perception of four critical areas: (1) the severity of a potential illness, (2) the person's susceptibility to thatillness, (3) the benefits of taking a preventive action, and (4) the barriers to taking that action. The Health Belief Model postulates that health-seeking behaviour is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat. It addresses the relationship between a person's beliefs and behaviors. It provides a way to understanding and predicting how clients will behave in relation to their health and how they will comply with health care therapies. Ogden CL, Carroll M, Kit BK, Flegal KM, (2012:483-490).

V. Conceptual Framework



Most of nursing students may not achieve the nutritional guidelines designed for a good health and to reduce the risk of lifestyle and chronic diseases. Consuming diet diets high in sugar, fats, and sodium and low in fruits and vegetables may lead to poor eating and subsequently to poor health. Unhealthy eating and drinking habits results from frequent snacking, excess

dieting, consumption of caloric dense but nutrients poor snacks and meals, such as those provided by fast food restaurants.

Prevention of overweight and obesity, and its related diseases, has become a worldwide challenge. According to US literature, university is a critical period for weight gain. During the transition from secondary school to university, students need to adapt to a new environment. When students fail to adapt adequately this could have negative consequences towards their health behaviours and subsequent weight status. Eating behaviour (next to physical activity and sedentary behaviour) is an important factor influencing students' weight. Crombie AP, Ilich JZ, Dutton GR, Panton LB, Abood DA, (2009:83-84).

Some research has shown that the most important factors predicting food selection among adults are: taste, cost, nutrition, convenience, pleasure, and weight control, in that order. Many studies have shown that people often establish these tastes and habits while they are relatively young. In addition, evidence suggests early establishment of habits and preferences occurs for a variety of behaviors including media use and music listening (Holbrook & Schindler, as well as food choice. Therefore it is advisable to begin establishing good eating habits when people are as young as possible. Importantly, however, for the very young many food decisions are controlled by parents and preschools. Therefore, food choice for the youngest age groups may be constrained by a number of factors.Dyson R, Renk K, (2006:1231-1244).

An especially important time of life for food choice is when people step out independently for the first time and begin to make all of their own food decisions. For many people, this is the transition to college life. The transition to college or university is a critical period for young adults, who are often facing their first opportunity to make their own food decisions and this could have a negative impact on students' eating behaviors. Previous literature has extensively discussed factors that influence eating behaviors among college students. However, application of a behavioral model such as the health belief model (HBM) has received less attention. Only three studies were found that applied HBM in the college eating context. The present study provides valuable insights into how health beliefs impact eating behaviors for nursing students.Ogden CL, Carroll M, Kit BK, Flegal KM, (2012:483-490).

Unhealthful eating habits and obesity are among the most important health issues facing society today, not only in terms of health, but also health care expenses. There are a variety of predictors of obesity including genetics,

physical activity, and food consumption. There are other outcomes of food choice and nutrition that also have an independent effect on health including some types of cancer, cardiovascular disease, and diabetes. For these reasons, food selection is an important consumer behavior with many long-term consequences to the individual in the form of health and longevity and to society in the form of health costs. Glanz K, Basil M, Maibach E, Goldberg J, Snyder D., (1998:1118-1126).

Though each nursing student is a decision-making adult who ultimately makes the choice of how to eat, each student is also a human living in a social environment where his or her decisions are, consciously or not, affected by the decisions of friends and peers. Meanwhile, the effects of social eating remain a factor in the rising rates of obesity and nutrition-related illness,Atkinson John and Crowe Malcolm, (2006169).

The solution is not ignore the problem: nursing educators must take care to teach nursing students about the value of good nutrition, while businesses and institutions that work to feed groups of students should strive to incentivize collective good choices, encouraging a culture where gathering around to share a salad is as prized as gathering around a grease-laden pizza. Lloyd-Richardson EE, Lucero ML, DiBello JR, Jacobson AE, Wing RR, (2008:504-508).

Despite the recognized benefits of eating a healthy diet, and engaging into exercise, most of nursing students spend their time in the place where they enjoy eating unhealthy food and drinking unhealthy beverages such as beer. College campuses serve as crucial settings to overcome barriers to healthy diet and implement effective interventions. Ideally, if nursing students make positive changes and decide to eat healthy food and drink healthy beverages, these changes could persist into adult years.

The meals we eat should be varied. The same dishes, prepared in the same way, should not appear on the table meal after meal and day after day. The meals are eaten with greater relish, and the system is better nourished, when the food is varied. Far too much sugar is ordinarily used in food. Cakes, sweet puddings, pastries, jellies, jams, are active causes of indigestion. Especially harmful are the custards and puddings in which milk, eggs, and sugar are the chief ingredients. The free use of milk and sugar taken together should be avoided. A plain, simple pie may serve as dessert and this desert should be placed on the table and served with the rest of the food: for often after the stomach has been given all it should have, the dessert is brought on, and is just that much too much. Regularity in eating is very important for health of body and serenity of mind. High sugar intake can cause

excessive calorie intake and obesity. For centuries people have made bland foods more flavorful by adding spices the dried parts of various plants cultivated for their aromatic or pungent properties. Although the terms spices, spice seeds, and herbs are often used interchangeably, the differences between them are clearly defined. Spices are the fragrant or pungent parts of plants grown in tropical and subtropical regions. These parts may include rhizomes (underground stems), bulbs, barks, flower buds, stigmas, fruits, seeds, and leaves. Spice seeds are the tiny aromatic fruits and oily seeds of herbaceous plants, including anise, caraway, cumin, fennel, and sesame. Herbs are the fragrant leaves of plants grown in temperate regions and include marjoram, mint, rosemary, and thyme. Deliens T, Clarys P, Van Hecke L, De Bourdeaudhuij I, Deforche B., (2013:111–116, Swinburn BA, Caterson I, Seidell JC, James WP, 2004:123–146).

With regard to drinks, pure water to drink and fresh air to breathe invigorate the vital organs, purify the blood, and help nature in her task of overcoming the bad conditions of the system. In health and in sickness, pure water is one of heaven's choicest blessings. Its proper use promotes health. It is the beverage which God provided to quench the thirst of animals and man. Drunk freely, it helps to supply the necessities of the system and assists nature to resist disease. Frequent heavy drinking that leads to severe intoxication or the prolonged steady maintenance of a high alcohol concentration in the body has been shown to be linked to many impairments or injuries. Disorders commonly linked to alcoholism are diseases caused by nutritional deficiencies, cardiomyopathy, accidents, suicide, (http://www.britannica.com/eb/topic?idxStructId=118555&typeId=13cirrhosis, lack of concentration, and impaired resistance to infection (Kelly NR, Mazzeo SE, Bean MK, 2013:304–313).

According to some review of literature and related studies reported that stress, socialization, lack of discipline and time, self-control, social support, product prices (costs) and limited budgets, and the availability of and access to (healthy) food options are associated factors to unhealthy eating and drinking behaviors . Teague Michael. L., Mackenzie Sara L.C., Rosenthal David M., (2009:123).

In terms of unhealthy eating and drinking behavior, to the best of our knowledge, no studies (qualitative or quantitative) studies on factors associated with unhealthy eating and drinking behavior among Christian University Nursing students have been conducted, thus, this study.

Research Problem

The main aim for this research study is to find out if Nursing students

exhibit healthy eating and drinking behaviors in their student life, and if they don't, explore the factors associated with such conduct.

OBJECTIVES OF THE STUDY

The objectives of this research study were to:

1. Determine if undergraduate nursing students know about unhealthful eating habits.
2. Explore the degree to which undergraduate nursing students practice healthful eating habits.
3. Determine if there is any significant difference between demographic variables and knowledge and compliance to healthful eating habits.

RESEARCH METHODS

Research Study Design and Population

This was a survey research study. The target population included all senior nursing students from both bilingual and international programs who were currently studying in the College of Nursing, in a private university in the academic year 2013-2014. Seventy undergraduate nursing students from the College of Nursing participated and are still participating in this research study. The participants included male and female; mostly single. The participants were also eighteen years of age and older. For this first part of this research, researcher, and research assistants distributed the questionnaires to the students, and are planning to conduct interviews on a healthy lifestyle which shall be part of the experimental section.

The descriptive statistics methods of mean, percentage, and standard deviations were used to identify the degree to which undergraduate senior nursing students from the international nursing program know and adhere to the healthy lifestyle. In addition, T-test research methods were used to test the difference between adherence and awareness to the healthy lifestyle.

Research Instruments

All participants were asked to complete a survey designed to assess the unhealthy eating and drinking behaviors. The current survey was adapted from Narsuan University 's survey of eating and drinking behaviors. The survey had different parts. The first part of the questionnaire consisted of some demographic elements such as: age, gender, educational background of respondents 'parents, monthly income of respondents' parents, current residence, health problems, financial problems, and religion. The second consisted of elements that were used to measure eating and drinking habits. Those elements were: eating and drinking behaviors,

Sampling and Data Collection

A convenience sampling method was used and consisted of only senior nursing students, from both bilingual/

international undergraduate nursing programs. Due to the nature of this mixed(experimental and survey) research study , 70(100%) of the respondents participated in this research study, all of them being senior nursing students from the international and bilingual nursing programs. Inclusive criteria: Senior nursing students from bilingual or international nursing program. Senior nursing students with status as regular students in the academic year 2013-2014, students who were willing to participate. Exclusive criteria were: part-time nursing students, non-nursing students, graduate nursing students, non-Christian University nursing students, non-university students, and deferred as nursing students in academic year 2013-2014.

Ethical Concerns

This research followed research ethical principles of formal consent, autonomy, anonymity, and confidentiality. After the research proposal was approved by the president of a private university in Nakhon Pathom the researchers requested for an official permission to conduct the research from the Research Ethics Committee of a private university. and permission was granted through an official written letter. Before conducting a pilot and a final study, the respondents willingly accepted to participate, and the signed consent forms. Before signing, they were given all the details about the study and were given opportunity to ask questions. They received complete information about their rights to stop participating in this research any time they wanted to do so.

Data Analysis

The instrument was checked for any missing data or for any item in which respondents would have given two answers while in fact only one answer was needed. After that, the data was encoded into an Excel Spread Sheet. The data was divided into three parts and were analyzed as such. Part I consisted of the respondents' personal characteristics, part II consisted of the awareness to the healthy eating and drinking behaviors, and part II consisted of adherence to the healthy eating and drinking behaviors. Descriptive statistics of percentage, mean, and standard deviations were used to illustrate the demographic data of the respondents. The descriptive statistics were also used to analyze the variables in the study including awareness and adherence to the healthy eating and drinking behaviors. Analytical statistics which included t-test were used to evaluate any significance difference between awareness and adherence to the healthy eating and drinking behaviors.

RESULTS

Descriptive Results

The demographic variables were analyzed using descriptive statistics of mean, percentage, and standard deviations, and below are the results:

Part I. Number and Percentage of the Respondents by Personal Demographic Characteristics

The following are the detailed descriptions of the respondents by their demographic variables.

Table 1. Distribution of Respondents by Age

Age	Frequency	Percentage
18-24	65	92.9
25-30	5	7.1
Total	**70**	**100.0**

Table 1 shows that the majority 65 (92.9%) of respondents of this research study CTU nursing students aged between 18-24 years old.

Table 2. Distribution of Respondents by Gender

Gender	Frequency	Percentage
Male	3	4.30
Female	67	95.7
Total	**70**	**100.0**

Table 2 shows that 67 (95.7%) of were female, and only 3(4.3%) were the respondents of this research study male.

Table 3. Distribution of Respondents by Parents' Educational Background

Educational Background	Frequency	Percentage
Master's degree and higher	7	10.0
Bachelor's degree	35	50.0
High school graduate	24	34.3
Elementary graduate	4	5.7
Total	**70**	**100.0**

Table 3 shows that 35(50.0%) of the parents of the respondents of this research study had a bachelor's degree, followed by 24 (34.3%) of those who were high school graduates.

Table 4. Distribution of Respondents by Current Residence

Current Residence	Frequency	Percentage
dormitory	10	14.3
Outside dormitory	57	81.4
Stay at home with family members	3	4.3
Total	**70**	**100.0**

Table 4 shows that the majority 57(81.4%) of the respondents of this research study currently live outside university dormitories, followed by 10 (14.3%) of those who live in University dormitories, and only 3(4.3%) live with family members in their respective homes.

Table 5. Distribution of Respondents by Parents' Monthly Income

Monthly income	Frequency	Percentage
Less than 5,000 Thai Baht	27	38.6
Between 6001 and 10,000 Thai Baht	27	38.6
More than 15,000 Thai Baht	16	22.9
Total	**70**	**100.0**

Table 5. Shows that the majority 27 (38.6%) of the respondents 'parents earn a monthly income less than 5,000 Baht, and equally 27 (38.6%) have a monthly income between 6001 and 10,000 Baht.

Table 6. Distribution of Respondents by Health Problems

Health Problems	Frequency	Percentage
None	57	81.3
Have	13	16.8
Total	**70**	**100.0**

Table 6. Shows that the majority 57 (81.8%) of the respondents of this research study had no health problems, while 13 (16.8%) had.

Table 7. Distribution of Respondents by Financial Problem

Health Problems	Frequency	Percentage
None	51	72.9
Have	19	27.1
Total	**70**	**100.0**

Table 7. Shows that the majority 51 (72.9 %) of the respondents of this research study had no financial problems, while 19 (27.1%) had.

Table 8. Distribution of Respondents by Religion

Religion	Frequency	Percentage
Buddhist	66	94.3
Christian	4	5.7
Total	**70**	**100.0**

Table 8. Shows that 66 (94.3%) of the respondents of this research study were Buddhists, followed by 4 (5.7%) of Christians.

Table 9. Chi-Square On Unhealthy Eating and Drinking Behaviors

#	Variables	Chi-Square	P-value
1	Age	18.78	<.001
2	Gender	20.80	<.001
3	Education	12.90	<.001
4	Residence	10.50	<.001
5	Health problems	12.01	<.001
6	Financial problems	14.04	<.001
7	Religion	15.03	<.001

Table 9 shows that among all the demographic variables: age, gender, educational background, current residence, income, health problems, financial problems, and religion, are significantly related to unhealthy eating behavior (p-value <0.05), except monthly income.

Discussion

The purpose of this study was to assess the factors associated with unhealthy eating and drinking behaviors among senior nursing students from both bilingual and international nursing programs, The survey population is young; nearly all students were 21-25 years of age. They represented a range of ages, gender, educational background of parents, current residence, monthly income of parents, health problems, financial problems, and religion. The results revealed that the majority 65(92%) were young people aged between 18 to 24, nearly all 67(93%) were female, Most of them 57(81%) lived outside dormitories, 57(82%) had no health problems, 51(73%) had no health problems; and nearly all 66(94.3%) were Buddhists. This is a group of Bachelor of Science in Nursing program, a group of energetic people classified by Erikson's psychosocial development to be in the section of young adulthood stage of emotionally development busy in searching for intimate relationship, and expected of course to be health, but sometimes not to follow the principles of a healthy lifestyle because of trying to be on line. The current residence plays an important role in a healthy lifestyle, as nursing students tend to live according what is available to them, especially in terms of eating, drinking, and social life (Harford C. Thomas, Wechster Henry, Muthen Bengt O. (2002:206-207). Most of the respondents were from fairly educated parents whom most of them earned bachelor degrees that could be one reasons nearly all respondents are aware of a healthy lifestyle.

The review of literature and related studies clearly shows college students both male and female engage in a unhealthy eating and drinking behaviors. This related to the free style of university life and the fact that students are far away from their own families, therefore, peer pressure exert a great influence when it comes to eating and drinking behavior. Lifestyle and behavior are influenced daily by psychological, social, cultural, occupational, recreational, economic, and political factors, Green L.W, and Kreuter M. W., (2005:412). Likewise, the results of this study revealed that Christian University undergraduate nursing students only sometimes adhere to healthy eating and drinking behavior, even though nearly all (more than 90%) know very well and believe in the healthy eating and drinking practices.Biddle SJH, Mutrie N., (2008:120; Swinburn BA, Caterson I, Seidell JC, James WP., 2004:123-146).

The results of this research revealed that only monthly income was not significantly the unhealthy eating and drinking behaviors. All the remaining such as: age, gender, educational background, current residence, income, health problems, financial problems, and religion, were found to be significantly to unhealthy eating behavior (p-value <0.05). Monthly income of the respondent was not significantly related to the unhealthy eating and drinking behavior most probably because whoever comes to study at this private university, especially in the College of Nursing, either is from rich family or has some financial support from family members. Some may have government loans, and others may be sponsored by different organizations. The results from the descriptive statistics revealed that the majority 51 (72.9 %) of the respondents had no financial problems.Factors associated with unhealthy eating and drinking behaviors include" lack of time", "taste preferences", "irregular working hours", "unappealing food", "will power", and "stress from classroom and clinical areas heavy load". The results are inconsistent with previous research stating that generally college nursing students experience financial problems, (Brevard PB, Ricketts CD., 196:35-38; Boek S, Bianco-Simeral S, Chan K, Goto K., 2012: 372-378)

Conclusion and Recommendations

Undergraduate nursing students know very well and believe in the healthy eating and drinking practices. However, even though they have the knowledge, they only sometimes eat and drink healthy foods drinks.

In light of the findings, the researchers made the following recommendations:

1. Recommendation for Nursing Research

To conduct more research studies relating to eating and drinking behaviors, not only for nursing students, but for all college students in Thailand. A comparison research on unhealthy eating and drinking behavior of college students should be conducted.

2. Recommendation for Nursing Education

Nursing curriculum should expand the number of credits given to health promotion course. The current credits are 2. Health Promotion should bear 4 credits, so that the lecturers could have enough time to teach about healthy eating and drinking, and have a kind of follow up. Students should be constantly reminded on how to choose healthy foods and drinks.

3. Recommendations for Nursing Practice

It is recommended that in the field of nursing practice, all health professionals live according to the principles of

a healthy lifestyle. All the nursing lecturers and other lecturers from other departments of this private university, preceptors, researchers, laboratory instructors and academic staff, should serve as role models to undergraduate nursing students in the area of adherence to a healthy lifestyle. The administrators should collaborate with local authorities, to provide strict health standards to those who own restaurants in and around the university campus, and urge them to supply healthy foods and drinks to the students. In case they do not comply, they should be fined or their businesses closed for the sake of our students.

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Body Theology and its Implication in Ecological Crisis

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Abstract

The planet earth is in a serious ecological crisis.This is the result of destruction and exploitation of the creation by humankind.Yet, this problem tends to produce more and more dangerous effects on this planet. Therefore,the researcher will approach this problem through the lens of body theology with the aim to find out the implication of body theology in ecological crisis.This research is done by a literature review of related workson body theology and ecological theology. This research found out that the whole cosmos is the divine embodiment. Body theology implies that we are part of the earth as the embodiment of God, thus should be interrelated with all creation in perfect peace and harmony.

Introduction

Nowadays we observe pollutions in the air, water, and food, climate changes with global temperature rising, the flood and Tsunami, and the increased deforestation.Earlier we faced the possibility of nuclear extinction and now, ecological deterioration. Nuclear extinction will be the extinction of all living things on earth by a "quick kill" whereas ecological deterioration is a "slow death" of the creation (McFague, 1993: 2). While the nuclear annihilation is clear and stark, the ecological deterioration is a gradual and subtle process leading to ecological crisis. Hence, there is no doubt that current condition of our planet is under global ecological crisis. This is becausehuman beings have made tremendous environmental mess over the years, and things become critical before we start fixing them.By helping our planet, we are helping ourselves because our body-selves are still living here on earth. It is time now that we turn to accept the fact that we are not the supreme rulers of our planet and then exploit the earth, otherwise ecological crisis will soon turn into ecological disaster. My claim is that while we are waiting for the resurrection of the body at the end times, we should turn from destroying the cosmos to saving them from its ecological crisis.

Body Theology and International theology

Lisa Isherwood and Elizabeth Stuart define "body" as a living organism: "a separate portion of matter, large or small, a material thing: something that has physical existence and extension in space" (Isherwood and Stuart, 1998: 10). We experience our own concreteness as body-selves occupying space in a concrete world, and the way we can experience the world is only through our body-selves. The way we think and feel about ourselves as bodies will direct the way we think and feel about the world and about God (Nelson, 1978:20). The body is the means through which the person expresses himself to the community and the world. Nevertheless, through centuries, Christian tradition has too often forgotten the embodied self. Theologians have long assumed that the arena of theology is that of the spirit/ mind and not of the body. We have begun with propositions to move from the abstract to the concrete. Thus, our concern now is not with the 'body-object,' as studied by anatomist or physiologist, but rather the 'body-subject,' which means the embodiment of our consciousness and our bodily sense of connections to the world (Nelson, 1992:41).

The importance of body in relation with God is that "the body is both the site and recipient revelation" (Isherwood and Stuart, 1998: 11). The body matters and a distinctive genre of theology known as body theology has developed. Therefore, in doing body theology, we do not start with doctrinal formulations or creeds but with the concrete and fleshy experience of life.As James B. Nelson (1992:43) states, "[T]he task of body theology is critical reflection on our bodily experience as a fundamental realm of the experience of God."Doing body theology is our attempt to reflect on bodily experience as revelatory of God.Then how can we nurture the wholeness of our lives in relation to God, to others, and to the earth?There is only one approach to relate ourselves and our bodily experience with God:incarnational theology. James Nelson places incarnation at the center of his work in body theology. In Nelson's view, incarnation was not limited to "the person of Jesus" but is "a present reality in the bodiliness of all people." In this sense, theological reflection no longer begins with the abstract but with "the bodily experiences of life" (Nelson, 1978: 17).

"Incarnation," as Webster defines, means "embodiment-being made flesh." Nelson (1992:43) brings this definition into our theological context as "God's embodiment." Sally McFague understands the doctrine of incarnation as "the belief that God is with us here on earth" (McFague, 1993: xi). Christianity holds that the incarnation of God to overcome the great devastation wrought by the first

man in the Genesis story. It was the body of Christ that took away the sins of the world. It is his body that redeems the world and each individual believer (Isherwood and Stuart, 1998:16). International theology affirms that "Jesus is in the service of revealing God's Christic presence and activity in the world now" (Nelson, 1992:43). Incarnation brings the transcendent God down to earth to be immanent among all creatures in the world in a cosmic unity.The good news for the world is that the union of Godhead and humanity in Jesus is a moral and personal union that is continually possible for all humankind.In the grace of this communion, our bodily lives are the radical sign of "God's love for the world and of the divine immediacy in the world" (Nelson, 1992:52).

Ecological crisis

Today we are facing global ecological crisis. The reason is not because the earth is dysfunctional and unable to sustain itself but because of the way human beings approach it and the demands we make of it (Isherwood and Stuart, 1998: 118).Although ecological deterioration is less obvious than the nuclear threat, it is threatening to the life of all habitats. As McFague states,

Many people think that ecological devastation is a flora and fauna issue–a plant and animal rather than a people issue, referring principally to the loss of habitats for various species as well as to their extinction. But this is only partially true. The full truth is that we cannot live without the plants and animals and the ecosystem that supports us all. So the ecological issue is a people issue and, most especially, a justice issue, for the ecology, the environment, the home that we share is a finite one (McFague, 1993: 5).

Ecological crisis is an issue concerning all people living on this planet. What if we cannot come up with a remedy to prevent further deterioration? McFague argues that even though we cannot change the environment to suit us, we can adjust our desires and needs to suit the world (McFague, 1993: 6). We should change our attitude from controlling and exploiting the earth to be more humble and to simplify our lives, "not to want more but to accept less" (McFague, 1993: 7). We cannot redress the ecological decay that has already taken place; nor can we stop further ecological decline. What we can do is changing the way things are done including the way of doing theology from the narrow, short-term view to the broad planetary view with a long-term perspective (McFague, 1993: 11).

To confront this awful crisis, we need to place the needs of the planet at the center. This paradigm is a challenge to global capitalism, which is abusing the bodies of women, men, andnature to

obtain large profit margins. As Isherwood and Stuart argues, "It seems that modes ofproduction should be both person and planet friendly and that capital should serve all people rather than just a few while the rest are faceless servants of its production" (Isherwood and Stuart, 1998: 120). According to Mary Hunt, in order to be planet-friendly, we must extend the mutual and ethical friendship with the planet earth and with people living on it. In extending friendship to others we require a transformative approach to the earth itself (Isherwood and Stuart, 1998: 120-121). Hunt's view does not care for the earth for its own sake but only for its ability to support the human bodies and sustain the well-being of human life. Anne Primavesi argues that we should place ecology right at the center of Christian concerns: "[A]ll creation is simultaneously being loved and created by God or else none of it is" (Primavesi, 1991: 151, cited in Isherwood and Stuart, 1998: 121). Body theology helps us realize Christ's revelation and presence in this world. By placing Christ's immanence in this world, we can look around usto see his presence among all creationinstead of just looking upwards. In this sense, we can see Christ everywhere-even in global warming, Tsunami, drought, tornado, and the garbage waste! Seeing Christ suffering in the world full of wastes calls us to take this matter seriously and take action on it.

Body theology and Ecological Crisis

Comparing with the traditional theology, body theology concerns more with the world we live in than the former. Primavesi stresses that traditional Christology lacks what she calls ecological awareness: "By placing Christ outside the created order and theologizing about heaven and the end of time Christian have often set their face to fleeing the earth rather than engaging with it" (Primavesi, 1991: 93, cited in Isherwood and Stuart, 1998: 121). Traditional theology focuses more on the transcendence of God than his immanence within this world and separates God from the earth and human beings. Body theology fills up this gap by focusing on the immanence of the cosmic Christ. The cosmic Christ can be defined as that aspect of God which pervades all of creation, Christ who fills the universe in all its parts (Ephesians 1:23). Our Christology should extend to the entire planet: the redeemer is the savior of the entire creation and not only the human soul. Body theology warns us that it is time to cooperate with the cosmos based on its own integrity rather than to control and exploit everything in the natural world.

McFague suggests that we should look at everything in the world through one lens: "the model of the universe or world as God's body" (McFague, 1993: vii). The model of the universe as God's body

views this world as the embodiment of God. It begins with an analysis of the ecological crisis that we face and then suggests that everyone has to take part in solving the crisis as such. McFague insists that the model of the body is "amodelthat unites us to everything else on our planet in relationships of interdependence" (McFague, 1993: x). Thus, for McFague, this model of bodyhelps us to rethink the role of man in relation to the earth as a new way of doing theology in the twenty-first century.Unlike other theological anthropologies that speak of human beings only in relationship to God, body theology starts with our earthly context, namely, our interrelationships and interdependence with other creatures. Thus, the model of the universe as the body of God decenters us as the goal of creation and re-centers us as the caretakers of the planet.

Christianity and the Resurrection of the Body

ManyChurch Fathers agreed that bodily resurrection was necessaryfor a number of reasons (i.e., to make us real people, to receive judgment, and to restore bodily wholeness).Thomas Aquinas argued that we were not really people if we do not have bodies. Tertullian maintained that justice demanded that we bejudged as a whole.Heeven continued that nature itself demanded resurrection as it is createdfor humans and is continually renewed for us (Badham, 1976: 53-64, cited in Isherwood and Stuart, 1998: 135).Therefore, it does not make sense if nature kept blooming while human beings perished. Augustine viewedthat resurrection was the restoration of bodily wholeness, which will becoupled with incorruptibility(Bynum, 1995:100, cited in Isherwood and Stuart, 1998: 135). Nevertheless, people feared of death, worrying about losing their personality and identity without having a body. They were later confirmed by the fourth Lateran and Lyon Councils that all human beings would be resurrected with their present bodies (Isherwood and Stuart, 1998:135-136).

The church today confesses the resurrection of the dead in their creeds. We certainly know that we have to die, and that our bodies will be buried in the earth, or burned and scattered in the sea. Over against this certainty stands the greatest uncertainty: anxiety about death and quality of the life after death. Then, does the resurrection hope have a meaning of ridding our anxiety?

Anxiety always arises in a transition from a familiar situation to an unfamiliar one:and from the well-known to the strange.Anxiety is always about something dark and rigid.Therefore, it was no wonder that people were anxious of death. Death was indeed an enemy which we meet in different forms. "We meet it," Dorothy Dinnerstein describes, "The later knowledge that we shall die resonates with the pain of our earliest discovery of helplessness, vulnerability, and isolation: with terrified sorrow of the first, and

worst, separation" (Moltmann-Wendel, 1995:72).Dinnerstein may be right that death means the sorrow caused by the worst separation of the dead from their loved ones.Yet, I would add that death is also a channel, opening to the bliss of joy in spending eternity with God.

Against this anxiety, people have developed visions that help them take something with them into the dark sphere that awaits them.Elisa K?bler-Ross noticed a document of hope in the resurrection in the children's section in the Maidanek camp: "The children had scratched countless butterflies, symbols of new, free life, which-as from cocoons-would emerge from their dying bodies" (Moltmann-Wendel, 1995:73). Still, there are many other different other visions of life after death, mostly as great hopes for a continuity, for a further life.Usually these are brought under the term 'immortality,' denoting the immortality of the soul. According to the classical idea of immortality, the immortal soul separates from the body so that the mortal body remains. Here the soul is immortal because it is unborn.Hence,by nature, it remains untouched by birth and death, and it is the soul that turned towards the everlasting divine. By contrast, the material body is subject to change and decay. These visions can be found in many religions and philosophies from the past down to the present. They are indeed attractive because they hope to be free from their unloved, sick and meaningless bodies. However, the problem is that such thinking of 'immortality' prevents us from seeking solutions on this earth in the'here and now!'

I think this strong claim greatly challenges the Christian theology which teaches that salvation is a matter of the next world rather than of this world. The Apostle Paul himself specified by using the term, 'the resurrection of the dead,' repeatedly, thirteen times in 1 Corinthians 15:12-52.So,it is clear to us that the issue of resurrection is about what happened after death and to the dead. This evidence shifts the focus away from any thought of resurrection as already experienced in this life 'here and now' (Dunn, 2002:7).By contrast, most feminist theologians view that death is a change in which our bodies are reintegrated with the earth, which is a physical merging with the divine but without any sense of personal identity ('me-ness') continuing (Isherwood and Stuart, 1998:135). This is a holy change, so they suggest that we should embrace it, rather than trying to postpone or stop it by all kinds of tricks.However, they do not mean to abandon the symbol of resurrection.They just want to take it as a more urgent and embodied reality in the 'here and now.'

Then what is the significance of resurrection in bodytheology if it is a matter of this world instead of next world? Resurrection can become the symbol of the transformation of the cosmos and the ruptured experiences of people. Because the task of creating a new heaven and earth is the task of 'here and now', so it demands that

resurrection happens daily, following the numerous crucifixions in our lives.For bodytheologians, the significance of resurrection is not in the personal salvation but in the resurrection of the whole cosmos-the cosmic resurrection.As this is our most importance goal, all of us should participate in this task as the co-redeemers of creation (Isherwood and Stuart, 1998: 137).

But how can we take part as the co-redeemers of creation to save the world from ecological crisis? Ruether suggests that we let go of the 'illusion of immortal self' in our embodied consciousness and learn to take care of the earth. Furthermore, we should learn to recycle our garbage as the fertilizer for new growth and our waste as matter for new artifacts. What is most important for us is to have a spirituality of recycling. As Ruether states, "We need a spirituality of recycling that accepts ourselves as part of that process of growth, decay, reintegration into the earth and new growth" (Isherwood and Stuart, 1998:136). I think this concept of reintegration into the earth has maintained in the understanding of Christianity for a long time. On the tombstone of Gregory the Great from the seventh century, there is still the inscription: "Receive, o earth, what was taken from your body" (Moltmann-Wendel, 1995:75). After death, we returned what we took from the earth back to her. Moltmann-Wendel argues that the earth of which human beings are made does not simply mean "dust, dirt and transitoriness," but always contains something of the substance of "hope, fertility and renewal" ((Moltmann-Wendel, 1995:76). This earth in which dead bodies are buried reconciles us to mortality by keeping something of immortality hidden in it. Ruether adds that the significance of the earth is that it is "the matrix which transforms our individual being into new communities and relationships" (Moltmann-Wendel, 1995:76). This means that death is the final relinquishment of the individual ego into the great matrix of being.

Moltmann-Wendel claims that eternal life begins here in us with our bodies. She describes eternal life as the healing of the world: "It is not a leap into another world, but the healing of our world. We can pass this healing on to the living and the dying, who need touch and company, whose sense of taste and hearing is intact for longer than we think and longs for healing life" (Moltmann-Wendel, 1995:78). So what keeps us from starting our task in healing the world now instead of waiting for the future, yet to come?

Conclusion

My thesis statement is that while we are still in the process of anticipating the resurrection of the body at the end times, we should spend our lives in protecting the world and everything in it instead of exploiting the cosmos, especially in the midst of the current

global ecological crisis. In terms of body theology, we should participate in the cosmic resurrectionin the 'here and now.'The cosmic resurrection does not lie beyond this world and this body only, but within both.In this sense, eternal life starts in this life on earth and involves everything around us in our daily lives, but these are not the final resurrection yet.I certainly believe in the final resurrection thatall believers will then be raised in spiritual bodies on the Judgment Day when the trumpets sound.However, this does not mean that we can abandon this world and its ecological crisis.Rather, we are part the cosmos and we are interrelated with all creation, with the cosmic Christ situated at the center. Therefore, it is crucial that each of us should take our role as co-redeemer of creation. The principle is to nurture and to heal all the creation, human and non-human, rather than to control and destroy them.Instead of only looking up to the transcendent God beyond what we see, we shouldlook at the divine embodiment around us as implied through the lens of body theology.

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Japan's experience as an aging society and role of nurses for the aged society

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Introduction

Japan is now known as the most aged society in the world. Demographic transition took place in a relatively short period of time in Japan is not unique as many Asian countries are following the path of aging society. The increase in the proportion of elderly and the decrease in the proportion of children will affect not only health care system but also education system andall types of industry. For example, the number of infants born was over 2.6 million in 1947, and it decreased to 1 million in 2012 in Japan. The dramatic decrease in the number of children means fewer schools and teachers and less demands for products used by children. Conversely, demands for nursing homes exceeds the supply, and demands for products used by elderly are rising. Currently, the diaper sales for incontinent elderly exceeds sales for baby diapers in Japan.

The demographic transition has impacted the government policy on medical care system, and italso impacted on medical professional society.In this paper, I will describe Japan's experience as an aging society and our response to the problems and role of nurses for the aged society.

Demographic transition in the post-World War II period in Japan

Several decades following the World War II, Japan experienced sharp declines in total fertility rates and mortality rates for all age groups. The number of children per women in reproductive age decreased from 4.54 in 1947, a post-World War II baby boom year, to 1.41in 2012. The infant mortality rate decreased from 76.7 to 2.2 during the same period. This rapid demographic transition led to a sharp rise in the proportion of elderly (>=65 years) at a rate no other nation has ever experienced. In 1950, the proportion of elderly in Japan was 5% which was less than a half of that in France, and toward the end of 20th century the proportion of

the elderly in Japan surpassed that in most of the Western nation (Figure 1). In 2015, the proportion of elderlyreached 25% in Japan.

In parallel with decreasing mortality rates, the average life span for Japanese has been increasing since 1947 when the average life span was 50.1 years for men and 54.0 years for women. By the late 1960's, it surpassed that of USA for both men and women. In 2012, the average life span was 79.9 years for men 86.4 years for women.

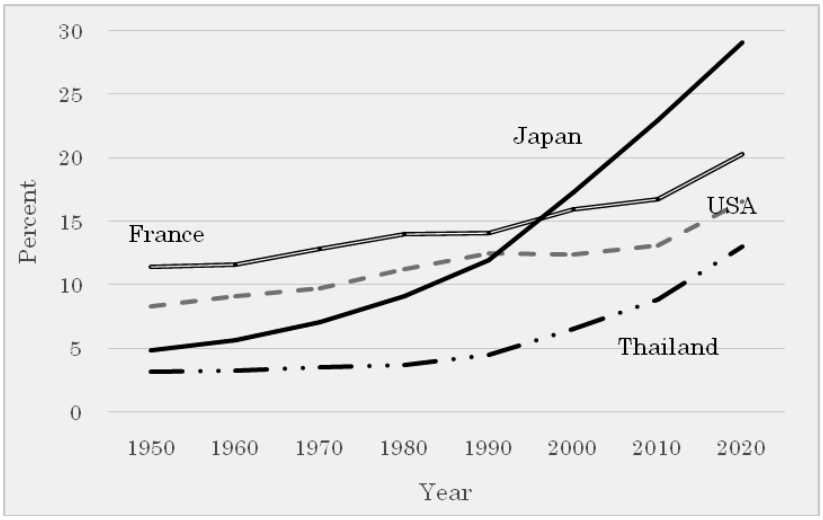

Figure 1 Increases in the proportion of elderly (>=65 years) in Japan, France, Thailand, and USA, 1950-2020.?

Source : Ministry of Internal Affairs and Communication, Statistics Bureau, Japan, 2014, Table 2-2, 2-3.

Healthy aging, not quite

Living longer does not necessary mean healthy aging.Leading cause of deaths among elderly are neoplasms, heart diseases, cerebrovascular diseases, pneumonia, and accidental deaths. Elderly patients are overrepresented in the health care users. Persons 65 years and over accounted for nearly 60% of the inpatients, and 50% of the outpatients in 2008 (Figure 2). The most surprising thing about this graph was the inpatients >= 75 years accounted for nearly half of the inpatient population, while people >=75 years accounted only 9.3% of the Japanese population.

Major reasons for hospital admissions among elderly were 1) mental

and behavioral disorders, 2) circulatory system disorders, 3) neoplasms, 4) injury, poisoning and others, and 5) respiratory system disorders. A large proportion of inpatients with mental and behavioral disorders reflects a long average length of stay for psychiatric patients in Japan. The rest of the diseases does reflect the major cause of deaths among elderly.

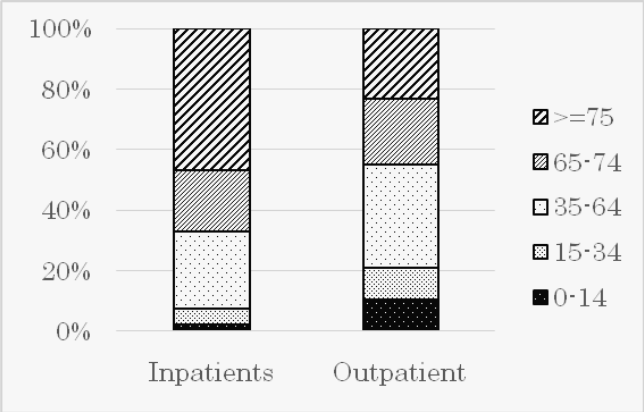

Figure 2 Age distribution of the hospital users, national patient survey in acute care hospitals in Japan, 2008
Source : Ministry of Health, Labour and Welfare, 2010

Establishment of long-term care insurance for the elderly

Falling birth rates and urbanization resulted in fewer household members to take care of elderly. Increased labor force participation by women also contributed to the fewer family caregivers. The long-term care (LTC) insurance law was enacted in 2000 in response to these societal changes. The system covers primarily persons >=65 years of agewhen they become dependent with instrumental activity of daily living and/or activity of daily living if family caregiver is not available, and those between 40 and 65 years of age with certain medical conditions (Figure 3).

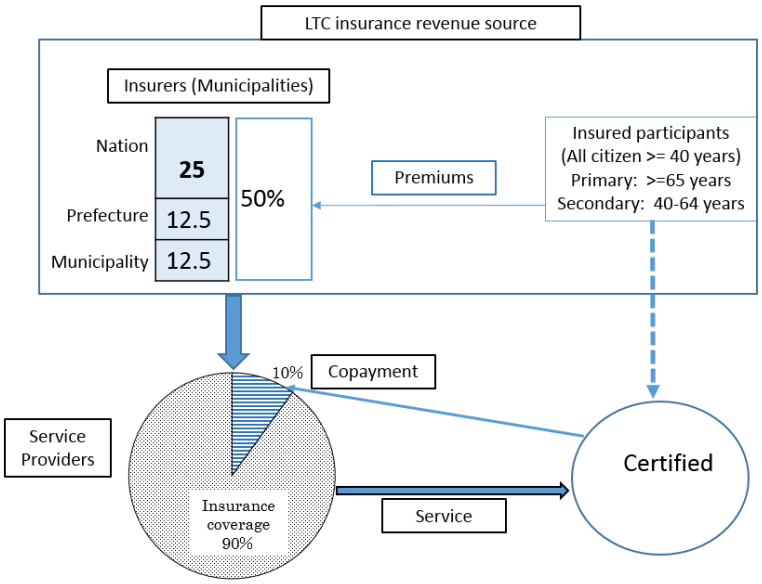

Figure 3 Long-term care insurance system in Japan

Source : Hara 2014.

The insurance covers home care-related services and use of certain types of TLC facilities (Table 2). A variety of services is offered for home care users to minimize institutionalization. Since 2000, the number of LTC insurance users has been increasing in parallel with the increasing amount of insurance reimbursement (Figure 4). Currently, a demand for LTC facility use far exceeds the supply, and approximately 500,000 are on the waiting list for nursing home admission.

Table 2. Type of services coved by long-term care insurance in Japan

Home care related service	Long-term care facilities
● Home-visit services (bathing, rehabilitation, nursing care) ● Day care service ● Short-stay service ● Financial aid ➢ Assistive devices (wheel chair, commode, electric bed, etc.) ➢ Housing reform (add handrails, install ramp, etc.)	● Special nursing homes ● Rehabilitation-focused long-term care facilities ● Long-term care medical facilities ➢ Sanatorium-type wards ➢ Sanatorium-type wards for elderly patients with dementia ➢ Hospitals with enhanced long-term care service provision

Note: Tokyo Metropolitan Government homepage provides information on LTC law and coverage.

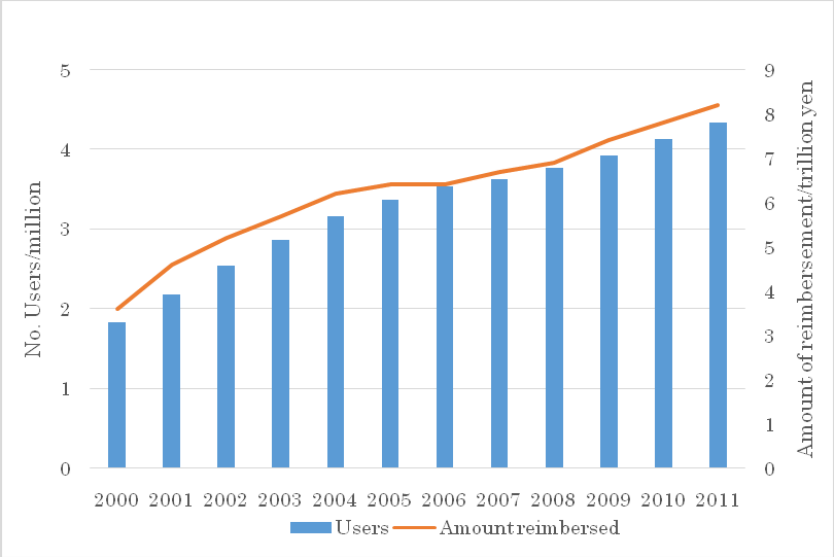

Figure 4 The number of long-term care insurance users and the amount reimbursed.

Changing the role of nurses in aged society

Problems with the aging population became a social issue in the late 20th century, and professional societies and educational institutions gradually responded to the societal needs.

A mainstream nursing education in Japan was a three-year diploma course up until 1990's. In 1992, the severe nurse shortage became a national crisis, and the law to secure nursing personnelresources was passed. Along with theconcern for the aging population, the four-year baccalaureate nursing program started to replace the three year diploma program in order to improve the quality of nursing education. The number of baccalaureate program rose from 10 in 1992 to 203 in 2013. Concurrently, advanced degree programs in nursing also started.In 2010, 127 master's and 61 doctoral programs are being offered. Various professional and academic nursing societies including Japan Academy of Gerontological Nursing were formed in response to the rapidly changing societal needs.

The Certification program run by the Japan Nurses association

At the clinical setting, nurses felt the need for specialized knowledge and skills for caring patients with chronic diseases and various disabilities as the elderly patients started to occupy the hospital beds.

In response to this demand, the Japan Nurses Association initiatedsix - monthcertification programs for clinical

areas in need for clinical expertise. Requirement for enrollment wasfive years of clinical experience of which three years of experience in the area of the program they applied. The program offered 618 hours of lectures and clinicals. Once they completed the course work and clinicals, they had to pass the board exam. The certified nurses are expected to provide highly skilled care, to teach nurses, and to consult with nurses.

Table 1 displays the type of certification program related to elderly care, the year first certified and the number of certified nurses. The larger number of certified nurses in certain programs indicates backup of large professional organizations. They were also influential in setting a government policy of givinghospitals incentives to hire clinical specialists in order to improve care. For example, after an introduction of the new policy of insurance reimbursement to enhance hospital infection control, a hospital can charge infection control fee for every patient admitted if the hospital has a full-time certified infection control nurse.This policy was successful in spreading evidence-based infection control program among mid-size hospitals which could not afford to hire certified a nurse prior to this policy implementation.

Table 1 The number of certified nurses in elderly care-related certification program, year first certified by specialty, 2014

Year first certified	Specialty	No. certified nurses
1997	Wound, Ostomy and Continence Nursing	1,916
1999	Palliative Care	1,473
1999	Cancer Pain Management Nursing	700
2001	Infection Control	1,804
2001	Cancer Chemotherapy Nursing	1,162
2002	Diabetes Nursing	552
2005	Dialysis Nursing	166
2006	Dysphagia Nursing	439
2006	Visiting Nursing	373
2006	Dementia Nursing	343
2006	Breast Cancer Nursing	211
2010	Stroke Rehabilitation Nursing	385
2010	Radiation Therapy Nursing	138
2012	Chronic Heart Failure Nursing	132
2012	Chronic Respiratory Nursing	115

Source: Japan Nurses Association 2014

Master's prepared clinical nurse specialist (CNS) programs for cancer nursing and psychiatric mental health nursing began in 1995. It expanded to 11 programs, and the number of CNS increased to 1,266 in 2014.Of those, the number of CNS in gerontological nursing was 66, while the number of CNS in pediatric nursing was 119. This shows that the CNS educational system does not reflect needs of the aged society.

There is a severe shortage of physicians, and there is a growing expectation that nurses perform the tasks which only physicians are authorized to perform. The CNS programs have not been able to fill in the gap to date.

The 2025 Problem– the year post-World War II baby boomers reaching 75 years of age

Problem of caring people with dementia has become a social concern in Japan. In 2012, the proportion of people with dementia was estimated to be 15% among elderly. If mild cognitive impairment, a high risk of becoming dementia, was included, one out of four people had dementia. The estimated number of 8.6 million people with dementia. It will become much bigger problem by 2025 when the baby boomers reach 75 years of age. Variety of outreach programs have been tried at community level to support people with dementia in the community, while program evaluation seems to be lag behind.

The current medical care system will not be able to accommodate the sharp rise in the number of elderly with multiple medical complications. Effective health promotion and disability prevention in the oldest of old have to be developed. Aging in place and home care will be a major policy as there is no alternatives.

With several decades of experience in caring elderly people, Japanese nurses have developed highly skilled care as shown in certification programs. We can make a significant contributions to refine and apply these skills in home care setting as well as to train lay persons. The increasing number of nursing researchers has a major role to play in building evidence in caring elderly with disability and/or dementia.

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Green Packaging : Total Integrated Waste Management

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Abstract

Currently, there are green packaging products which are made by the latest innovation of bioplastics, particularly the compostable bioplastics can solve either the global warming problem or natural resource conservation. Two types of bioplastics, compostable bioplastics and non compostable bioplastics are introduced in details. The mentioned products have to be certified under worldwide standard. Recently, the Thai Industrial Standard 17088-2555, specification for compostable plastics has been established.

The waste management of two types of plastic bags, the conventional and compostable bioplastics, shall be described in systematic integration way for six players as the socalled "ALL-WIN Model". Six different sectors do play important role on waste management integrated system i.e. Bioplastics Resin Industry, End Users, Consumers, Municipal, Recycle plants and The Government. As a result with good practice and discipline from every player, this integration work will surely lead to good future for our next generation with good & safety environment and natural resource sustainability.

Keywords : Green Packaging, Bioplastics, Compostable, ALL-WIN Model.

INTRODUCTION

Nowadays, the phrase stop global warming" is oftenly used which refer to the environmental conservation by reducing the emission of Green House Gas (GHG) and "going green" which refers to the world's natural resources conservation through sustainable consumption. In doing so, the international 3R's rule must be followed: Reduce (use raw material as least as possible), Reuse (use the product again and again) and Recycle (convert used materials into new product).

In logistics and supply chain management, the words "green logistics" and "green packaging" are also used. Big corporations that focus particularly on their images, will have such policy to show their environmental and social responsibilities.

From the above reasons, utilizing compostable bioplastics have been taken into account in relation to environmental and social responsibility. The conventional plastic shopping bags used in every hypermarket, supermarket, shop, and convenient store are researched and found that the free-of-charge, give away bags are disposable, used only one time then thrown away. This is resulting of environment pollution as users are not well-managed or good discipline. The normal plastic bag made by petroleum is more durable and cannot be degraded. So, it will remain unchanged and cause pollution to the environment.

The compostable bioplastics bag can be utilized correctly to solve the environmental problem. It is suitable for packing oilly food or organic waste, then they all will be compostable into biomass or so called compost and become organic fertilizer later. On the contrary, conventional plastic bags cannot be clean up and be recycled economically. It will be too costly to wash and clean. Then it is usually destroyed by incineration which triggers pollution by emitting carbon dioxide or GHG which is also problem to the global warming and people's health.

Therefore, these bioplastics not only provide carbon credit value but also can provide compost, which is used for planting. Plants use carbon dioxide generated from the compost in the photosynthesis process, which converts carbon dioxide into oxygen and releases it back to the atmosphere.

Consequently, business entrepreneurs and organizations are trying to response to the society. Besides general activities, they have to make an effort on special activities in order to increase their competitiveness. The concern now is, how to protect environment which is much damaged by human. This study will focus only on reducing the global warming and the natural resources sustainability.

BIOPLASTICS DEVELOPMENT [1]

In the past 15 years, many western countries have attempted to produce degradable plastics that are made from petroleum by mixing in corn starch. But there were many problems with such method, so it was suspended. Instead of helping to reduce waste, it created difficulties in managing small plastic debris that cannot be degraded at the same time as the corn starch.

Since then there has been an attempt to find a new method that can break down all components by using additives to expedite the degradation process of the microorganism. The degradation of the plastics that are mixed with an additive relies on the sunlight; however, the degrading process is still not entirely effective because it solely depends on the sunlight. If the waste materials are buried underground, it will not decay. Such method is known as

"photodegradation," which is suitable for developing countries that use solid waste disposal by landfill. It's done by leaving the waste on the ground; therefore, plastic waste that is on the outside of the pile will disintegrate. And it may look as if it has degraded completely while it's actually still not being decomposed. If those remainders are consumed by human or animals and there's an excessive amount of toxins left in their bodies, it could be harmful.

Consequently, there has been continuous development to improve the method so that it doesn't rely on the sun. In this method, additives with heavy metal are used to speed up the process under a high temperature and with enough oxygen or "oxodegradation," in which plastics can break down and eventually completely disintegrated by microorganism; the process is called "biodegradation." However, the method is still far from perfect because there are still traces of toxins that are harmful to living things.

At present, there is an advance method in which heavy metals are not used as an additive to speed up the chemical reactions. Figure 1 shows a comparison of the degradation process for conventional plastics and those mixed with additives.

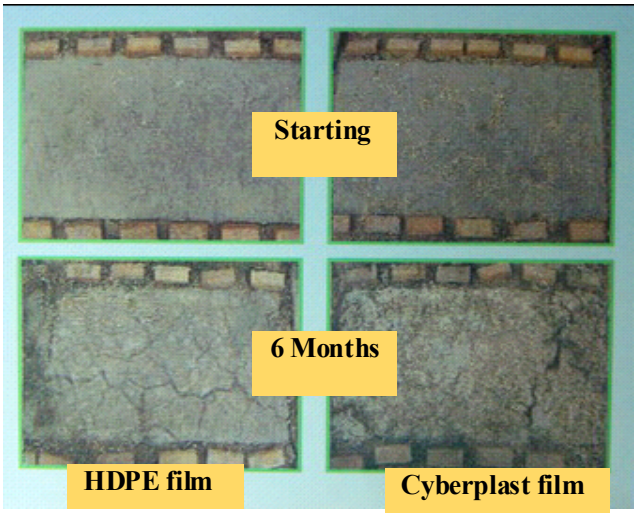

Figure 1 : Degradation of HDPE film and Cyberplast film

However, there is still being a problem. If the remaining components are consumed before they are completely degraded, they can be harmful to living things. Thus, for safety, the method in which waste materials are buried and sealed tightly is introduced to make sure that there's no harmful residue left in the

environment. This method is allowed to use and is suitable for large countries with huge size of land such as the United States, Canada, Australia, and China; however, it doesn't help reduce global warming effects because GHG comprised of carbon dioxide (CO_2) and methane (CH_4) etc. are still emitted to the atmosphere.

Currently, there are Green Packaging products which are made by the latest innovation of bioplastics, particularly the compostable bioplastics. They can solve either the global warming problem or natural resource conservation. Moreover, they are also the final product of plants which can replace substantial specific usage of conventional plastics made by petroleum that is going to be insufficient from national resource. The life cycle of compostable bioplastics so called as "Cradle to Grave" is shown in Figure 2.

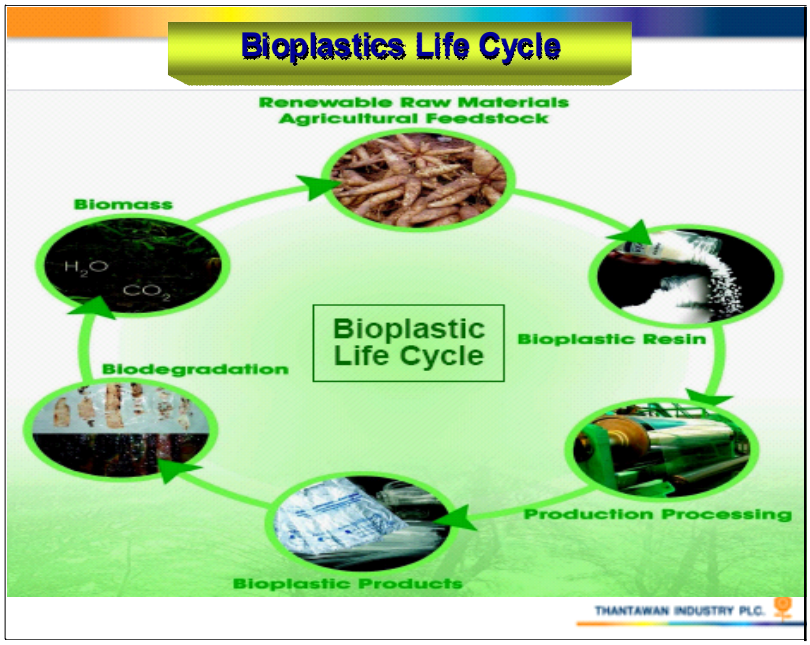

Figure 2 : Bioplastics Life Cycle

There should be a good understanding of different types bioplastic products, including the compostable and the non-compostable ones as shown in Table 1.

Table 1 : Different types of Bioplastics

Bioplastics			
Compostable		Non compostable	
Petro-based	Bio-based	Bio-based Compound	Bio-based Green plastics
PBS PBSA PBAT PCL etc.	PLA PHA PHB etc.	PHOTO OXO BIO	LDPE HDPE etc.

In general there are two types of bioplastics [2] [3], i.e. compostable bioplastics and non compostable bioplastics and will be described as follows :-

Compostable bioplastics are made from plants conceptually or reluctantly from petroleum that can be converted into many packaging products same as regular plastics. But the most important feature is compostable through the process of biodegradability and compostability, in which carbon dioxide (CO_2)and compost are given respectively. For CO_2 will go back to the air for plant using in photosynthesis, and compost will be developed to fertile soil for plant growth processes.

Non compostable bioplastics are only made from plants, which are renewable as substituting resource. They have the same polymer structure and durability as the regularly conventional plastics but cannot be compostable into biomass or compost. They are called "Green Plastics" which have a lot of benefits because they help in natural conservation on oil resources, and low carbon dioxide emission in the production process as comparing to that of the conventional plastics. Since the fermentation process for green plastics do not require a lot of energy, therefore, there is an energy consumption difference, so called carbon credit.

The above information does not only offer a good understanding of the classification of bioplastics, but also helps to understand the differences of the biodegradability and the compostability processes more clearly, as summarized in Figure 4.

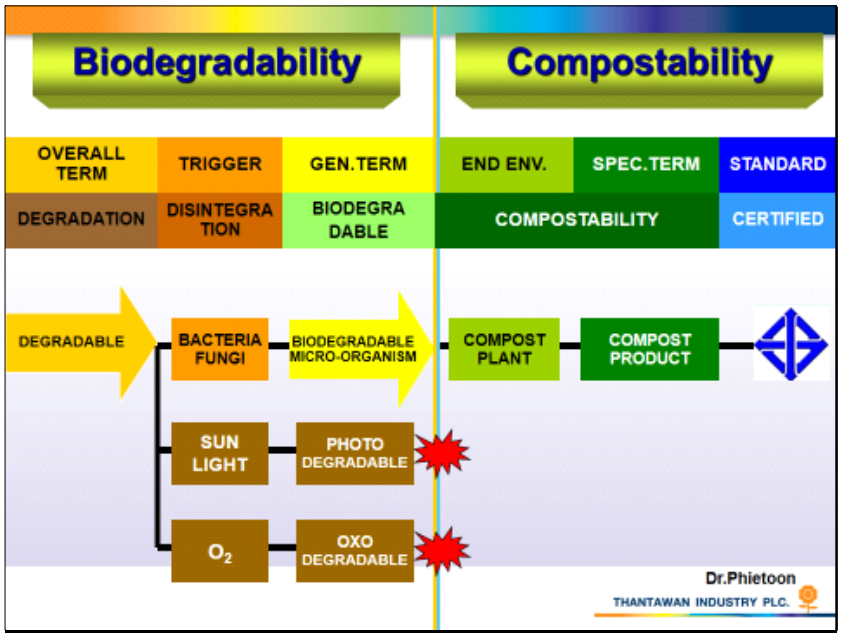

Figure 4 : Comparison of the Biodegradability and Compostability

The data in Figure 4 can be summarized as follows: "The compostable plastics undergo the biodegradation process first, then completed at the composting process." Plastics that are made by using additives to speed up the break-down process will end at this point and cannot decompose further because they are non-composable." In other words, plastics that are biodegradable do not need to be compostable but those that are compostable must be biodegradable.

BIOPLASTIC STANDARD

At this point, the difference between the terms bioplastics, compostable bioplastics, and biodegradable plastics should be understandable clearly.

These bioplastics have an impact on nature and the environmental balance. In order to manage and eliminate plastic waste efficiently and resourcefully, it is important to have a good understand of the meaning and the standard of practice.

Therefore, a standard for compostable plastics has been established [4] [5], on a global level, because it is a flawless innovation and the answer to environmental conservation as well as it will not emit GHG excess to the atmosphere. It is called "Standard Specification for Compostable Plastics," which is adopted by organizations in Europe, the

United States, Japan, Australia, etc. and is being developed to become a global standard or ISO 17088 in the future. In Thailand, an ISO-based standard is adopted and will soon be implemented to show the country's ability in meeting the world standard as the total value of the country's exporting goods is higher than 65 percent of the GDP.

Consequently, these mentioned products are certified under worldwide standard as shown in Figure 5, while the conventional plastics are not certified due to uncompliance with the above specific qualifications. Recently, the Thai Industrial Standard 17088-2555, specification for compostable plastics has been published and will be extended to each individual product standard in the near future. [6]

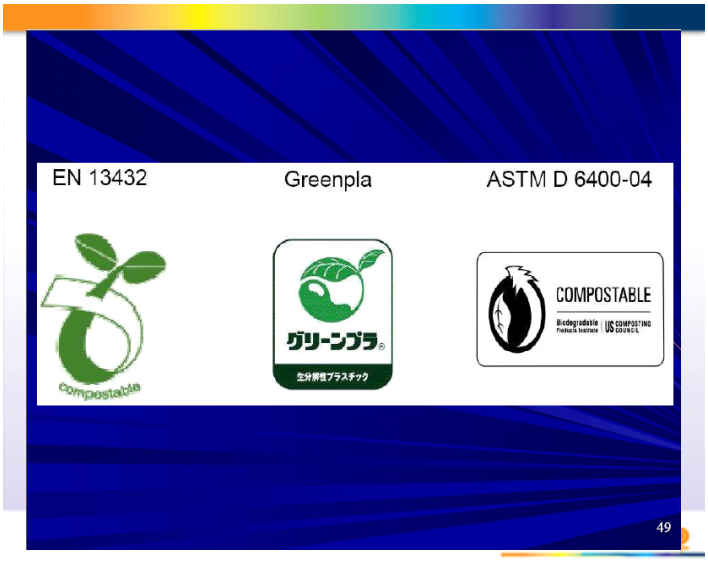

Figure 5 International Compostable Certified Logo

BIOPLASTICS MARKETING

Limitations and obstacles in marketing of compostable plastic can be listed as follows :

1. It is an innovative product that has not yet been used widely.

2. Its price is three times as high as a regular plastic, but if there is more demand price should be lower.

3. There is still a small supply in the market because it is an emerging market, and consumers do not have enough knowledge or good understanding about it.

The marketing trend today should not only focus on quality and design but also corporate social and environment responsibility (CSER): compostable

bioplastic products will serve such purpose perfectly. Developed countries that give high importance to compostable bioresins include the European Union nations and Japan. For the United States and Australia, biodegradable plastics are still being used because they are large countries and can still use solid waste disposal by sealed landfill. Therefore, additives for oxobiodegradation are still allowed as long as there are no heavy metal and the bury site is securely closed.

Thailand is a biomass resource country that produces a lot of agricultural products. More than 50% of the garbage in landfill is wet garbage; therefore, it is suitable for waste separation method discussed earlier by using compostable bioplastic bags, especially for food packaging.

Encouraging more bioplastic productions from cassava will benefit farmers economically. When being a surplus, also the price will not be affected. It seems freezing potatoes by converting them into polymers for exporting. In the future, it is predicted that there will be more demand of cassava because there is still a big market for them. The overall production of bioplastics in global market is only 1: 1,000 of regular plastics. [7]

GREEN REVERSE LOGISTICS [8]

The Reverse Logistics can be direct and indirect in reclaiming the after used products which is either responsible to take back by the product makers or the third parties, the municipal respectively. Consequently, the latter type will be discussed on the basis that is how to protect the environment namely, "Green Reverse Logistics".

Both the bioplastics and conventional plastics, when being used and well-managed with discipline, can reduce the global warming and reduce the importation of chemical fertilizer; and the trade balance of the country which could be done by, for instance, influencing the reuse of plastic bags which are made by either bioplastics or conventional plastics, instead of the non-reusable or give away bags which can contaminate the environment.

After the bags have been used for many times, especially the compostable bioplastic ones, they can be reused to pack organic or food waste. Whereas the normal plastic bags, they can be reused for packing dry waste, then they will be transferred to recycle plant, In this way, it will provide add value to the recycle waste as it will be cleaner and no need to be burned which will lead to pollute the air by GHG and result the illness and global warming. [9]

Meanwhile, the normal plastics bag must not be allowed in packing food containing fat or organic waste. Because as we burn the oilly bags, the GHG shall be released. On the other hand, the normal plastics bag must be used to pack dry

waste then it can also be recycled cleanly. Base on the above information, the waste management of two types of plastic bags, the conventional and compostable plastics, shall be fully described in systematic integration way as the socalled "ALL- WIN Model".

TOTAL INTEGRATION MANAGEMENT OF PLASTICS WASTE [10]

The linkage of six different sectors which play important role on waste management integration system is shown in Figure 7, the ALL-WIN Model.

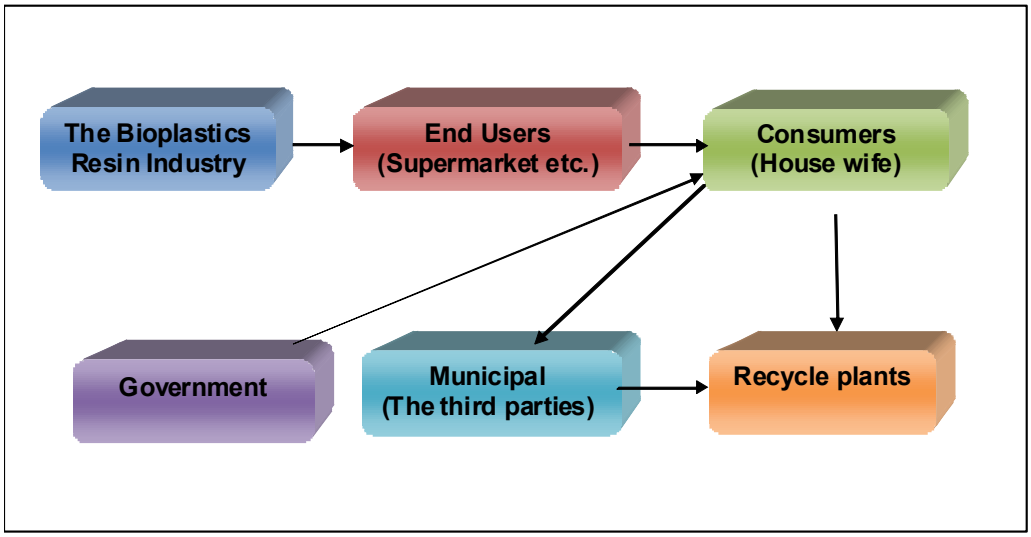

Figure 7 ALL- WIN Model

There will be describe by outline of each sector which can be proved that every sector gain benefit substantially. Especially the government sector has to conduct the linkage by campaigning through all medias e.g. TV, radio & newspaper. The followings are the brief important out line function in sector by sector.

The Bioplastic Resin Industry

1. Fully promoted by the government with taxation benefit.

2. Gain "Adder" with certain amount per metric ton of bioresin produced, duplicating the same concept as giving to renewable energy plants as both are serving eco friendly issues.

3. Bioplastics resin price can be reduced comparable to conventional plastics and will be marketable.

End Users (Supermarket etc.)

1. Allow to reduce tax by deducting the factor of 2-3 from the buying expenses for compostable bioplastics products as CSR project for society.

2. Able to save cost from the give away bag expenses substantially as housewife will bring their own reusable bag.

3. Give special discount for ones who bring their own reusable bag for shopping.

Consumers (House wife)

1. Have to join domestic waste separation program strickly.

2. As a token, will be given free garbage and reusable shopping bags as following types and quantities each month.

2.1 3 big garbage bags eg. one yellow bag for plastics waste
one blue bag for paper waste
one hazy bag for bottle/can waste
(municipal will come to pickup every 3-4 weeks.)

2.2 6 green compostable bioplastics bag for organic/food waste (municipal will come to pickup every week)

2.3 2 shopping bags ie. compostable bioplastics and conventional. (After reusing both shopping bag till they are worn out then can be used as a garbage bag for specific organic and dry waste respectively)

3. As a token, housewife will get discount when they bring along their own reusable bag for shopping.

Municipal (The third parties)

1. Gain more clean conventional plastics waste and get higher value from recycle plant.

2. Gain better organic waste in compostable bioplastics bag then all together can be compostable into good fertile soil or organic fertilizer with higher value.

3. After gaining certain record their may give open bidding for concession to recycle plants that they can collect the recycle wastes direct from each house by themself.

4. After giving concession, then just only organic waste will be collected and administration & logistics cost can be saved substantially.

5. Reducing substantial solid waste from incineratior that can provide good environment to the atmosphere and reduce cost of public health substantially as well.

Recycle Plants

1. Gain good quality and clean recycle wastes to reach more productivity and convenience.

2. May get the concession of direct collecting the recycle wastes ie. conventional plastics, paper, glass bottles and cans from every house in a certain concessive territory.

Government

1. Strongly campaign for domestic waste separation seriously.

2. Give new regulation for TV and radio to provide at least one or half minute in every hour on air of broadcasting with video clip or radio spot for CSR programs.

3. CSR program will cover good information & knowledge for the public in nation wide basis with following content e.g.

3.1 Education on social responsibility.

3.2 Domestic waste separation program.

3.3 Convention plastic with safety & maximization usage.

3.4 Bioplasts both compostable & noncompostable with safety & maximization usage.

3.5 Going green : 3R & renewable.

3.6 Global warming & climate change.

3.7 Natural resource sustainability.

3.8 Democracy with proper & safety application.

3.9 Election with higher ethic, duty & responsibility.

3.10 Long term saving.

3.11 Insurance in proper usage.

3.12 Etc...

CONCLUSION

The economical, social and environment impact from compostable bioplastic can be provided in several benefits for many sectors as follows:

1. Enables efficient domestic waste management and recycle products of good value.

2. If waste separation is practised, the environment will be better because the bad smell from the landfill/open dump will be eliminated.

3. Helps reduce global warming effects by not producing excessive GHG to the atmostphere.

4. Helps cassava farmers economically with more stable price.

5. Increases exporting value because there is still demand in the world market to increase trade balance.

6. Thailand is abundant with biomass resources; therefore, it should position as a bioplastic production hub for Asia and attract investors to increase economic value

7. In the future, the value of carbon credit produced from bioplastics will increase, and Thailand will greatly benefit from it.

8. Save substantially budget on Health Welfair due to better environment & less ecology problem.

Will good understanding of good practices from every player, this integration work will surely lead to good future for our next generation. It is not only support prosperous economy and social security but also good and safety environment and sufficient natural resource inherit to our offspring endlessly.

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Authors Submission Guideline
International Journal of Nursing and Health Science
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The International Journal of Nursing and Health Science is a peer-reviewed, scholarly journal. We are very pleased to consider for publication any manuscript that furthers a previous topic and adds new insights, information, experiences, and/or research. We are currently especially interested in manuscripts to update the following previous topics: Global Health, Nursing Administration, Complementary Therapies, Diversity and Cultural Competence, Aging Population, and Environmental Health

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Call for Manuscripts

1. Manuscripts submitted for publication should be of high academic merit and provide significant contribution to body of knowledge development in nursing and health sciences.

2. The manuscript should be written in Microsoft Word format.

3. The font face of Times New Roman will be used throughout the manuscript. The font size 12 will be used for body text and font size 14 bold for title of paper. First letter of each word in the title appears in upper-case whereas the others in lower-case.

4. Authors' name(s) will be written at the top right corner after the manuscript' title, follow by the symbol * and write the footnote included authors' name(s), authors' position(s), organization(s), and contact email.

5. There must be an abstract and at least three keywords including in the manuscript and must not exceed 300 words or one A4 page.

6. References must be written in APA style.

7. Sections of the manuscript must be included : Introduction, review of literature, methodology, findings, discussion, conclusion/recommendations.

Type of Manuscript

Manuscript may be submitted in the form of review articles, research papers or other related health professional articles where an approximate length will be as follow:

1. Academic (Systematic or literature) reviews should be 3,000-5,000 words or approximately 9 pages of printed text, including the tables, figures and references.

2. Research papers should be 5,000-7,000 words or approximately 15 pages, including the tables, figures and references.

3. Review articles should be 3,000-5,000 words or approximately 9 pages.

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1. In-text citation

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1.2 From secondary source

Changmai argued that...(as cited in Tangwong, 2003,)

1.3 From E-mail : (S. Sakul, personal communication, January 4, 2001).

2. References

2.1 Book

Author, A. A. (Year of publication). Title of work : Capital letter also for subtitle. Location : Publisher.

2.2 Article or Chapter in an Edited Book

Author, A. A., & Author, B. B. (Year of publication). Title of chapter. In A. A. Editor & B. B. Editor (Eds.), Title of book (pages of chapter). Location : Publisher.

2.3 Dissertation, Published

Author, F. N. (Year). Title of dissertation. (Doctoral dissertation). Retrieved from Name of database. (Accession or Order Number)

2.4 Conference Proceedings

Author, F. N. & Author, N. N. (Eds.). (1995). Proceedings from Title of the Conference. Location : Publisher.

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2.10 Electronic Books

Author, S. (n.d.). Title of theBook. Available from http://www.powells.com/cgi-bin/biblio?inkey=1-9780931686108-0

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Example of Academic Paper

A Spoken Language and Academic Writing in Thai

Dr. Ruangdej Pankeunkat[1]

[1] Associate Professor, Graduate School, Christian University of Thailand

Abstract

This article presents the definition of language, spoken language and dialect, as well as, academic writing and Thai dialect. The differences of the standard Thai and Bangkok Thai dialect, the different usage of the spoken Bangkok Thai dialect and academic writing in standard Thai is also presented. Awareness of writing in academic usage in Thai is given as well.

Keywords : Thai Language, Academic Writing, Spoken Language

Introduction

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Example of Research Article

Health Status and Activity of Daily Living of Disabled Persons at a Community in Kanchanaburi Province

Dr. Sakul Changmai[1], Supranee Tangwong[2], Jinnapat Tanakitworabul[3]

[1] Assistant Professor, instructor, Graduate School, Christian University of Thailand
[2] Assistant Professor, Graduate School, Christian University of Thailand
[3] Registered Nurse, APN, Tha Muang Hospital, Kanchanaburi Province

Abstract

Disability was a state of health which is expressed in the form of loss of ability to do activities of daily living. Having disability can be a result of other health problems such as illness and injuries. Therefore, the basic information on health status and condition of the disabled is necessary.

This research was a descriptive research which aimed to study health status and ability to perform activity of daily living of disabled people living in Wat Wangkanai Tayikaram, Tha Muang District, Kanchanaburi Province. Fifty-seven people with disabilities were a population and the study was conducted in January 2010. Research instruments included questionnaire of personal data of the disabled, a health assessment tool of the National Health Security Office, the screening tool for depression of the Department of Mental Health, and an assessment tool for the ability to perform daily activities. Blood glucose level test before meal was also collected by finger puncture.

The research finding demonstrated that most of disabled people were at risk for type 2 diabetes for 71.90%. The disabled people (57.89%) did not have depression which the statistics was similar to the group with depression (42.11%). For the severity of disability and dependent status, the finding showed that most disabled people (43.90%) were bodily-dependent but were not be normal. However, the number of disabled people with moderate to very severe disability were 56.10%.

The researchers suggested that there should be a surveillance project of diabetic type 2 in this disabled group. In addition there should be an ongoing health promotion programs to prevent diabetes and depression as well as to rehabilitate the disabled to be self-reliant.

Keywords : Health Status, activity of Daily Living, Disabled Persons

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