NURSES AND CONTINUING EDUCATION NEEDS FOR THE CARE OF PERSONS WITH HEART DISEASE

by

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CHAPTER I

INTRODUCTION

The rapid expansion of new knowledge and technology in the health sciences has meant that continuing education has become essential if practicing nurses are to maintain competence. At present, many of the continuing education programs are designed in response to surveys of individual nurse's self-perceived learning needs. The number of nurses attending these programs is small in comparison to the number of practicing nurses. Evaluation data collected from these continuing education programs are highly subjective as they generally reveal only opinions and feelings about the learning experience. The data do not assess the outcome of the educational program in terms of what the learner needs to know or in terms of what the learner is doing with the knowledge gained.

As a part of a continuing nursing education survey in Oregon in 1974, Johnson and committee queried 1165 registered nurses regarding their self-perceived continuing educational needs. From 769 responses, the committee found coronary care nursing to be high on the list of self-perceived educational needs.

In 1975, Buskirk completed a survey emphasizing the special training and responsibility of coronary care nurses in 60 hospitals in the state of Oregon. He found only 39 percent of the nurses working in coronary care units or combined coronary care-intensive care units in the Portland metropolitan area and in eastern Oregon had had an 80[1] hour basic nursing course in preparation for working in a coronary care unit. Only one area of the state (mid-Willamette) showed 80 percent of the coronary care nursing staff had completed a basic coronary care course and met the current standards of nursing practice. Southern Oregon and the central Oregon area fell between these two extremes (30 percent to 80 percent).

This survey points out the continuing need for active participation by nurses to keep abreast of

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[1]Authors of several coronary care nursing texts list two to three weeks (80 to 120 hours) as the absolute minimum preparation for basic coronary nursing. For purposes of Buskirk's study training of less than 80 hours was considered inadequate. (William Christian Buskirk, Hospital Coronary Care in Oregon, 1974, A Survey Emphasizing the Special Training and Responsibilities of Coronary Care Nurses, A Dissertation Presented to the Department of Health Education and the Graduate School of the University of Oregon in partial fulfillment of the requirements for the degree of Doctor of Philosophy, March 1975, p. 127.)

current technology and practices in nursing. As heart disease is one of the leading causes of death in the United States many of the patients the registered nurse cares for in the general hospital are patients with cardiovascular disorders. In light of Johnson's and Buskirk's studies which reveal a definite need for continuing education in this field, a further study would seem appropriate to determine the educational needs of staff nurses who provide this nursing care. Hence this study is designed to address current nursing knowledge and factors affecting participation in continuing cardiovascular nursing education.

CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature addresses four areas of published material that are related to continuing education. (1) Pertinent studies on factors contributing to "obsolescence" of nursing knowledge. (2) A discussion directed to identification of continuing education topics. (3) Methods of planning continuing education. (4) A discussion of evaluation and assessment of learning outcomes.

Obsolescence

A review of the literature shows nurses' attitudes and degree of motivation toward continuing education affects professional performance (Davis, 1972; Kubat, 1975). In 1975, Kubat explored factors that related to "professional obsolescence" of 100 randomly selected practicing nurses in Nebraska. Her objectives were (1) to determine the demographic characteristics of nurses associated with certain motivational patterns that contribute to "professional obsolescence" and (2) to predict the level of competence

of nurses on the basis of attitudes, behaviors and motivational patterns and thus to identify the "target population" for continuing education programs. Kubat used a structured questionnaire to obtain data on demographic characteristics, professional activities and opinions about nurses continuing education. She also included a test of nursing knowledge which she termed a competency examination.

The findings of Kubat's study showed employment was a weak motivating factor for attendance at continuing education programs. Most nurses felt they should be rewarded by their employer for participating in continuing education. A large percent viewed continuing education as a burden. Many of the nurses did not view continuing education as essential for maintaining competency. Thirty of the nurses, regardless of age, thought they were as competent today as when they graduated; yet 27 of 48 of those actively practicing nursing who participated in the study indicated they had not attended a continuing education activity.

The nurses that viewed themselves as just as competent as when they graduated were working in medical/surgical nursing and in nursing service. The nurses employed in inservice education, hospital administration and obstetrics-gynecology did not view

themselves as, as qualified, as when they graduated from a school of nursing. The competency examination revealed 89.4 percent of the nurses taking the examination missed more than one-half of the items.

Based on these findings, Kubat concluded that nurses were not as well qualified at the time of the study as they were when they graduated from a school of nursing. They were unaware of advances in knowledge affecting their practice and were not motivated to self-directed learning activities.

In 1976, Kubat published a second part of her study. This report discussed in more detail the second objective, which was to predict the level of competence of nurses on the basis of attitudes, behaviors, motivational patterns or personal characteristics in order to identify the "target population" for continuing education programs in nursing. Her findings revealed that older nurses were less competent than younger nurses, part time or unemployed nurses were less competent than nurses employed full time and nurses residing in smaller communities were less competent than nurses residing in larger communities. Also nurses who did not participate in professional organizations, read professional publications and did not think continuing education was necessary were less competent.

Therefore, Kubat concluded that "professional obsolescence" appeared to be caused by:

> (a) decreasing inclination with age to do professional reading, to attend educational programs, to perform nursing tasks through employment or to maintain professional memberships; (b) failure to perceive that past, present and therefore future changes in knowledge affect nursing practice; (c) residence in smaller communities where the opportunities and reasons for learning are fewer; (d) absence of or desire for a broader education through self-directed or formally organized learning experiences; (e) lack of personal initiative to continue their learning in any form; and (f) desire to maintain the status quo (p. 21).

Her final conclusion was that a lack of self motivation caused "professional obsolescence". Kubat suggested that obsolescence could be alleviated by offering recognizable rewards and/or instituting legislative mandates as effective motivators for continued learning.

In 1975, Buskirk completed a study on the special training and responsibilities of coronary care nurses employed in hospital coronary care units within the state of Oregon. He found that 58 percent of Oregon's hospitals had special care units for patients with myocardial infarction. Twenty percent of the hospitals with a bed capacity of less than 50 beds provided special care units with separate staffing. Seventeen of the 70 hospitals participating in the study were fully

staffed by nurses who had had adequate formal coronary care training (80 hours or more). However, in 12 hospitals including three larger metropolitan hospitals none of the coronary care nursing staff had had 80 hours of formal coronary care training. The remaining Oregon hospitals showed that between 13 percent and 92 percent of the coronary care nursing staff had completed a formal coronary care training program.

Overall Buskirk found that only 39 percent of the nurses working in coronary care units in the metropolitan area had had an 80 hour basic coronary care course in preparation for working in a coronary care unit. The Portland metropolitan hospitals had a greater percentage of admissions for myocardial infarctions than other areas in the state, and the least well-prepared nursing staff by Buskirk's measure. Eastern Oregon hospitals showed 39 percent of the coronary care nursing staff had received 80 hours of formal coronary care training; however these hospitals had low admission rates for myocardial infarction. In the mid-Willamette area of the state 80 percent of the coronary care nursing staff had completed an 80 hour basic coronary care course. The southern and central areas in the state showed basic coronary care nursing preparation fell between 39 percent and 80 percent.

Fifty-one of the 60 participating hospitals had some form of continuing education which ranged from use of the professional library material to attending formal basic coronary care courses. Only one-fourth of the hospitals provided inservice education to update and expand the capabilities of the coronary care nurse.

Buskirk found Oregon's coronary care facilities need more adequately trained nurses. Statewide, a little more than half the nurses caring for patients with myocardial infarction in coronary care units were adequately trained (had had 80 hours or more of formal coronary care training). He also learned that approximately 80 percent of the Oregon hospitals with fewer than 50 beds each had no special coronary care unit with a separate staff. Patients in these hospitals did not receive intensive coronary care; their total care was provided by staff nurses on general medical/surgical units.

A study by Davis (1972) investigated the effects of education on the quality of nursing observations, evaluations and actions. The subjects consisted of 20 clinical nurse specialists and 20 baccalaureate nurses with one to ten years experience. Her findings supported her hypothesis that the quality and quantity

of patient care given by clinical nurse specialists would be superior to care provided by baccalaureate nurses. In addition the study showed quality and quantity of nursing care declined with increasing years of experience unless the nurse continually evaluated her professional efficiency and sought additional education after three to five years of clinical experience.

In 1976, Wilson examined 30 registered nurses' philosophy toward patient preoperative preparation and their self reported degree of informativeness in their contact with presurgical patients. She included as a part of her study how the degree and type of informativeness is related to selected parameters of a nurse's philosophy, coping style and certain demographic variables.

Her findings suggested that the amount of informativeness a nurse imparts to a patient is related to the nurse's philosophy toward preoperative patient preparation, the unit on which the nurse works, the number of years of nursing experience and the nurse's coping style. She found a nurse's philosophy toward patient preoperative teaching and preparation was related to the amount of information she imparted to the patient. A structured approach to preoperative patient preparation fostered greater informativeness

with resultant increases in the number of patients receiving preoperative instructions. The provision of preoperative instruction was influenced by external pressures as work load, time and patient care priorities. Although Wilson's study did not demonstrate that philosophy and informativeness may be related to an ongoing interest in continuing education, the content for patient education is more likely gained through continuing education by the practicing nurse.

Identification of Continuing Education Topics

In 1974, Johnson and a nursing advisory committee completed an Oregon statewide survey on continuing nursing education. As a part of the study the committee identified continuing education interests and needs of Oregon nurses. They learned from the survey that 28.9 percent (2511) of the 8685 practicing registered nurses in the state of Oregon were employed in medical/surgical areas of nursing; 16.2 percent (1404) were employed in the "general practice" area. Overall they found 53.7 percent (4667) of the employed registered nurses were general duty nurses or in staff nursing positions. They then surveyed 1165 registered nurses (10 percent of the total number of licensed registered

nurses in Oregon) for perceived individual nursing knowledge needs. Seven hundred thirty nine or 63 percent of the nurses responded. The respondents placed coronary care among the most often cited areas of learning needs.

As a result of the survey the committee recommended that a statewide advisory committee be established to provide assistance to providers of continuing education for nurses. The assistance would include identification of continuing educational needs and resources, planning continuing education programs and delivery systems, and assist in the search for financial and other support for continuing education programs for nurses in Oregon. The committee recommended establishment of a network of continuing education nurse coordinators, a continuing committment to continuing education on the part of administrators and departments of nursing, and a continuing concerted effort by agencies and other organizations to secure public support for development of community-based programs and generic nursing education.

A survey to assess continuing education needs of registered nurses in Iowa by Thomas and Heick (1973) answered the following research questions, (1) what priority (ranking) registered nurses employed in Iowa

hospitals and the University of Iowa College of Nursing faculty members would give to selected continuing education topics, and (2) are there differences between continuing education needs of practicing registered nurses in Iowa as perceived by the registered nurse?

A questionnaire that included 32 topics allowed the participant to rank the priority of each topic from high to no priority. At the same time, they obtained demographic information from each person. A total of 1778 practicing hospital nurse employees and 52 nurse educators responded to the survey. Both the responding practicing registered nurses and nurse educators identified ethical issues, proposed legislation, up to date nursing changes, patient care evaluation and patient teaching as high priorities for continuing education topics. Nurse educators gave environmental influences, planning care for change in life style, and research a higher priority than practicing registered nurses from the hospitals. Further analysis of the responses from hospital employed nurses and faculty members suggested a need for continuing education programs of wide variety and the need to investigate barriers which prevent practicing nurses from participating in present continuing education programs.

Planning Continuing Education

Miller (1975) stated a thorough evaluation of present nursing practices should be considered prior to planning continuing education programs. The purpose of this evaluation would be to determine if nurses' decisions and nurses' actions, given specific patient problems, are correct. Thus, areas of incorrect nursing decisions and incorrect nursing actions occurring most frequently could provide the basis for developing content for continuing education programs. However, she also stated factors that promoted or deterred motivation were important secondary considerations to continual learning. These factors included environmental factors that contributed to feelings of adequacy or inadequacy, security or insecurity.

Assessment of Continuing Nursing Education Outcome

The literature pointed out the fact that continuing education is in its infancy as an organized and coherent force within the profession. Styles (1976) commented on the infancy stage of nurses continuing education in her keynote speech to the National Conference in Continuing Education in Nursing, in Indiana, September, 1975. She emphasized that one of the first

things nurses must do is prove systematically and convincingly that there is a strong correlation between the quality of continuing education and the quality of nursing practice.

In 1973, Dauria looked at measurements to assess continuing education outcomes. She found exact measurement tools had limited usefulness because continuing education was not oriented to levels of individual achievement; it was oriented to individual educational needs based on self-perceived ideas. Evaluative data collected from programs tended to be highly subjective revealing feelings and opinions of the individual nurse.

Dauria then sought more meaningful measures of assessing continuing education through observation of what occurred following a series of educational programs presented by the School of Nursing of Virginia Commonwealth University. First, following a series of four seminar-workshops for nursing service administrators, Dauria found a local hospital recruited one of the principal instructors to present a series of monthly conferences for nursing service personnel. Second, the continuing education division sponsored five training laboratories in the Group Process. The principal instructor was later recruited to conduct

similar programs in two local psychiatric hospitals. Third, the principal instructor in a conference on "The Dying Person and his Family" and the instructor in a workshop on Planning Nursing Care were recruited to present similar hospital inservice programs in Virginia.

Dauria concluded the workshop program followed by hospital inservice education meet the nurses' perceived educational needs, increase the nurses' awareness of educational needs, expose the nurse to current theories and techniques and introduce a resource person who can be of assistance to the nurse and their employing agency. Using both methods of program presentation provides a beginning for identifying and assessing outcomes of educational offerings in terms of what the learners are doing with the knowledge they have gained.

Summary

In summary, the literature points toward a need for nurses to maintain knowledge of current nursing practices, latest technology and the health sciences. Johnson's (1975) survey of Oregon nurses identifies coronary care as an area of continuing education in which interest is high. Buskirk's (1975) study

identifies a lack of basically prepared coronary care nurses. Davis's (1972) study shows nursing efficiency declines as nursing practices change, unless nurses periodically seek additional education. Her study suggests that continuing nursing education begin at current accepted practice levels. Miller (1975) suggests identification of incorrect nursing decisions and incorrect nursing actions given specific patient problems be used as a basis for developing continuing education content. However, Wilson's (1976) study on informativeness and patient teaching leads us to speculate there may be a direct relationship between the factors that influence the nurse to impart information to a patient and a nurse's motivation toward education.

The review of the literature reveals continuing nursing education is in its infancy and probably is not as effective as its potential. Researchers speak of nursing "obsolescence" and the need to stimulate not only interest but participation in current education programs. Obviously further research is needed to explore reasons for this.

Purpose of Study

Kubat's study postulates that a relationship between "professional obsolescence" and participation in continuing education in nursing exists. This study addresses the questions: Are staff nurses in Oregon who are providing direct care to patients with cardiovascular disorders as qualified as when they graduated? Have these nurses kept pace with current knowledge and technology? Do a nurse's self-perceived ideas of continuing education course content identify learning needs? What factors affect participation in continuing education?

To find answers to these questions the purposes of this study become (1) to determine the relationship of demographic characteristics to continuing education needs of nurses, (2) to determine the relationship between the staff nurse's philosophy toward continuing education and the perceived need for information by patients, (3) to test the staff nurse's knowledge of facts that relate to providing optimal nursing care for the patients with cardiovascular disorders, and (4) to determine if a relationship exists between the staff nurse's philosophy for continuing education, the nurse's self-perceived educational content need and the response to the test of knowledge on cardiovascular disorders.

Hypotheses

1. Nurses who have a philosophy toward greater informativeness will perceive more need for continuing education than those who do not.

2. The philosophy of continuing education by nurses employed in smaller hospitals (less than 100 beds) will be more positive than the philosophy of continuing education by nurses employed in larger hospitals (over 100 beds) as measured by the Information Philosophy Scale.

3. The staff nurses' philosophy and need for continuing education will be positively related to scores on the Cardiovascular Disorder Test.

4. The staff nurse's participation in continuing education will be positively related to their philosophy and scores on the Cardiovascular Disorder Test.

5. The nurse employed full time in a hospital with more than 100 bed capacity will score higher on a test of knowledge than the nurse employed full time in a hospital with less than 100 bed capacity.

CHAPTER III

METHODOLOGY

Subjects. The sample of subjects for this study was taken from a group of registered nurses currently employed in licensed general and intermediate general hospitals in the state of Oregon. The Oregon general and intermediate general hospitals were divided into four groups; those with over a 200 bed capacity, those with a 100 to 200 bed capacity, those with a 50 to 100 bed capacity and those with under a 50 bed capacity (Oregon State Health Division Licensed Health Care Facilities in Oregon, 1975). One-third of the hospitals from each group were randomly selected for the study. A non-probability sample of subjects was taken from each of these hospital groups. The subjects included registered nurses working on medical, medical/surgical, progressive or intermediate care units who provide nursing care to patients with cardiovascular diseases.

Data Collection Instruments. Four instruments were used in the collection of the data:

1. Demographic Characteristics Form
   (Appendix A, p. 48)

2. Information Philosophy Scale
   (Appendix B, p. 50)
3. Continuing Education Course Content Schedule
   (Appendix C, p. 53)
4. Cardiovascular Disorder Test
   (Appendix D, p. 55)

The items selected to determine Demographic Characteristics were adapted from those designed by Seeley (1972), Vetch (1972), Kubat (1975) and Wilson (1976). They include age, sex, marital status, nursing education, present employment, position, years of experience and bed capacity of hospital in which they are employed.

The Information Philosophy Scale consists of six statements related to continuing education and six statements related to care of patients with cardiovascular disorders. The instrument is similar to those used by Carlson and Vernon (1973) and Wilson (1976). The researcher revised the scale to apply to a philosophy of informativeness in continuing education and cardiovascular nursing. Each statement is answered according to a Likert-like five point scale. Answers range from strongly disagree to strongly agree with a score of 5 for each most agreed answer. A score of 60 indicates a philosophy of high informativeness.

The Continuing Education Course Content Schedule is a list of 10 topics that apply to nursing care of patients with cardiovascular diseases. The topics were derived from subjects recently taught in a baccalaureate nursing education program. The nurse was asked to identify her self-perceived continuing education needs for each topic. Each topic had a five point rating scale, ranging from definitely need to definitely do not need, with a maximum score of five points for the definitely need category. A total high score of 50 indicates the highest self-perceived need for the topics.

The Cardiovascular Disorder Test (test of nursing knowledge) consists of 50 multiple choice questions written by the researcher. The test was developed after an extensive review of current texts and literature on cardiovascular diseases and current nursing practices for these disorders. The material was obtained from texts written by Kutzel (1971), Reed and Sheppard (1971), Robbins (1971), Meltzer (1972), Bergerson (1973), Crouch (1973), Prior (1973), Beland (1975), Laragh (1975), Selzer (1975), Sibler (1975) and Vander (1975). Current articles provided further content information for questions in the following areas: (1) the nurse's role in cardiovascular

drug therapy (Lancour, 1973), (2) physiological, psychological, social and vocational factors as related to cardiac rehabilitation of patients following a myocardial infarction (Naughton, 1975), (3) preparation for patient and family teaching following myocardial infarction (Wenger, 1975), (4) on protocol building for cardiac rehabilitation (Johnston, Cantwell and Fletcher, 1975).

Prior to data collection the Cardiovascular Disorder Test was pilot tested on senior nursing students currently enrolled in medical/surgical nursing classes. An item analysis was done to ascertain the difficulty and discrimination index on each question. The test reliability computed by Kuder Richardson consistency formula was 0.817. For scoring purposes each question was given a value of two points, with a total of 100 points as the maximum score.

Data Collection Procedure. Approval to conduct the study was sought from the Hospital Administrator and/or the Director of Nurses of the hospitals in the areas in which the study was accomplished. Twenty-five hospitals granted approval, four hospitals refused approval and one hospital did not respond. A second random sample was taken from the hospitals with

100 to 200 bed capacity as one hospital's total bed capacity changed during the time of study. Arrangements were made to administer the instruments to the nurses consenting to participate in the study. The purpose of the study was explained to the registered nurses on the hospital staff. The data were collected by the investigator or a reliable person in a controlled setting at the participating hospitals at a time convenient for the participants. The nurses were instructed to complete the Demographic Characteristics Form, the Information Philosophy Scale and the Continuing Education Course Content Schedule in that order and prior to completing the Cardiovascular Disorder Test.

CHAPTER IV

DATA ANALYSIS

The study was an exploration of factors relating to desire and need for continuing education of registered nurses currently providing care to patients with cardiovascular disorders. The analysis of the data included a complete descriptive analysis. This was supplemented by references to the central tendency and variability, chi-square and t values.

Characteristics of Subjects. Of the 124 nurse participants, data obtained from five nurses was omitted from the study. One nurse did not complete all the information, one nurse worked in a coronary care unit, one nurse's education and license' information was unclear, and two nurses completed the instruments out of sequence. The data from the remaining 119 nurses was included in the study.

The participants included 115 female nurses and four male nurses. Eighty nurses were married, 23 nurses were single and 16 nurses were divorced, widowed or separated from their family. The age range of nurse participants was 20 to 65 years of age with a mean age

of 36 years. Twenty seven nurse subjects were employed in hospitals with less than a 50 bed capacity; 37 nurse subjects were employed in hospitals with a 50-100 bed capacity; 23 nurse subjects were employed in hospitals with 100-200 bed capacity and 32 nurse subjects were employed in hospitals with more than 200 bed capacity. The mean age of the nurse employed in hospitals with more than 100 bed capacity was 33; the mean age of the nurse employed in a hospital with less than 50 bed capacity was 36; the mean age of the nurse employed in the hospital with 50-100 beds was 39.

The greatest number (70) of nurses working in medical/surgical areas were graduates of diploma nursing schools. More nurse graduates from baccalaureate schools of nursing (15 of the 26) worked in hospitals with a bed capacity greater than 200. Nurses (23) graduated from Associate Degree programs were more equally divided among the hospitals. Ninety one nurses were employed full time and 28 nurses were employed part time. Fifteen of the 28 part time nurses were employed in hospitals with 50 to 100 bed capacity.

The years since completing the state board examination for nurses ranged from 1 month to 37 years with a mean of 12 years and a standard deviation of 11.37. Total years of nursing practice ranged from 0 months

(new employees) to 33 years with a mean of 10.4 years and a standard deviation of 9.31. Total years of medical/surgical nursing practice ranged from 0 months (new employees) to 33 years with a mean of 8.6 years and a standard deviation of 8.0.

One hundred and six of the 119 nurses had attended inservice education programs in 1976. Seventy five of these nurses attended workshops and 35 nurses attended formal courses. Six nurses had not participated in any form of continuing education. Twenty three nurses had attended inservice education programs, workshops and had taken formal courses. This finding was significant in that Kubat's study (1975) found 27 out of 48 nurses in her study had not attended any form of continuing education. Her study also found many of the nurses in her study worked in medical/surgical nursing areas.

The findings of this study also show that attendance for inservice education programs, workshops and formal courses is not dispersed by the size of the community or size of the hospital. In the hospitals with greater than 200 bed capacity, of the 32 nurse subjects, 28 (88 percent) had attended inservice education programs, 17 (53 percent) had attended workshops and 11 (34 percent) had taken formal courses in 1976.

In the hospitals with 100-200 bed capacity with 23 nurse subjects, 20 (87 percent) had attended inservice education programs, 13 (57 percent) had attended workshops and 6 (26 percent) had taken formal courses. In the hospitals with 50-100 bed capacity, with 37 nurse subjects, 32 (87 percent) had attended inservice education programs, 24 (65 percent) had attended workshops and 10 (42 percent) had taken formal courses. In the hospitals with less than 50 bed capacity with 27 nurse subjects, 26 (96 percent) had attended inservice education programs, 21 (57 percent) had attended workshops and 8 (30 percent) had taken formal courses.

The findings on the Information Philosophy Scale showed more than three-fourths (90) of the nurses agreed or strongly agreed on items 1, 2, 3, 9 and 12, which concerned continuing education for nurses and patient teaching by the nurse. More than one-half (60) of the nurses agreed or strongly agreed on items 4, 6, 8, 10 and 11, which related to responsibility for nursing education, quality of patient care and patient teaching. More than one-half (60) of the nurses disagreed with item 7; that a patient with cardiovascular disorders should be told everything they will experience. Item 5 showed a split from strongly agree to disagree. One-fourth of the nurses (30) felt participation in

continuing education should be a shared responsibility between the employer and the nurse.

Thomas and Heick (1973), Johnson and a nursing education committee (1974), did surveys that identified particular subjects that nurses wished covered by continuing education courses. Johnson and the nursing education committee found coronary care nursing to be high on their list for continuing education. Therefore the continuing education course content for this research study was subdivided into particular subtopics related to heart disease. The purpose was to determine if nurses would differentiate between self-perceived needed educational subtopics. The findings showed a self-perceived need for all subtopics. The researcher analyzed each subtopic to determine the measure of need for each. The findings based on a most need score of 5.0 showed the following results. Anatomy and physiology of the heart showed a mean score of 3.57; pathophysiology showed a mean score of 4.06; drug interaction showed a mean score of 4.45; diet therapy showed a mean score of 3.53; physical examination of the cardiovascular system showed a mean score of 4.09. Patient teaching methods showed a mean score of 4.16; cardiac exercise showed a mean score of 4; psychological factor showed a mean score of 4.06; basic electrocardiographic

interpretation showed a mean score of 4.05 and cardiopulmonary resusitation showed a mean score of 3.68. All subtopics showed a "need" requirement. The needed requirements for Continuing Education Course Content were perceived in this order: (1) drug therapy (most needed), (2) patient teaching, (3) physical examination of the cardiovascular system, (4) pathophysiology, (5) psychological factors in cardiac disease, (6) basic electrocardiogram interpretation, (7) cardiac exercise, (8) cardiopulmonary resusitation, (9) anatomy and physiology of the heart, and (10) diet therapy (least needed). Other topics which nurses wished presented through continuing education were fluid and electrolyte balance, interpretation and explanation of laboratory reports, new theories, trends, treatments and techniques regarding cardiovascular diseases including surgery, preventive measures for heart disease, advanced electrocardiography interpretations, and application of the relationship between the circulatory, renal, respiratory and neurological systems.

The Cardiovascular Disorder Test questions were analyzed by subtopics to determine questions most often missed. Questions relating to drug interactions were the most frequently missed questions. The second most frequently missed questions were on pathophysiology.

The third most frequently missed questions covered basic electrocardiogram interpretation and showed for the most part that these questions were missed because the nurse had not taken a basic course in electrocardiogram interpretation.

The scores on the Information Philosophy Scale (IPS) for all subjects ranged from 31 to 53 with a mean score of 42.94 and a standard deviation of 4.24. The scores for Continuing Education Course Content (CECC) ranged from 18 to 50 with a mean score of 39.45 and a standard deviation of 6.12. The raw score for the Cardiovascular Disorder Test (CDT) ranged from 16 to 43 (32 percent to 86 percent) with a raw mean score of 33 and a standard deviation of 6.27. See Table 1.

Table 1

Score Summary on IPS, CECC, and CDT of 119 Registered Nurses

Instrument	Possible Total Points	Range	Mean	Standard Deviation
IPS	60	31-53	42.94	4.24
CECC	50	18-50	39.45	6.12
CDT	50	16-43	33.00	6.27

Findings Relating to First Hypothesis: The first hypothesis of the study stated nurses who have a philosophy toward greater informativeness will perceive more need for continuing education than those who do not. To test the hypothesis, a Chi-Square test using the Information Philosophy Scale scores and Continuing Education Course Content scores for all nurses was calculated. A chi-square value of .70 was not significant at the .05 level. The first hypothesis was not supported by the findings.

Findings Relating to Second Hypothesis: Scores on the Information Philosophy Scale of the 64 nurses employed in hospitals with less than 100 bed capacity had a mean of 42.43 with a standard deviation of 4.25. Fifty five nurses from hospitals with over 100 bed capacity had a mean score of 43.54 and a standard deviation of 4.19. A visual inspection of these findings showed the difference between means was of such low magnitude, further statistical calculation was not deemed necessary and would not support the second hypothesis.

Findings Relating to the Third Hypothesis: The staff nurses' philosophy did not show a significant relationship to scores on the Cardiovascular Disorder Test. The need for continuing education did show a

significant relationship to the Cardiovascular Disorder Test. An analysis of the Information Philosophy Scale in relation to the Cardiovascular Disorder Test using Chi-square produced a value of 3.02. This was not significant at the .05 level. The relation between continuing education content need and the Cardiovascular Disorder Test produced a Chi-square value of 6.14. This was significant at the .05 level. The analysis in part supports the third hypothesis.

Findings Relating to Fourth Hypothesis: The fourth hypothesis stated that the staff nurses' participation in continuing education would be positively related to their philosophy and scores on the Cardiovascular Disorder Test. Inservice education attendance and the scores on the Cardiovascular Disorder Test, workshop participation and the scores on the Cardiovascular Disorder Test, and formal course attendance and the scores on the Cardiovascular Disorder Test were analyzed using the t test. The findings were not significant. Findings between participation in continuing education programs and scores of the Information Philosophy Scale were also not significant.

A comparison between the Cardiovascular Disorder Test scores of the 23 nurses who had attended all three forms of continuing education and the six nurses who

had not attended any form of continuing education showed the attendees scored much higher. The sample was too small to draw any conclusion.

Findings Relating to the Fifth Hypothesis: Findings relating to the hypothesis that the nurse employed full time in a hospital with more than 100 bed capacity would score higher on a test of knowledge than the nurse employed full time in a hospital with less than 100 bed capacity showed the following. Forty-six nurses were employed full time in a hsopital with less than 100 bed capacity. The mean score on the Cardiovascular Disorder Test for these nurses was 33.13 with a standard deviation of 6.33.

Forty five nurses were employed full time in hospitals with over 100 bed capacity. Findings on the Cardiovascular Disorder Test for this group showed a mean score of 33.4 with a standard deviation of 6.21. The t value was calculated to be .4231 with 89 degrees of freedom. The findings were not significant. The analysis does not support the fifth hypothesis.

CHAPTER V

DISCUSSION

In 1975, Kubat's first of two articles postulating factors related to professional obsolescence appeared in the literature. In this study, Kubat found that nurses working on medical/surgical units of selected hospitals in Nebraska for the most part viewed themselves to be as competent today as when they graduated from a basic preparatory program in nursing. Additionally, they did not view continuing education as a vehicle essential to maintaining competency. In fact, many of them considered it a burden. Yet, over 80 percent of all nurses participating in the study, including many of the medical/surgical nurses, missed more than one-half of the items on a test of general nursing knowledge. Another of Kubat's conclusions was that older nurses living in smaller communities did not perceive a need for continuing education. Studies done in Oregon in a similar time period (Johnson, 1974; Buskirk, 1975) showed more interest in continuing education by nurses. The present study supports Johnson and Buskirk's studies

that Oregon nurses in 1977 may not resemble Nebraska nurses, in that only six of the 119 participants had not attended any type of continuing education activity in 1976. In fact, no less than 87 percent of the medical/surgical nurses in the study had attended at least one inservice program in 1976, no less than 53 percent had attended a workshop and no less than 30 percent had attended formal courses. Percentage of attendance was fairly evenly distributed regardless of hospital and therefore community size.[2] Age and relation of hospital size to participation in continuing education were not tested in this study.

Many of the studies appearing in the literature suggested that nurses' self-perceived needs for continuing education provided only one perspective on what continuing education should accomplish (Dauria, 1973; Thomas and Heick, 1973; Kubat, 1975). Both Oregon studies (Johnson, 1974; Buskirk, 1975) have supported the need for continuing education to focus on coronary care nursing. The present study demonstrates that this is still a need in that drug interactions,

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[2]Hospitals in the sample were characteristic of Oregon's population. That is, smaller hospitals were in smaller communities.

pathophysiology of the heart and basic electrocardiography interpretation were the most often missed questions on the Cardiovascular Disorder Test. These scores did not differ significantly by hospital size or location. However when the extreme groups (attenders of all types of continuing education versus non-attenders) were compared, the highest mean score on the Cardiovascular Disorder Test overall was obtained by the attender group and the lowest by the non-attender group.

Of the five hypotheses tested by the study, the only statistically significant relationship was between nurses' self-perceived need for continuing education in specific topic areas of cardiovascular disease and their scores on the Cardiovascular Disorder Test. Thus, although the literature suggests this is only one source for determining what types of continuing education should be offered, it appears to be a reliable indicator for the nurses in this study. Whether this finding would be generalizable to other topic areas in continuing education in nursing would be useful information for providers of continuing education to ascertain.

The literature supporting the informativeness of the nurse to variables such as attitude, philosophy

and motivation (Davis, 1972; Kubat, 1975; Wilson, 1976) did not prove significant for this study. However the question that is unanswered by this study but must be addressed in light of that literature remains. That is, will nurses with lower informativeness scores change their practice patterns through increased participation in continuing education?

CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

In the past, continuing education programs for nurses were designed in response to requests based on interest in an area. As states and professional organizations consider whether continuing education should be mandatory for relicensure and/or membership, continuing education programs must address knowledge needed as well as interests.

The purpose of this study was to identify continuing education needs of nurses providing care to patients with heart disease. To answer the purpose of the study selected demographic variables of participants from randomly selected hospitals were compared to scores on (1) a test of knowledge of heart disease and its management, (2) an information philosophy scale, and (3) self-perceived continuing education needs. Five hypotheses were tested. They were: (1) Nurses who have a philosophy toward greater informativeness will perceive more need for continuing education than those who do not. (2) The philosophy

of continuing education by nurses employed in smaller hospitals (less than 100 beds) will be more positive than the philosophy of continuing education by nurses employed in larger hospitals (over 100 beds) as measured by the Information Philosophy Scale. (3) The staff nurses' philosophy and need for continuing education will be positively related to scores on the Cardiovascular Disorder Test. (4) The staff nurses' participation in continuing education will be positively related to their philosophy and scores on the Cardiovascular Disorder Test. (5) The nurse employed full time in a hospital with more than 100 bed capacity will score higher on a test of knowledge than the nurse employed full time in a hospital with less than 100 bed capacity.

A random sample of 30 general and intermediate general hospitals in the state of Oregon was drawn for the study. This included representation from four hospital sizes; hospitals with under a 50 bed capacity, hospitals with 50 to 100 bed capacity, hospitals with 100 to 200 bed capacity and hospitals with over 200 bed capacity. Twenty five hospitals consented to participate in the study. The subjects for the study included 119 registered nurses who provided care for patients with cardiovascular disorders in a medical, medical/

surgical, intermediate or progressive care unit. The data were collected in person by the researcher or a reliable person by a controlled process at the participating hospitals. The purpose of the study was explained to each subject. A Demographic Characteristic Form, an Information Philosophy Scale and a Continuing Education Course Content Schedule was completed in this order prior to taking the Cardiovascular Disorder Test. One hundred and nineteen subjects met the criteria for inclusion in the study.

The findings of the present study showed that most medical/surgical nurses voluntarily attended some type of continuing education activity in 1976 regardless of hospital size or location. Of the five hypotheses tested, the only significant relationship occurred between self-perceived need for continuing education in selected topics in cardiovascular disease and the mean score on the test of knowledge.

Conclusions

Two conclusions were drawn from the findings of the study.

1. Nurses in Oregon seem to be participating in the continuing education programs that are offered.

2. That practicing medical/surgical nurses in this sample know what they need in terms of content to be provided through continuing education.

Recommendations

Recommendations for future related nursing research include:

1. An exploration of the influence informativeness and philosophy have on participation in continuing education.

2. Exploration of the effects of the three forms of continuing education (inservice, workshops and formal courses) on actual nursing practice.

3. A study exploring the relationship between self-perceived continuing education course content needs and knowledge testing in other areas of nursing.

4. A study to determine if attitude, philosophy and informativeness change with participation in continuing education.

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APPENDICES

Appendix A

Demographic Characteristics

Demographic Characteristics

Please indicate or supply appropriate response.

1. Age: _____ 2. Sex: Female _____ Male _____

3. Marital Status:
   _____ Single
   _____ Married
   _____ Separated, Widowed, Divorced

4. Basic Nursing Education Preparation:
   _____ Associate Degree
   _____ Diploma
   _____ Baccalaureate or Higher Degree

5. Number of years since you completed the State Board Test Pool License Examination: _____

6. Highest level of education completed:
   _____ Associate Degree
   _____ Diploma
   _____ Baccalaureate in Nursing
   _____ Baccalaureate in other fields
   _____ Master in Nursing
   _____ Master in other fields
   _____ PHD in Nursing
   _____ PHD in other fields
   _____ Other, please specify

7. Present employment:
   _____ Full-time
   _____ Part-time

8. Position Title: _____

9. Years of experience in medical/surgical nursing: _____

10. Years of nursing experience: _____

11. Bed capacity of hospital in which you are employed:
    _____ Under 50 beds
    _____ 50 to 100 beds
    _____ 100 to 200 beds
    _____ Over 200 beds

12. _____ Number of inservice programs attended during 1976.
    _____ Number of workshops attended during 1976.
    _____ Number of formal courses taken during 1976.

Appendix B

Information Philosophy Scale

Information Philosophy Scale

To what extent would you agree or disagree with each of the following statements.	1 Strongly Disagree	2 Disagree	3 Neutral or No Opinion	4 Agree	5 Strongly Agree
1. Continuing education for nurses is a burden on the person.....					
2. Continuing education keeps the nurse informed on trends in patient care.....					
3. Employed nurses keep abreast of nursing trends without continuing education.....					
4. Continuing education is an individual responsibility.....					
5. Participation in continuing education should be on employer time.....					
6. Nurses who attend continuing education programs give better patient care.....					
7. A patient with cardiovascular disorder should be told everything he will experience; in the long run it works out better that way.....					

To what extent would you agree or disagree with each of the following statements.	1 Strongly Disagree	2 Disagree	3 Neutral or No Opinion	4 Agree	5 Strongly Agree
8. Most patients with cardiovascular disorders can be told <u>too</u> much.....					
9. In general, the amount of information given to a patient with a myocardial infarction should be kept to a minimum.....					
10. In general, a patient with heart disease should be told only what he needs to know...					
11. In general, patients with heart disease should be told only what the doctor thinks he should know.....					
12. Most heart patients don't want to hear (or know about) the unpleasant things which happen to them during their treatment.....					

Appendix C

Continuing Education Course Content Schedule

Continuing Education Course Content Schedule

To what extent do you need or do not need continuing education for the following areas of nursing patients with cardiovascular disorders.

	1 Definitely Do Not Need	2 Do Not Need	3 Neutral Or No Opinion	4 Need	5 Definitely Need
1. Normal Physiology of the Heart.....					
2. Pathological Conditions of the Heart.....					
3. Drug Interactions in the Cardiac Patient.....					
4. Diet Therapy for Patients with Cardiovascular Disorders..					
5. Physical Examination of the Cardiovascular System.....					
6. Patient Teaching Methods used by the Nurse.....					
7. Cardiac Exercise.....					
8. Psychological Factors in Cardiac Disease.....					
9. Basic ECG Interpretation.....					
10. Cardiopulmonary Resusitation.....					

What other topics would you like presented through continuing education on cardiovascular diseases?

_____

_____

Appendix D

Cardiovascular Disorder Test

Cardiovascular Disorder Test

Circle the correct answer for the following questions.

1. Which chamber of the heart ejects oxygenated blood into the general systemic circulation?

   a. left atrium
   b. left ventricle
   c. right atrium
   d. right ventricle

2. The blood supply to the myocardium of the left ventricle of the heart is furnished by

   a. the right coronary artery
   b. the aorta
   c. the left anterior descending and left circumflex arteries
   d. the superior vena cava

3. The normal pacemaker of the heart is located in

   a. the right atrium
   b. the septum
   c. the right ventricle
   d. the left ventricle

4. Which of the following statements is <u>not</u> true about blood pressure?

   a. Blood pressure is due largely to the pumping action of the heart.
   b. Blood pressure varies with the amount of blood in the arteries, the fuller the arteries the higher the arterial pressure.
   c. Blood pressure is decreased as a result of generalized vasodilation.
   d. Blood pressure is decreased as catecholamines in the body increase.

5. The blood to the myocardium of the right ventricle of the heart is supplied by the

   a. aorta
   b. ascending vena cava
   c. right coronary artery
   d. left circumflex artery

6. What has been attributed to be the cause of sudden death in myocardial infarction patients?

   a. over zealous use of drugs
   b. electrolyte imbalance
   c. cause of death is not known
   d. electrical instability of the myocardium

7. Causes of cardiac failure involves all of the following mechanisms except

   a. pump failure produced by increase in cardiac workload that taxes the myocardial reserve beyond its capability
   b. pump failure caused by anatomic or functional alterations of the myocardium that makes the weakened ventricle incapable of carrying out adequately the normal load
   c. conditions that interfere with the pumping action of the heart but do not directly involve myocardial function
   d. conditions that interfere with the conduction activity of the heart that are not directly involved with the pumping action of the heart

8. Complications from severe hypertension include all of the following except

   a. infarcts of organs
   b. hemorrhages in various areas
   c. dissecting aneurysm of the aorta
   d. decreased peripheral resistance

9. The organ in the body which shows the most characteristic changes in hypertensive subjects and raises the questions of being the cause is

   a. the liver
   b. the kidney
   c. the heart
   d. the brain

10. All of the following mechanisms may cause infarction of the myocardium except

   a. thrombosis superimposed upon a stenotic area as a result of an atherosclerotic plague in a coronary arterial branch
   b. subintimal hemorrhage of the lumen in a stenotic coronary artery
   c. embolism in a coronary artery
   d. subintimal hemorrhage of the aortic arch

11. Shock in myocardial infarction is due to

    a. low blood volume
    b. bacterial infection
    c. inadequate cardiac function
    d. renal shut down

12. The most frequent cause of cardiac tamponade is

    a. pericarditis
    b. ventricle rupture
    c. infarction of the papillary muscle
    d. atrial thrombi

13. Bleeding due to heparin toxicity can be reversed by administering

    a. Vitamin K
    b. Epinephrine
    c. Protamine sulfate
    d. Levophed

14. Common symptoms of digitalis toxicity are all of the following except

    a. nausea
    b. anorexia
    c. A-V nodal block
    d. atrial flutter

15. Nitroglycerin is

    a. a long acting nitrate coronary vasodilator
    b. an organic nitrate taken sublingually which provides relief from pain in angina pectoris in one to three minutes
    c. a coronary vasodilator which is inhaled for the relief of angina pectoris
    d. given intravenously to increase coronary blood flow

16. Precautions should be taken when giving one of the following antibiotics to patients with hyperkalemia. It is

    a. tetracycline
    b. sulfadiazine
    c. penicillin - G
    d. ethromycin

17. Diuretics may deplete the body of all of the following <u>except</u>

    a. sodium
    b. potassium
    c. fluids
    d. glucose

18. Coumarin acts pharmacologically by

    a. causing lysis of the thrombus
    b. inhibiting the action of thrombin
    c. inhibiting the action of Vitamin K
    d. binding the thrombin to protein

19. Side effects from antihypertensive drugs may include all of the following <u>except</u>

    a. weakness
    b. impotence
    c. euphoria
    d. orthostatic hypotension

20. The body has several mechanisms for maintaining acid-base balance. All of the following are correct <u>except</u>

    a. buffer mechanism
    b. respiratory mechanism
    c. renal mechanism
    d. cardiac mechanism

21. The normal blood PH is between

    a. 7.0 and 7.45
    b. 7.20 and 7.40
    c. 7.30 and 7.50
    d. 7.35 and 7.45

22. A patient's blood gas report shows increased PH, a decreased PO_2, an increased CO_2, and an increased HCO_3. He is in

    a. respiratory acidosis
    b. respiratory alkalosis
    c. metabolic acidosis
    d. metabolic alkalosis

23. Which organ in the body plays the major role in maintaining fluid balance?

a. heart
b. lung
c. kidney
d. liver

24. According to the American Heart Association a person's blood pressure is considered to be in the hypertensive range if it is above

a. 150/90
b. 134/84
c. 140/80
d. 120/60

25. Attacks of initial chest pain of acute myocardial infarction are frequently associated with

a. pallor, perspiration, nausea, vomiting and headache
b. pallor, dyspnea, faintness, dizziness and diarrhea
c. nausea, vomiting, pallor, perspiration, dizziness and faintness
d. pallor, dyspnea, nausea, vomiting, cramping and abdominal pain

26. Anginal pain is usually differentiated from myocardial infarction pain by all of the following except

a. the pain is relieved by nitroglycerin
b. the pain is of short duration
c. the pain is relieved by rest
d. the pain may be described as a substernal crushing sensation

27. Mental confusion may become apparent in the seriously ill patient particularly if they

a. are anorexic
b. do not understand their diagnosis
c. have a serious electrolyte imbalance
d. are agitated

28. In assessing the patient with cardiovascular disease processes the nurse should observe the following

    a. circulatory status
    b. respiratory status
    c. renal status
    d. all of the above

29. Developing pulmonary emboli may present the following symptom

    a. gradual change in respiratory rate
    b. sudden change in respiratory rate
    c. chest pain with dry cough
    d. substernal chest pain

30. The heart rhythm that requires <u>immediate</u> treatment by cardioversion is

    a. sinus tachycardia
    b. ventricular fibrillation
    c. idio-ventricular rhythms
    d. atrial fibrillation

31. During elective cardioversion, ventricular fibrillation may develop if the electric discharge occurs simultaneously with the

    a. peak of P wave
    b. peak of T wave
    c. refractory period
    d. QRS complex

32. In which of the following EKG patterns are <u>P</u> waves absent?

    a. sinus arrhythmia
    b. first degree A-V block
    c. ventricular rhythm
    d. wander atrial pacemaker

33. An EKG tracing shows a ventricular response of 140 beats per minute with atrial waves that are <u>sawtooth</u> in character and occur at a regular rate of 280 beats per minute. This tracing is correctly identified as

    a. atrial flutter
    b. atrial fibrillation
    c. paroxysmal atrial tachycardia
    d. ventricular tachycardia

34. In which of the following EKG's does the P wave occur independently of the QRS complex?

a. first degree A-V block
b. atrial tachycardia
c. complete heart block
d. sinus arrhythmia

35. The ABC steps of cardiopulmonary resuscitation are

a. airway, breathing, circulation
b. arrest, breath, resusitate
c. airway obstruction, positive pressure breathing and cardiac massage
d. ventilate, massage and resusitate

36. The most common cause of airway obstruction during a cardiac arrest is

a. foreign bodies
b. dentures
c. tongue
d. mucous secretions

37. Where on the adult chest would you place the heel of your hand in order to perform cardiac massage?

a. on the xiphoid process
b. on the mid-sternum
c. two to three fingers above the lower end of the sternum
d. on the upper third of the sternum

38. During external cardiac compression the sternum should be depressed

a. less than one inch
b. 1 to 1½ inches
c. 1½ to 2 inches
d. 2 to 2½ inches

39. What is the ratio of cardiac compression to ventilation when <u>two</u> people are performing CPR?

a. 5:2
b. 15:1
c. 5:1
d. 15:2

40. Which is the appropriate sequence of action to be taken if a person suddenly stops breathing?

1. check the blood pressure
2. check airway and feel for carotid pulse
3. check the pupils
4. give a thump on sternum with your fist if indicated
5. elevate the head of the bed
6. give four rapid breaths of mouth to mouth resusitation
7. administer oxygen
8. if pulse and breathing are not immediately restored begin CPR

a. (6,2,8,3)
b. (2,4,6,8)
c. (3,6,2,4)
d. (1,8,6,7)

41. All of the following foods are high in potassium except

a. dehydrated prunes and dates
b. baked potatoes and bananas
c. white beans and lima beans
d. applesauce and peaches

42. Ways to reduce the plasma cholesterol level in the body are

a. control the amount of food intake
b. substitute saturated fats in the diet for unsaturated fats
c. substitute unsaturated fats in the diet for saturated fats
d. eat pork, beef and milk products

43. Important rules for patients to remember when placed on a moderately low sodium diet are:

1. use no salt in the preparation of food
2. use salt at the table
3. read the labels on all commercially prepared food
4. eat those foods that contain sodium or soda compounds

a. (1 and 3)
b. (2 and 4)
c. (1, 2, and 3)
d. (4)

44. Meat, fish and poultry products lowest in cholesterol are

a. baked ham, eggs and lobster
b. clams, salmon and breast of turkey
c. fried chicken, beef liver and sweetbreads
d. lobster, steak and duck

45. The diet for a patient with acute myocardial infarction may include all of the following except

a. warm liquids
b. soft foods
c. foods high in residue
d. juices

46. Restriction of refined carbohydrates and alcohol intake is used primarily to

a. control weight
b. decrease hyperlipidemia
c. to decrease incidence of diabetic complication
d. none of the above

47. Rest after eating a meal before exercise is recommended for the patient post myocardial infarction. The suggested length of the rest period is

a. 30 minutes
b. 1 hour
c. 2 hours
d. 20 minutes

48. Patients who have had a myocardial infarction should be instructed to notify their doctor or go to the emergency room for all of the following except

a. increased shortness of breath
b. angina lasting over 15 minutes which does not respond to three nitroglycerin tablets taken at 5 minute intervals
c. heart rate changes
d. fainting

49. After the scar has formed over the damaged portion of the heart following a myocardial infarction, the patient should avoid all of the following except

a. cigarettes
b. yardwork in very cold or very hot weather
c. situations that make them angry
d. sexual relations

50. Cholesterol is best described as

a. a fatty substance found in many foods and produced by the body
b. a substance that contributes to an increase in collateral circulation
c. a fatty material found only in egg yolk, liver and shrimp
d. a form of triglyceride

Appendix E

Letters to Directors of Nursing

Dear _____:

I am enrolled as a graduate student in the School of Nursing at the University of Oregon Health Science Center. In partial fulfillment of the requirements for a Masters of Nursing degree I am conducting an investigative study to assess factors affecting continuing education in nursing as it relates to cardiovascular disorders. The data necessary for this study should be provided by staff nurses who care for patients with cardiovascular disorders.

The information requested requires the nurse to complete three brief forms and a fifty question questionnaire. These forms will take the staff nurse thirty to forty minutes to complete. I am requesting permission to obtain data for this study in your institution. Confidentiality of the information will be maintained as no hospital or nurse will be identified. My plan is to collect this information in December 1976 and January 1977.

For your convenience I am enclosing a response form and a self-addressed stamped envelope. I will be contacting you within the week by telephone to further discuss the study and to make arrangements for collecting the data.

Thank you for your assistance.

Sincerely,

Stella B. Bellarts, R.N., B.S.N.
17915 S. E. Vogel Road
Boring, Oregon 97009

Stella B. Bellarts, R.N., B.S.N. is currently a graduate student in the School of Nursing at the University of Oregon Health Science Center pursuing a Masters of Nursing degree. I will appreciate any assistance you give her in this study.

_____ _____
(Date) Barbara Gaines, R.N., D. Ed.
Chairperson, Graduate Program

Draft of Hospital Consent

To: Stella B. Bellarts, R.N., B.S.N.
17915 S. E. Vogel Road
Boring, Oregon 97009

In reply to your request to obtain data for your investigative study to assess factors affecting continuing education in nursing as it relates to cardiovascular disorder, I, (do) (do not) consent to your request.

_____ _____
(Date) (Signature)

_____
(Hospital)

Appendix F

Informed Consent

Consent Form for Human Research

I, _____,
(First Name) (Middle Initial) (Last Name)
herewith agree to serve as a subject in the investigation named "Nurses and Continuing Education Needs for the Care of Persons with Heart Disease", by Stella B. Bellarts, R.N., B.S.N., under the supervision of Barbara Gaines, R.N., D.Ed.

The investigation explores factors affecting continuing education for nurses. My participation in this study necessitates that I complete a demographic information form (age, education, work experience, etc.), an information philosophy scale, a continuing education course content schedule and a cardiovascular disorder test. I may benefit by participating as continuing education programs planned by the Oregon Heart Association Nursing Education Committee may more adequately address my learning needs.

I understand that participation in this study will involve no risk for me; however, it will take time. The information obtained will be kept confidential. My name will not appear on any project records and anonymity will be insured by the use of code numbers. Results from this study which might identify me, the group with which I work, or the institution where I work, will not be communicated to anyone.

Stella B. Bellarts, R.N., B.S.N., has offered to answer any questions that I might have about my participation in the study.

I also understand that I may refuse to participate or withdraw from participation in this project at any time, and that such action will not be communicated to my employer.

I have read the foregoing information and agree to participate in this study.

_____ _____
(Date) (Participant's Signature)

_____
(Witness' Signature)

AN ABSTRACT OF THE CLINICAL INVESTIGATION OF

STELLA B. BELLARTS

for the Master of Nursing

Date of receiving this degree: June 10, 1977

Title: NURSES AND CONTINUING EDUCATION NEEDS
FOR THE CARE OF
PERSONS WITH HEART DISEASE

Approved: Barbara Gaines
(Professor in Charge of Clinical Investigation)

In the past, continuing education programs for nurses were designed in response to requests based on interest in an area. As states and professional associations consider whether continuing education should be mandatory for relicensure and/or membership, continuing education programs must address knowledge needed as well as interest.

The purpose of the study was to identify education needs of medical/surgical nurses providing care to patients with heart disease. The hypotheses tested were: (1) Nurses who have a philosophy toward greater informativeness will perceive more need for continuing

education than those who do not. (2) The philosophy of continuing education by nurses employed in smaller hospitals (less than 100 beds) will be more positive than the philosophy of continuing education by nurses employed in larger hospitals (over 100 beds) as measured by the Information Philosophy Scale. (3) The staff nurses' philosophy and need for continuing education will be positively related to scores on the Cardiovascular Disorder Test. (4) The staff nurses' participation in continuing education will be positively related to their philosophy and scores on the Cardiovascular Disorder Test. (5) The nurse employed full time in a hospital with more than 100 bed capacity will score higher on a test of knowledge than the nurse employed full time in a hospital with less than 100 bed capacity.

Selected demographic variables of 119 nurse subjects from 25 randomly selected Oregon hospitals were compared to scores on (1) a test of knowledge of heart disease and its management, (2) an information philosophy scale, and (3) self-perceived continuing education needs.

The findings of the study showed that most medical/surgical nurses voluntarily attended some form of continuing education activity during 1976 regardless

of hospital size or location. Of the five hypotheses tested, the only significant relationship occurred between self-perceived need for continuing education in selected topics in cardiovascular diseases and the mean score on the Cardiovascular Disorder Test of knowledge.

Two conclusions were drawn from the findings, nurses in Oregon seem to be participating in the continuing education programs that are offered and the sample of nurse subjects in the study know what they need in terms of content to be provided through continuing education.