

129
A DESCRIPTIVE SURVEY OF CORONARY NURSING
EDUCATION AMONG PROFESSIONAL
NURSES IN MONTANA

by

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ABSTRACT

The purpose of this study was two fold. The prime problem was that of whether nurses who assume the responsibilities of a professional nurse in a coronary care unit in Montana are prepared in intensive coronary nursing. The second problem investigated attempted to ascertain whether the staffing patterns of the employing institution appear to allow the application of the nurses preparation in direct patient care.

The descriptive method of research was used and the data collected by means of a questionnaire. The population consisted of forty-five professional nurses currently employed in patient care areas, designated by institutions, in Montana as intensive coronary care units. Twenty-seven completed questionnaires were used in the analysis of the data.

The results of the study indicate that professional nurses in Montana have received some preparation in intensive coronary nursing. The length of the preparational courses for professional nurses are generally no longer than two weeks in duration. Emphasis of the instruction appears to be in the technical aspect of coronary patient care. Instruction is primarily being presented by those of the medical profession and not involving educators of the nursing profession. Professional nurses after completion of preparation in coronary nursing most often identified technical aspects of care as those in which they felt need for additional guidance. Those respondents with a course length of four to five weeks were more able to identify patient care as the area needing additional attention.

The information gathered about the staffing patterns was felt to be inadequate to draw any conclusions as to the availability of the professional nurses at the patient's side. The questionnaire method of data collection was inappropriate for valid information in the area of staffing.

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CHAPTER I

INTRODUCTION

Coronary heart disease is the greatest single health problem which faces this country. There has been no preventive program yet which has gained general acceptance. In 1962 the underlying cause of one million deaths in this country was due to cardiovascular disease. Over 500,000 of these deaths were due to coronary heart disease and one-fourth affected men in the productive years.¹

It has been evident that the mortality rate from coronary artery disease has not been affected by the advances in cardiovascular care of patient in the past two decades. Recognition of the need to improve the survival rate of patients suffering from myocardial infarction is credited to Dr. H. Day in Kansas City, Kansas and Dr. L. Meltzer in Philadelphia, Pennsylvania. The first two intensive coronary care units were started in 1962 by these men, each of whom was attempting to reduce cardiac mortality but from different points of interest. Those interested in resuscitation had noted that survival rates throughout the country was extremely low

¹U. S. Department of Health, Education and Welfare, Coronary Care Units. Public Health Service Publication No. 1250, Washington: Government Printing Office, 1964, p. 11.

and that some means other than that of general alarm in hospitals was needed in answer to this problem. A second area of interest which stimulated the development of intensive coronary care units was that of the high incidence of deaths due to arrhythmias.² The average mortality rate for those with myocardial infarction who reach the hospital has been thirty percent. Within seventy-two hours of admission eighteen percent of the deaths occur and seventy percent occur within the first five days of hospitalization. Studies have shown that fifty to seventy percent of the deaths occurring within the first forty-eight hours after the onset of the infarction do not have an autopsy discernible cause.³

The evidence that the life threatening complications which occur at significantly high rates among patients with myocardial infarction are amenable to treatment has led to investigation for the provision of improved treatment. It became evident that the initiation of continuous electrocardiographic monitoring could lead to early recognition of life threatening arrhythmias. When these arrhythmias could be recognized, methods of preventing additional arrhythmic development and of terminating arrhythmias might contribute to an increase in the survival rate of persons with myocardial

² _____, The Current Status of Intensive Coronary Care, Symposium, The Charles Press, New York, 1966, p. 2.

³ U. S. Department of Health, Education and Welfare, op. cit., p. 17.

infarction. It was from these assumptions that the concept of the coronary care unit evolved.

The system of coronary care is distinguished primarily by the role assigned to the professional nurse. In providing in intensive and specialized care required by the patients in coronary care units' professional nurses were to become the key persons. It was recognized that it was not feasible for the medical staff to remain in constant attendance with such patients nor would they be able to reach the bedside in time should a critical situation develop. The belief was that, there must be nursing intervention if there is to be prevention of arrhythmic deaths. From the narrow concept of resuscitation as the means of decreasing mortality to the present more expanded concept, in which the prime concern is that of prevention of life threatening arrhythmias, the effectiveness of the coronary care unit is closely correlated with the strength and structure of the medical and nursing team.

Two vital areas relevant to the nursing effectiveness in the coronary care unit are those of preparation of the professional nurse and staffing patterns which allow the application of preparation in direct patient care. General outlines for the preparation of nurses in intensive coronary nursing are directed towards specific and realistic objectives. Included in these are the coronary care concept, public health aspects, basic sciences, fundamentals of cardiac nursing and special technology. In addition to theoretical

didactic instruction clinical experience of adequate duration is emphasized to develop basic competence of the nursing staff.⁴

This study has been undertaken in an attempt to ascertain the specific aspects of coronary nursing that are being included in the preparational programs for professional nurses, those persons involved in the instruction and those aspects which the professional nurses practicing in this area identify as preparational needs. From a review of coronary nursing course outlines and from the current literature in this area much of the course content has been primarily determined and presented by the medical profession. Nursing is not composed of those areas which are determined or discarded by the medical profession but is composed of a unique body of knowledge. The nursing profession must recognize its responsibility for determining nursing care and for providing the education for the members of the profession.⁵

Nursing does not function independently of the medical profession. The doctor and nurse work together as a team in the coronary care unit to provide optimum care for the patient, therefore

⁴Criteria and Guidelines for Nurse Training Courses in Coronary Care Units, United States Department of Health, Education and Welfare, Public Health Service, pp. 2-3.

⁵Lucille Kinlien, "The New Specialty of Cardiac Nursing," Aggressive Nursing Management of Acute Myocardial Infarction, Symposium, The Charles Press, Philadelphia, 1968, pp. 18-22.

they must collaborate on the instructional content for the provision of competent coronary care nurses. The success of the coronary care unit is wholly dependent on the quality of nursing care provided. The various monitoring equipment does not provide medical and nursing care for the patient but supplements the observations of the prepared professional nurse. Coronary nursing has been linked only with equipment and those aspects of a technical nature until recently. There is now emerging concern beyond that of the equipment and the interpretation of monitor patterns to that of the patient. What is he like? What are his nursing needs?⁶

From these ideas with regard to nursing education in general and education in coronary nursing in particular in combination with the investigators interest in this area, the following study has been undertaken. It is the intent of this investigator to study the preparation of nurses and staffing patterns in coronary care units within the state of Montana.

Statement of the Problem

Are the nurses who assume the responsibilities of a professional nurse in a coronary care unit in Montana prepared in intensive coronary nursing and do the staffing patterns of the employing

⁶ Jones, Barbara, "Inside the Coronary Care Unit, "American Journal Of Nursing, 67:11:2313, November 1967, p. 2313.

institution appear to allow the application of this preparation in direct patient care?

Purposes of the Study

(1) To determine those areas of intensive coronary nursing in which professional nurses are currently being prepared.

(2) To identify areas of intensive coronary nursing which need to be broadened or included in the initial preparation of professional nurses.

(3) To determine if staffing patterns in intensive coronary care units allow the professional nurses to devote the major portion of her time to direct patient care.

(4) To ascertain who is providing the preparational instruction in intensive coronary nursing.

The Assumption on Which the Author Bases This Study

Professional nurses must have special preparation to enable them to provide effective nursing care in an intensive coronary care unit.

Inherent in this prime assumption are the following sub-assumptions:

i. professional nurses in an intensive coronary care unit must be able to initiate life-saving measures without the aid of the physician.

ii. the professional nurse in an intensive coronary care unit must be able to interpret electrocardiographic monitor data and clinical signs and symptoms accurately.

iii. the professional nurse in an intensive coronary care unit must be able, in emergencies, to direct those nursing and medical personnel not acquainted with emergency cardiac treatment.

Method of Research

The descriptive method of research was used and the data collected by means of a questionnaire. The population consisted of forty-five professional nurses currently employed in patient care areas designated by institutions in Montana as intensive coronary care units. Thirty-one of the questionnaires were returned to the investigator of which twenty-seven were used in the analysis of the data. A detailed discussion of the methodology of this study is found in Chapter Two.

Definition of Terms Used

(1) Intensive Coronary Care Unit. A specialized area of a hospital designed, equipped, and staffed for treatment of patients with acute myocardial infarction, suspected of confirmed.⁷

⁷U. S. Department of Health, Education and Welfare, op. cit., p. 7.

(2) Professional nurse. Any person duly licensed to practice as a Registered Nurse in the state of Montana.

(3) Intensive Coronary Nursing. A specialized area of nursing which deals with the observation and direct care of patients with acute myocardial infarction within an area of a hospital designated for the provision of Coronary Care.

(4) Life threatening arrhythmia. Any aberration of the cardiac conduction system which if allowed to persist is not compatible with life.

(5) Auxiliary Personnel. Those persons providing patient care who are not professional nurses.

Limitations of the Study

(1) Interpretation of the results of the study may not be applicable to areas other than the one geographical area surveyed.

(2) The research tool is limited by the possibility of various interpretations of the wording contained in the questionnaire.

(3) Employment status of those comprising the population may change from the time staffing information was obtained and the time the questionnaire was mailed.

Organization of the Remainder of the Study

The remainder of the study has been divided into three chapters, Chapter II contains a review of the literature related to coronary care nursing education and practice and the methodology of the study. Chapter III presents an analysis of the data and Chapter IV contains the summary, conclusions and recommendations.

CHAPTER II

REVIEW OF LITERATURE

The establishment of increasingly more coronary care units has created an urgent need for a large number of specially prepared professional nurses to provide patient care. At the onset of electronic monitoring it was expected that these devices would be more accurate than the nurse and would be the constant finger on the pulse of the patient. There was even some question as to whether the need for nurses might be reduced by the initiation of monitoring. Both of these ideas were found to be untrue and the electronic equipment came to be seen only as a useful tool for total patient care in the hands of a skilled nurse.⁸ Much of the medical literature written with the onset of the coronary care unit recognized the importance of the professional nurse within the unit in relation to technical knowledge and skill necessary for the functioning of the coronary care unit. The medical profession felt it had "never before so unanimously given away authority to nurses."⁹ There was little recognition of those aspects which comprise the nursing care of patients within these units. At the onset of the coronary care

⁸ Adeline O. Jenkins, "Successful Cardiac Monitoring," The Nursing Clinics of North America, W. B. Saunders Co., Philadelphia, 1966, Vol. I, Number 4, pp. 537-538.

⁹ John T. Foster, "Atrend Becomes a Tide: Pattern of Care," Modern Hospital, March 1967, p. 105.

unit the majority of the education of nurses was determined and presented by the medical profession. John Foster writing in Modern Hospital has stated that nurses need skill in essentially diagnosis and that the teaching of nurses includes anatomy, pathology related to coronary disease, electrocardiography, use of resuscitative equipment and clinical features and complications of acute Myocardial Infarction.¹⁰ Sixty hours was suggested as the minimum for preparing nurses for the coronary care area.

Dr. Lawrence Meltzer has concluded that the concept of intensive coronary care is dependent on the nurse's vigilant observation and her ability to interpret electrocardiographic tracings and act on what she learns from these. It was deemed necessary for the nurse not only to identify arrhythmias but also to understand the treatment and have drugs and equipment ready for the physician. In emergency the nurse would be expected to initiate treatment and¹¹ perform lifesaving techniques.

Lucille Kinlein has stated the following with regard to nursing in coronary care units:

The criterion of what is nursing in the coronary care unit must not be duties which are medical discards because of boredom or disinterest, or because the mystery has been penetrated to the

¹⁰ Ibid.

¹¹ Lawrence E. Meltzer, "Coronary Care, Electrocardiography and the Nurse," American Journal of Nursing, Vol. 65:12:64, December, 1965.

extent the lustre of drama has worn off. It must not be the granting of permission to an eager, sharp nurse to perform a sophisticated therapy. There must be established more rational, intelligent criteria to determine if and when such activities form part of the nursing care of the patient.¹²

Meltzer et. al. in "Intensive Coronary Care" outlines one of the first training programs for nurses in this area.¹³ Their program at Presbyterian Hospital, Philadelphia was identified as an orientation-training period of from three to four weeks within the coronary care unit. This system is essentially on-the-job training supplemented with lectures by physicians in the areas of coronary heart disease, acute myocardial infarction, causes of death in myocardial infarction, system of coronary care, pharmacology of cardiac drugs, treatment of various arrhythmias, treatment of shock and congestive heart failure, assisted respiration, emotional aspects of myocardial infarction and rehabilitation of the coronary patient. One lecture period was designated to each subject area.

Electrocardiography was identified as a separate portion of the training program which was given on a regular basis. Periodic testing in electrocardiographic interpretation was done to help the nurse identify areas needing further emphasis.

¹²M. Lucille Kinlein, "The New Specialty of Cardiac Nursing," Aggressive Nursing Management of Acute Myocardial Infarction, Symposium, The Charles Press, Philadelphia, 1968, p. 21.

¹³Lawrence Meltzer, et. al., Intensive Coronary Care, A Manual for Nurses, Presbyterian Hospital, Philadelphia, 1965, pp. 52-56.

The major portion of this training was that of "nurse to nurse" training. "This implies that initially one nurse must be taught the principles and practice of intensive coronary care, after which she will be able to communicate her knowledge to others. The selection of the unusually competent nurse for this role is essential; she should be trained by the director of the coronary unit and his associates."¹⁴

The plan for nurse to nurse training outlined by Meltzer, et. al. emphasizes primarily the technical aspects of intensive coronary nursing. Areas stressed in the outline are those of the working of monitoring equipment, patient admission as related to the policies and procedures, technics of obtaining a 12 lead electrocardiogram, emergency procedures and venipuncture. The nursing care involved is identified as "assist with routine nursing care of patients."¹⁵ Patient reactions and means of nursing intervention were identified during the team conference in which those new to the coronary area participated.

There is evidence in the guidelines and programs in coronary nursing of more emphasis being placed on the overall nursing aspects of patient care rather than only on the technical aspects and

¹⁴Ibid., p. 53.

¹⁵Ibid., p. 64.

diagnostic observations. The suggested program inclusion published by the Department of Health, Education and Welfare indicates increased attention to cardiac nursing care and the nurse's role in the coronary care unit. The first of the publications, in 1965¹⁶ laid some emphasis on nursing care but this area is much more extensively pointed out in the most recent publication "Criteria and Guidelines for Nurse Training Courses in Coronary Care Units" published in 1967.

Nursing care of the coronary patient has been known to the nursing profession long before the advent of the cardiac monitor but seems to have been cast aside until recently. Adeline Jenkins has pointed out that medical instrumentation is an adjunct to the care of human beings and that it was the knowledgeable and skillful nurse that was able to reassure the patient and gain his confidence.¹⁷ Joyce George emphasizes that in addition to the understandings of basic sciences and the functioning of the monitoring equipment the nurse must recognize and accept the patient's emotional reaction to his illness and be prepared to assist the patient.¹⁸

¹⁶U. S. Department of Health, Education and Welfare, op. cit., 1965, pp. 29-32.

¹⁷Jenkins, op. cit., p. 538.

¹⁸Joyce George, "Monitoring the Myocardial Infarction Patient, Emotional Reactions of Nurse and Patient," Nursing Clinics of North America, W. B. Saunders Co., Philadelphia, 1966, Vol. 1, Number 4.

Lucille Kinlein has expressed a deep concern about the reason that is given for the activities of the nurse in the unit. She continues, "I fear we are continuing to abdicate a more obvious responsibility that of professional self-determination of what constitutes our sphere of action, and even more important why."¹⁹

With regard to nursing care Miss Kinlein states, "Nurses must decide nursing care of the patient; activities carried out by the nurse do not automatically make those activities nursing. And nurses should be known by this nursing care they give to the patient, not the care they give to the physician."²⁰ This nursing educator goes on to the state that one profession does not tell another what its field is concerned with and that there are no limits to knowledge that can be set for any one. Professional nursing can be determined by no one except nurses and this content is taught by the educators within the profession.²¹

In an article by Barbara Jones, a nursing educator of cardiovascular nursing specialists, those aspects of patient needs beyond the technical areas are discussed. Assessment by the nurse of patient's reaction first to his illness and later to the many aspects

¹⁹Kinlein, op. cit., p. 16.

²⁰Ibid., p. 19.

²¹Ibid., p. 18.

of his environment is the main issue in providing superb nursing care and plays a part in the prevention of emergencies.²²

The responsibility of nursing education for the education of nurses in the area of intensive coronary nursing has been recognized by the Federal Government in providing financial support for nurse-training centers. The criteria for centers receiving these funds is concerned primarily with the nursing resource personnel available for the instruction of the students. Supervised clinical experience as well as theoretical instruction is identified as a major area of the instruction program.

The published literature identifies only broad subject areas being presented in the coronary nursing programs. For development of the questionnaire of this study outlines of several instructional programs presented in 1966 and 1967 were reviewed by the investigator for content. This review included programs presented by inservice education in large and small hospitals, university schools of nursing and one State Heart Association. Common to all programs was instruction in the area of anatomy and physiology, electrocardiography-normal and abnormal rhythms, cardio-pulmonary resuscitation, pathophysiology of myocardial infarction and complications of this disorder. Varying amounts of attention were given to pharmacology

²²Barbara Jones, "Inside the Coronary Care Unit", American Journal of Nursing, Vol. 67:11:2312, December, 1967, p. 2313.

and nursing care within the courses studied. The area of nursing diagnosis of patient needs and nursing implications was found more frequently among those programs associated in some way with nursing education. There is a continual broadening of the scope of the educational needs of the professional nurse in the coronary care area and this is being recognized by the nursing educators in this area. The description of the course presented by the Washington State Heart Association in connection with the University of Washington School of Nursing states:

Emphasis will be placed on the nurse's central role in coronary care units, the life-saving role of the nurse, and on her role in promoting the patient's physical-psychologic-social rehabilitation through competence of care and nurse-patient and nurse-family interactions.²³

At a national meeting of those interested in all aspects of cardiac disease and its management a discussion of preparation of nurses included that "the attention given to the nurse's role in providing for emotional support of the patient and his family will strengthen her appreciation and skill in this area. She will become more effective in assisting the patient to deal with the feelings of fear, unreality and depersonalization so frequently encountered in coronary care units."²⁴

²³"Nursing Patients with Acute Myocardial Infarction in Coronary Care Units." Unpublished course outline, University of Washington and Washington State Heart Association, October, 1966.

²⁴Proceeding of the National Conference 1967 on Coronary Care Units, Public Health Service Publication 1764, March, 1968, p. 16.

It is the recommendation of this group that a four to six week program in coronary care nursing provide nurses with a comprehensive approach to the care of patients with myocardial infarction. The investigator has been unable to find any studies which support this length of instructional program nor is there any indicating shorter or longer periods of instruction.

Increasingly the educational programs of intensive coronary nursing are being conducted primarily by professional nursing educators with the assistance of the medical profession. It is recognized that the nursing profession can not function independently of the medical profession but there is also the recognition that nursing cannot be prescribed by the medical profession. To bring the coronary care unit to its fullest potential of medical and nursing care for the patient there needs to be conferences on a colleague basis between the two professions.

The professional nurse should study the sciences related to technologies utilized in the care of coronary patients so that the body as a volume conductor takes on significance when she is considering the E.K.G. patterns of a patient; so that the application of laws of electricity is apparent when an injury current is being recorded. She should know as much as the physician about the pathology and general treatment of coronary disease. The plan of medical care for a particular patient should be discussed in detail with the nurse so that she can plan her nursing activities in such a way that they will contribute to the goal of recovery for a particular patient.²⁵

²⁵Kinlein, op. cit., p. 20.

A second area of concern in this study is the staffing patterns which prevail. How many professional nurses are needed to provide quality care for the patients of the coronary care units? Is there a place for the auxiliary nursing worker?

There is no evidence of research studies from which the standards for staffing of the coronary units have been derived. From the onset of the development of the coronary care unit there has been agreement that one nurse should be responsible for preferably two and no more than three intensive coronary patients.²⁶ With these units frequently in the range of four to six beds a complement of from ten to twelve full time professional nurses would be required to staff the unit. The use of practical nurses to reduce the large number of professional nurses was considered by one of the pioneering institutions in this area. This means of staffing was avoided because of their belief that the presence of the professional nurse at the bedside is invaluable for observation and for patient security.²⁷ Miss Pinneo has more recently stated that licensed practical nurses can be utilized in providing some of the bedside care under the supervision of the professional nurse.²⁸ On this same topic Dorothy Wheeler, Cedars-Sinai Medical Center, states, "The expertise

²⁶Meltzer, et. al., op. cit., p. 49.

²⁷Ibid, p. 50.

²⁸The current Status of Intensive Coronary Care, op. cit., p. 16.

which is required at the bedside can no longer be shunted off to the vocational nurse or aid who does not possess the knowledge or skills required for good nursing care."²⁹

Elsewhere in the literature it is stated that it is essential for there to be two professional nurses at all times within the coronary care unit, for the implementation of emergency measures should the occasion arise. In addition to the staff of the coronary unit, "knowledgeable back up nurses" should be available within the hospital.³⁰ Relief and part-time nurses according to Rose Pinneo need to have had extensive preparation in the system of coronary care to be of value in providing patient care within a coronary unit.³¹ A current survey in one state has shown that the majority of units are two to four beds and are assigned staff nurses in numbers of three to eight full time.³²

Methodology

Information for this study was gathered by the descriptive

²⁹Preparation of the Nurses as a Cardiac Specialist (panel discussion) Aggressive Nursing Care Management, The Charles Press, 1968, p. 82.

³⁰Clarence Imboden and J. Wynn, "The Coronary Care Area," American Journal of Nursing, Vol. 65:2:72, February, 1965.

³¹The Current Status of Intensive Coronary Care, op. cit., p. 16.

³²Loretta Petersen, "Coronary Care Units," Aggressive Nursing Management, p. 28.

survey method of research. This method has been described as that which includes those studies presenting facts concerned with the nature and status of a group of persons, sets of conditions and a system of thought.³³ This study fulfills this criteria as it is concerned with the nature and status of a group of persons. The use of a questionnaire to obtain the required information with regard to educational preparation and current staffing patterns among professional nurses employed in intensive coronary care units was deemed the method most feasible. The distance of the areas from which this data was gathered was a major factor in the choice of the questionnaire as the research tool. From the literature those ideas of what composed the speciality of intensive coronary nursing led to the development of part of the questionnaire. The items relating to the instructional personnel and course content were developed from a review of course outlines in coronary care nursing and from current literature on education for coronary nursing. The remaining portion of the questionnaire relating to staffing has been derived from the criteria established by Presbyterian Hospital, Philadelphia³⁴ and which is supported throughout the literature. It was the intent of the investigator to ascertain if the education

³³Brown Amy Frances, Research in Nursing, W. B. Saunders Co. Philadelphia, 1958, p. 27

³⁴The Current Status of Intensive Coronary Care, op. cit.
p. 16.

and staffing patterns of professional nursing caring for patients in coronary care units in Montana coincided with that set forth in the nursing literature.

The questionnaire was composed of twenty-six items: one of which was open-ended, four that required written completion and the remainder of which required check marks for the appropriate response. The questionnaire was composed of three general areas: the educational and experience background of the nurse, present employment status and staffing patterns in her position and educational preparation for intensive coronary care nursing.

The background information was gathered with regard to the possibility that common factors of age and basic education might be evident. The questions pertaining to staffing patterns and the nurse's responsibilities were designed to provide information which in part could be compared with the recommendations of the literature and part of which would be subjective interpretation by the investigator. The study did not determine if the professional nurse utilized her time in direct patient care when it was available to her.

That portion of the questionnaire concerned with the classroom and clinical inclusions of the program of preparation has been derived from study of outlines for programs in intensive coronary nursing. These outlines have included programs provided in inservice departments, agencies such as the heart association and medical associations and those within institutions of higher education. In

addition to these the guidelines for Nurse Training Courses in Coronary Care Units from the Department of Health, Education and Welfare have been utilized in the development of the questionnaire (Appendix C).

The questionnaire was pre-tested by six professional nurses working in an intensive coronary care unit outside the state of Montana. There were no recommendations from these nurses but minor revisions were undertaken, based on these responses, prior to the acceptance of the questionnaire.

The target population was composed of professional nurses currently employed in coronary care units in Montana. In four of the five major cities within this state, six hospitals stated they had facilities for intensive coronary nursing. Letters were sent to the Directors of Nursing Service of these hospitals to obtain information as to intensive coronary care facilities, professional nurse staff and identification of professional nurses to facilitate mailing the questionnaire (Appendix A). One hospital did not supply the investigator with the information requested and had to be excluded from the study. The population consisted of forty-five professional nurses employed in the intensive coronary care areas of the remaining five hospitals.

Forty-five questionnaires were mailed to the population accompanied by a letter explaining the purpose of the study and requesting the assistance of the individual nurses in its

accomplishment (Appendix B). Four weeks after the sending of the questionnaire a follow-up letter was sent to those who had not responded. Within two months of the initial mailing of the questionnaire, thirty-one questionnaires had been returned to the investigator. Of those returned questionnaires one was returned unanswered and three were returned indicating no education or experience in intensive coronary nursing and could not be included in the analysis of the data.

CHAPTER III

ANALYSIS OF THE DATA

The information for this analysis was derived from the twenty-seven completed questionnaires.

I. Background Information

General information with regards to age, professional education and experience background of those within the population of this study was gathered in the event commonalities would be evident.

Twenty-four of the respondents were between the ages of twenty and forty-four. The mean age was found to be 33.8 years, with the mode being the age group from forty to forty-five years.

Diploma preparation was indicated by twenty-four of the twenty-seven responses. Of these seven indicated completion of a Baccalaureate Degree following their basic education.

The major area of nursing practice prior to employment in the area of coronary care was found to be that of Medical-Surgical nursing. Six respondents indicated previous experience in medical nursing, five stated surgical nursing as their prior area of practice, two indicated the combined areas of medical-surgical nursing and ten indicated the major area of experience as intensive care.

II. Employment Status and Staffing Patterns

That the professional nurse within intensive coronary care units is able to be at the patients side may be evident in the type of personnel and staffing patterns within the unit.

The information regarding the position which the nurses held, whether their employment was full or part time and the ratios of the professional nurses to auxiliary personnel and to patients among those in this study provided the following data.

Professional nurses employed full time and part time were represented in this study. Nurses from each of the three shifts covering a twenty-four hour period were found to be included in the respondents. Eighteen of the respondents were employed as staff nurses, three as charge nurses, one in each of the categories of assistant head nurse and supervisor and four in the position of head nurse. Only one of the head nurses and the supervisor were among the seven holding a Baccalaureate Degree. Two respondents indicated that staffing of the coronary care unit was by professional nurses only; ten indicated that nurses aides were the type of additional nursing personnel; five indicated the utilization of both nurses aides and licensed practical nurses and eight indicated the use of licensed practical nurses only.

The most frequent ratio of professional nurses to auxiliary personnel was one professional nurse to one auxiliary worker. This

ratio was indicated by seventeen of the respondents. A ratio of two professional nurses to one auxiliary worker was indicated in six of the responses. Two respondents indicated a ratio of two auxiliary workers to one professional nurse. The number of patients requiring intensive coronary care most frequently altered the number of auxiliary personnel than the number of professional nurses within the unit. Eight respondents indicated that the number of patients within the unit altered the number of professional nurses. Fifteen respondents indicated that the auxiliary personnel numbers were altered by the number of patients. Four respondents gave no indication as to whether the number of either professional or auxiliary personnel within the unit was altered according to patient census. There were three respondents that stated patient census "sometimes" was a factor in the staffing patterns.

All of the twenty-seven respondents indicated that there were additional prepared personnel available to the coronary unit if an emergency were to arise or there was an increase in census. Twelve of the respondents indicated that those available and prepared to assist in the coronary care area were professional nurses only. Seven indicated the availability of professional nurses and licensed practical nurses, three listed professional nurses and aides and three respondents indicated that personnel of all categories were prepared to assist in the coronary area. One respondent indicated that only licensed practical nurses were available as additional

prepared personnel and one respondent did not designate the type of personnel available.

A ratio of three patients to each professional nurse was indicated by eight of the respondents; six of the respondents indicated a ratio of two patients to one professional nurse, and thirteen respondents indicated responsibility for more than three patients, some of whom may not be patients requiring intensive coronary nursing care.

Eleven of the respondents indicated they had responsibilities other than those directly related to the nursing care of patients. All of the functions identified by these respondents were those related to the overall function and organization of the coronary care unit. There was one exception to this in that one respondent was also responsible for the head nurse functions of a medical unit.

III. Educational Preparation for Intensive Coronary Care Nursing

The key person in the provision of the intensive and specialized care of the patients in coronary care units has become the professional nurse. To accomplish this care the professional nurse must have educational preparation beyond that of a basic nursing program. The intent in this study was to identify those areas of cardiac patient care which were being taught by professional nurses, by whom they were being taught and what areas of weakness were identified by the

professional nurses after completion of a preparation program. The questionnaire results provided the investigator with the following information.

The initial preparation of the majority of the respondent was completed between June and October of 1967. There has been from four to six months between the initial preparation and the time of this study. In-service education and on-the-job training was indicated by sixteen of the respondents as the source of their preparation in intensive coronary nursing. Programs conducted by medical associations were identified by five respondents. There were three respondents who indicated that a combination of workshops and in-service provided their instruction and three respondents had attended programs conducted by institutions of higher learning.

Nineteen of the twenty-seven respondents were found to have completed no more than forty hours of instruction in their initial preparation. Of these eleven had less than forty hours of total instruction. Seven of the respondents indicated programs of more than forty hours in length; one indicated fifty-six hours; and two respondents were found in each of the program lengths of eighty hours, 160 hours, and 200 hours. One respondent did not indicate length of program. The number of respondents in relation to the length of preparation is shown in Figure 1.

Cardiologist, internists and anaesthesiologist were consistently identified as providing instruction in programs for intensive

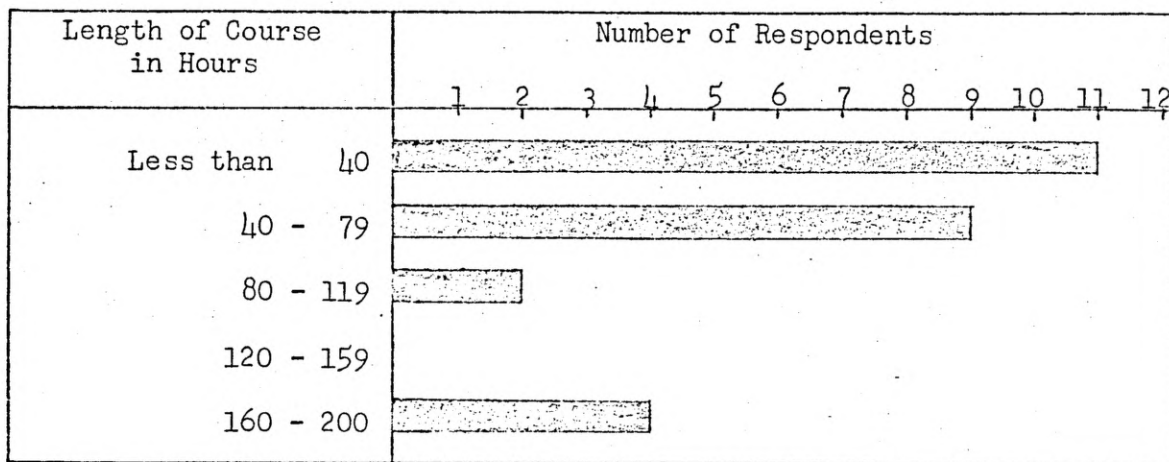


FIGURE 1

LENGTH OF INTENSIVE CORONARY NURSING PREPARATION
(AS INDICATED BY A STUDY OF TWENTY-SEVEN
PROFESSIONAL NURSES IN MONTANA)

coronary nursing. Twenty-four of the respondents indicated participation of anaesthesiologist in their initial instruction and twenty-two listed each of the specialists of internal medicine, cardiology, and pathology. Professional nurses working in coronary care units in the local area were indicated as participants by eighteen of the respondents. Professional nurses considered as consultants and from outside the local areas participated in the programs of six of the respondents. In-service personnel were indicated as being involved in the programs of seventeen of the respondents. All but one respondent indicated professional nurses or in-service personnel as among the instructional personnel. A psychiatrist or psychologist was indicated by fourteen of the respondents as a member of the instructional team. The dietician was identified as a participant by four of the respondents. Other members of the health team indicated as part of the instructional team were cardio-vascular surgeons, indicated by four respondents; inhalation therapists listed by two respondents and the laboratory technician and equipment salesman were each identified by one respondent. The frequency of specialists among the instructional personnel is shown in Figure 2.

Professional nurses from local area coronary care units were indicated as providing all of the nursing preparation by two of the respondents. One respondent stated that the total preparation was provided by local professional coronary nurses and in-service personnel. Twenty of the professional nurses in the survey indicated

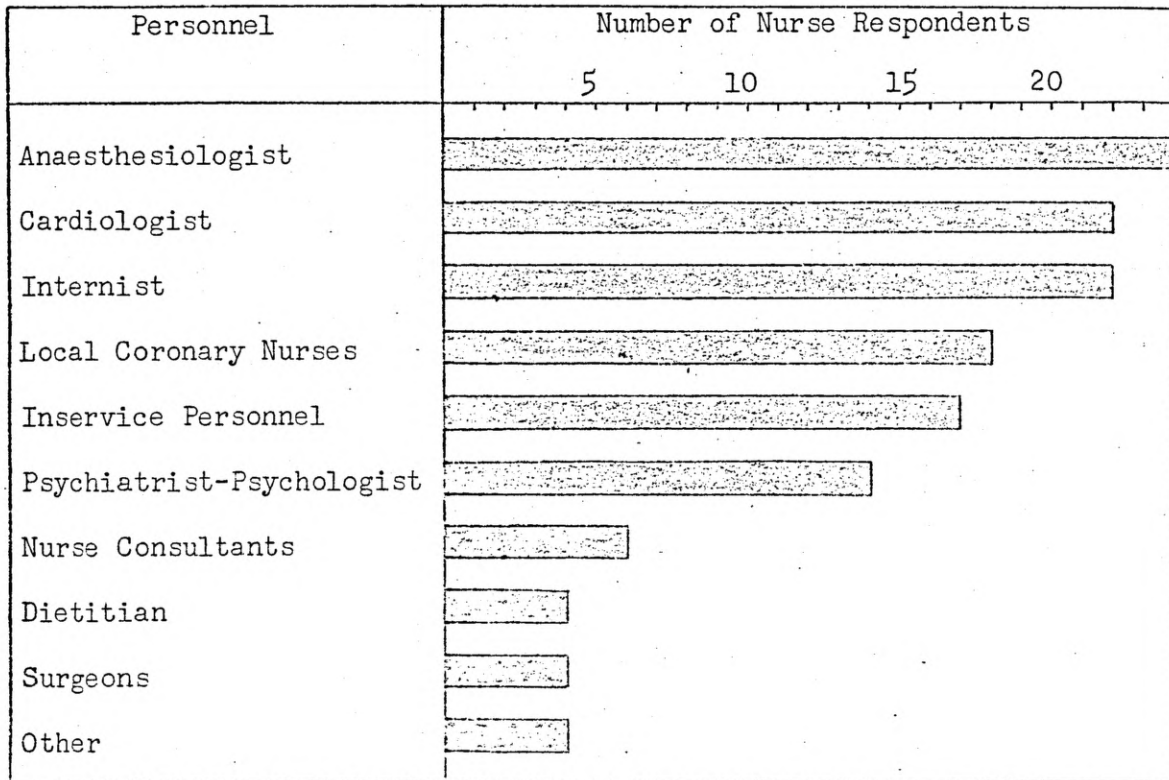


FIGURE 2

PERSONNEL CONDUCTING INTENSIVE CORONARY NURSING PROGRAMS
(AS INDICATED BY A STUDY OF TWENTY-SEVEN
PROFESSIONAL NURSES IN MONTANA)

that the instructional team was composed of nursing and medical members from five or more areas of specialty. The most frequently identified specialty areas were: local professional coronary nurses; cardiology, internal medicine, anaesthesiology and pathology.

Four of the six programs in which the respondents indicated the use of professional nurse consultants from other than the local area were forty hours of instruction or less in length. Three of the four programs in which a dietitian provided part of the instruction were eighty hours or more in length. All of the other categories of participants were represented in a majority of programs regardless of the length.

There were twenty-five subject areas of classroom instruction listed in the questionnaire. All twenty-five of these areas were indicated as included in the instructional programs of six of the respondents.

In eleven of the subject areas all twenty-seven of the respondents indicated that they received instructions. These subject areas were: anatomy and physiology of the cardio-pulmonary system, clinical features of myocardial infarction, complications of myocardial infarction, electrocardiography, cardiac-arrhythmias, drug therapy in cardiac diseases, nursing care of the patient with myocardial infarction, nursing care of patients with arrhythmias, cardio-pulmonary resuscitation, nurses role in cardio-pulmonary resuscitation and indications for defibrillation. Four of the twenty-

seven respondents indicated less than twenty subjects areas included in the classroom portion of the coronary nursing program.

Included in the instructional programs of nineteen of the respondents were the subject areas of psycho-social aspects and the legal aspects of intensive coronary nursing. The area of the psycho-social aspects of coronary disease was not limited to those respondents who indicated a psychiatrist or psychologist as among the instructors. There were seven respondents in this category. All of the respondents identifying a psychologist or psychiatrist participating in the program indicated the subject area of either psycho-social aspects or that or stress and the cardiac patient. None of the respondents indicated the inclusion of legal consultants for nursing as being included among the program participants but nineteen listed these aspects as being included in subject areas. The number of nurse respondents indicating instruction in each subject area is shown in Figure 3.

The length of the program in intensive coronary nursing did not seem to have any relation to the number of subject areas included in the classroom instruction of the program. The eleven respondents with preparation length of less than forty hours indicated inclusion of no fewer than nineteen of the subject areas listed in the questionnaire. Six of these respondents indicated the inclusion of twenty-three of the twenty-five subject areas listed.

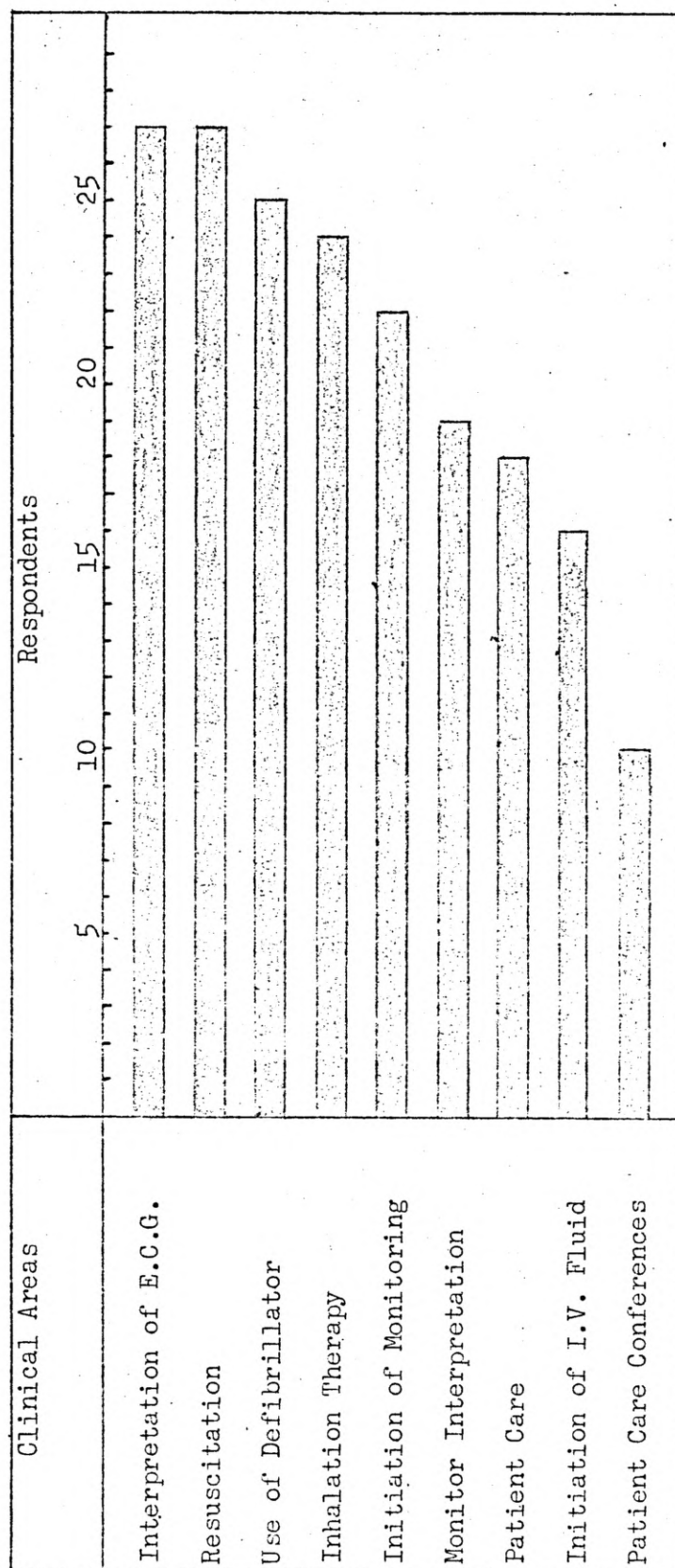


FIGURE 3

CLINICAL EXPERIENCE IN DESIGNATED AREAS
(AS INDICATED BY A STUDY OF TWENTY-SEVEN
PROFESSIONAL NURSES IN MONTANA)

In the areas of supervised practice and clinical experience all of the respondents indicated participation in the interpretation of electrocardiograms and resuscitation practice with the use of a manequin. Twenty-two of the respondents indicated experience in the application of electrodes and the initiation of monitoring. Only nineteen respondents indicated experience in the observation and interpretation of cardiac monitors. Of the four respondents indicating the application of electrodes and the initiation of monitoring but of no experience in the observation and interpretation of the monitor data, only one respondent indicated that less than one-half of the total length of her preparation was in clinical experience or supervised practice. None of these respondents had received more than forty hours of initial preparation.

Eighteen of the respondents indicated participation in the planning and providing of patient care within their instructional program. Ten of the respondents listed their experience included participation in patient care conference. One of the respondents indicating participation in patient care conference indicated she did not participate in the planning and caring for patients. Fourteen of the eighteen respondents participating in the care of patients has indicated that professional nurses directly associated with coronary nursing were among the instructional participants of the program. The number of nurses respondents indicating experience in each clinical area is shown in Figure 4.

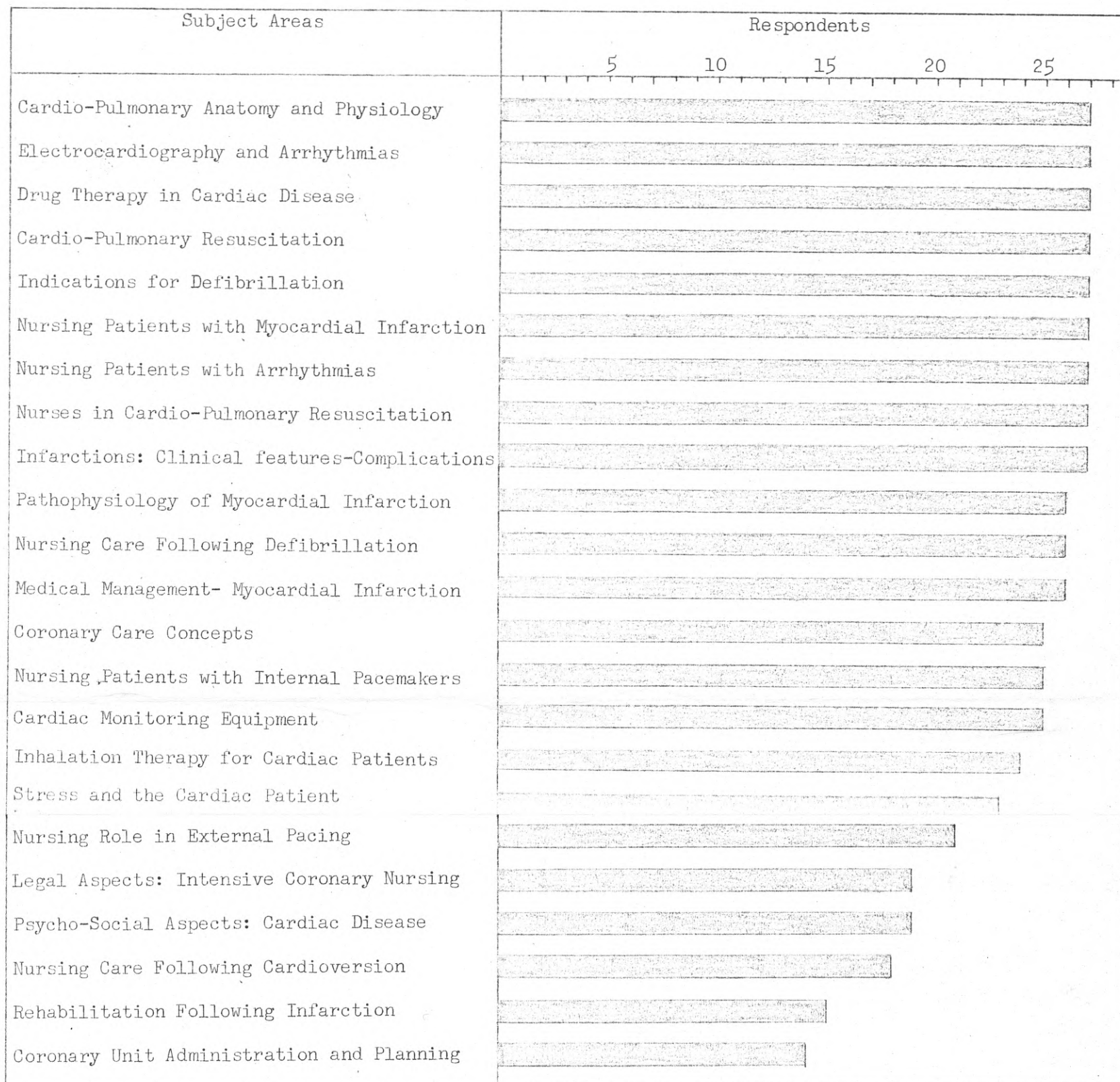


FIGURE 4

CLASSROOM INSTRUCTION IN DESIGNATED SUBJECT AREAS
 (AS INDICATED BY A STUDY OF TWENTY-SEVEN
 PROFESSIONAL NURSES IN MONTANA)

Twenty-three of the respondents indicated some of their initial preparation was in the area of supervised practice or clinical experience. Seventeen respondents identified from one-eighth to one-half of the total preparation as spent in this area of instruction. Of these respondents six indicated one-fourth of the preparation time, five indicated one-third, four indicated one-half and one indicated each of one-eighth and two-fifths of the preparation time. Six respondents indicated that no time was spent in this area and two respondents did not answer the question.

Those subject areas in which the respondents most frequently indicated a desire for more theoretical instruction were electrocardiography and the legal aspects of nursing in coronary care units. Each of these areas were identified by eleven of the twenty-seven respondents. The subject area of rehabilitation of the cardiac patient was identified by ten respondents, drug therapy and psychosocial aspects each by nine respondents, nursing care of patients in coronary care units by three respondents, cardio-pulmonary resuscitation by five respondents, cardio-pulmonary anatomy and physiology by two respondents and pathophysiology and clinical features of myocardial infarction by one respondent.

Of the eleven respondents with initial preparation of less than forty hours, five respondents indicated one area in which they desired additional theoretical instruction, two indicated two areas, three indicated three areas and one indicated four areas. The

areas most frequently identified were drug therapy and legal aspects of coronary nursing, each being identified by five of these respondents. The subject of rehabilitation was indicated as a need by four respondents, electrocardiography by three of the respondents, and cardio-pulmonary resuscitation by two.

Of the nine respondents whose length of preparation was forty to seventy-nine hours two indicated one area in which additional theoretical instruction was desired, two indicated two areas, three indicated three areas, and two indicated five areas. The subject areas most frequently identified were electrocardiography and the psycho-social aspects, each being indicated by five respondents. Rehabilitation and legal aspects of coronary nursing were each identified by four of the respondents in this category as areas where additional instruction was needed. Three of these respondents indicated the desire for more theoretical instruction in drug therapy, two indicated cardio-pulmonary resuscitation and each of the areas of cardio-pulmonary physiology and pathophysiology and clinical aspects of myocardial infarction were indicated by one respondent.

Both of the respondents whose length of preparation was in the range of eighty to 119 hours indicated a need for additional theoretical instruction in electrocardiography. One of these respondents also indicated the area of psycho-social aspects as that in which she desired additional instruction.

Two of the four respondents whose length of preparation was

160 to 200 hours indicated one area in which they desired additional theoretical preparation: one respondent indicated two areas and one indicated four areas in which additional instruction was desired. Two respondents identified a need for additional theoretical instruction in the nursing care of patients in coronary care units. Two respondents in this category also desired additional instruction regarding rehabilitation of coronary patients. Each of the areas of cardio-pulmonary anatomy and physiology, electrocardiography, drug therapy and legal aspects was indicated by one respondent.

One respondent who did not indicate the length of her program of preparation indicated need for additional instruction in nursing care of patients in coronary care units, cardio-pulmonary resuscitation and legal aspects of coronary nursing.

The area of supervised clinical practice identified most frequently as that in which additional experience was desired was that of interpretation of electrocardiograms and electrocardiographic monitors. This area was indicated by fifteen of the respondents. Six of the respondents indicated a need for additional experience in the initiation of intravenous therapy, three of these respondents specifically mentioned initiation with a plastic needle. Each of the areas of planning and providing nursing care and that of cardio-pulmonary resuscitation were indicated by four respondents. Seven respondents did not indicate a need in any area of clinical practice.

All of the seven respondents indicating that there were no areas in which they desired additional supervised clinical experience had less than sixty hours of total initial preparation. Five of these respondents participated in programs of less than forty hours.

All seven of the respondents spent at least one-fourth of the total preparation time in clinical experience or supervised practice. Three respondents indicated that three-fourths of the total preparation had been spent in supervised practice, one indicated one-third of the total program and two spent one-fourth of the total preparation in this area. One of these respondents did not indicate the amount of the preparation time spent in the area of supervised clinical practice.

Seventeen of the twenty-seven respondents indicated that following their initial preparation they felt adequately prepared to assume the responsibilities of a professional nurse in the intensive coronary care unit. Ten of these respondents qualified their feelings of adequacy with the comments that additional practical experience was needed working within a coronary care unit and that additional experience in the interpretation of electrocardiograms would be advantageous. Three of the participants in the study did not express any feelings of adequacy or inadequacy. Seven of the respondents stated that they did not feel adequately prepared to assume the functions of a professional nurse in a coronary care unit after completion of their initial preparation. Of these seven respondents none had an initial preparation of more than forty hours. These

respondents ranged from two having none of their preparation in supervised clinical practice to two with three-fourths of the preparation time in this area. There did not seem to be any relationship between the number of theoretical areas or supervised clinical practice areas and the feeling of adequacy or inadequacy by the professional nurse.

Additional or ongoing education was indicated by eighteen of the twenty-seven respondents. Fourteen of these respondents indicated that the continuing education was provided by the nursing and medical staffs of the hospital. Three respondents indicated short term courses by agencies other than the employing hospital. Of the eighteen respondents indicating that continued education was available, thirteen of these had an initial preparation of forty hours or less, two had 160 hours of preparation and one each in program of 200, eighty and fifty-four hours initially. All but one of the nine respondents who indicated no continuing education were found to be among those with no more than forty hours of initial preparation.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose for which this study was undertaken was two fold. The prime problem was the concern as to whether nurses who assume the responsibilities of a professional nurse in a coronary care unit in Montana are prepared in intensive coronary nursing. The second problem investigated attempted to ascertain whether the staffing patterns of the employing institutions appeared to allow the application of the nurses preparation in direct patient care.

The descriptive method of research was used and the data collected by means of a questionnaire. The sample population consisted of forty-five professional nurses currently employed in patient care areas designated, by the individual institutions, as intensive coronary care units. Thirty-one of the questionnaires were returned to the investigator, of which, twenty-seven were included in the analysis of the data. From the data analysed the following summary was developed.

Staffing Patterns

The majority of the respondents indicated that within the unit where they were employed there was a ratio of one or more professional nurses to one auxiliary worker. The questionnaire did not obtain information as to the functions of the auxiliary workers. A change in the patient census of the coronary unit was indicated frequently as

altering the number of auxiliary workers but only rarely were the professional nursing staff altered in numbers. Although a majority of the respondents indicated that there were additional professional nurses prepared in intensive coronary care nursing, their use in the coronary care unit was not indicated by the respondents.

A considerable number of the respondents (thirteen) indicated responsibility for more than three patients and that these included patients other than those requiring intensive coronary nursing. This finding is in opposition to the recommendations found within the literature³⁵ of preferably two and no more than three intensive coronary patients per professional nurse.

There was only one respondent who indicated additional duties which removed her from the intensive coronary area. However, eleven of the respondents indicated responsibilities within the unit which removed them from the patient's side. Most of these functions had to do with administrative aspects of the unit.

Education Preparation

Instructional programs were primarily in-service and on-the-job training with some respondents indicating workshops, mainly presented by the medical profession. Only three of the population had attended programs conducted by institutions of higher education. The length of

³⁵Meltzer, et. al., op. cit., p. 49.

the instructional programs for the majority of these nurses was no more than a total of forty hours. The shortest period of preparation mentioned within the literature³⁶ consulted by the investigator was sixty hours.

Medical personnel appeared to dominate the instructional staff of the preparational courses, particularly those in the specialities of internal medicine, cardiology, anaesthesiology and pathology. Professional nurses were indicated among the preparational personnel by a majority of the respondents. The questionnaire was not designed to ascertain who provided the instruction in the classroom subject areas or in the clinical practice.

There were found to be eleven of the subject areas common to all of the programs among the sample population. These included the areas of: anatomy and physiology of the cardio-pulmonary system, clinical features of myocardial infarction, complications of myocardial infarction, electrocardiography, cardiac arrhythmias, drug therapy in cardiac diseases, nursing care of the patient with myocardial infarction and with arrhythmias, cardio-pulmonary resuscitation and the nurse's role, and indications for defibrillation. There seemed to be no correlation between the subject areas included in the instruction and the length of the program.

³⁶Foster, op. cit., p. 104.

The primary emphasis in the clinical and supervised practice area of the preparation was on the interpretation of electrocardiograms and the application of electrodes and initiation of monitoring. The majority of the respondents indicating inclusion of planning and providing patient care also indicated the inclusion of professional nurses active in intensive coronary nursing as participants in the program instruction. Also in this area of instruction there seemed to be no relationship to the total program length and the number of clinical areas included nor to the proportion of the program spent in clinical experience and the type of experience involved.

There was no area of theoretical instruction that a majority of the respondents deemed needing additional emphasis in the preparation of nurses in coronary nursing. Those areas most frequently indicated as needing additional emphasis were electrocardiography and legal aspects of nursing in coronary care units. Those respondents with the least preparation saw less need for additional instruction in the theoretical areas listed than did those with at least forty hours of preparation. Only those respondents with the greatest length of preparation identified a need for additional instruction in nursing care of patients in coronary care units.

The most frequent area deemed by the respondents as that in which they would have desired more clinical experience was that of interpretation of electrocardiograms and electrocardiographic monitors. This was identified by over one-half of the respondents.

A considerable number of the respondents in this small sample did not indicate a need in any area of clinical practice. Of these respondents a large majority participated in programs of less than forty hours.

From the response of the professional nurses working in coronary care units the main concern appears to be in the area of the technical skills of the nurse and in caring for the patient via the electronic equipment. There is little evidence of a need on the part of the nurses to be able to assess the needs of these patients and to plan and provide nursing care in accordance with these needs.

Those respondents who indicated feeling adequately prepared to assume the responsibilities of the professional nurse within the coronary care area qualified this with the desire for more practical experience in the coronary care unit, and in the interpretation of monitor data. Only four of eleven respondents with less than forty hours of preparation felt inadequately prepared to assume the responsibilities of the professional nurse in an intensive coronary care area.

Continuing education in coronary care was indicated as available to a majority of the respondents. This primarily appeared to consist of on-the-job teaching by the medical profession and some instruction by in-service personnel of the employing hospital.

Conclusions

The information provided by the respondents in the questionnaire survey of professional nurses in coronary care units in Montana has led the author to the following conclusions.

The length of the preparational courses for professional nurses in this specialized area of nursing generally are no longer than two weeks (80 hours) in duration. This is inconsistent with the findings in the literature. The shortest time length mentioned in the literature consulted was that of sixty hours. The 1967 National Conference on Coronary Care Units recommended, "intensive courses of from 4 to 6 weeks ... for key nursing personnel of coronary care units."³⁷ This study did not determine the depth of the nurses knowledge in the various classroom and clinical areas but there is a question as to the competency of the coverage of such a large number of the areas in those programs of forty hours or less. All of the respondents with programs of this length indicated inclusion of no fewer than nineteen of the classroom subject areas.

Emphasis of the preparational instruction appears to be in the area relating to the technical aspects of coronary patient care. Nursing care of the coronary patient most frequently received

³⁷Public Health Service Publication 1764, op. cit., p. 17.

attention when professional nurses active in intensive coronary nursing were among the instructional personnel.

The focus of these programs on the technical aspects of coronary nursing and the lack of emphasis in the area of patient needs leads the investigator to conclude that course content is not being determined by educators within the nursing profession. Those composing the instructional personnel in this study appear to be primarily within the medical profession.

Professional nurses upon completion of an instructional program in intensive coronary nursing identify technical aspects of patient care as needing continuing and additional emphasis. The need for increased knowledge in the area of patient needs and in the planning of patient care was identified more frequently by those whose initial program was longer than forty hours.

The information gathered about the staffing patterns was felt to be inadequate to draw any conclusions as to the availability of the professional nurses at the patient's side. A wide variation of staffing patterns was found in the ratios of professional nurses to auxiliary personnel and to patients. No ratio was consistent enough to allow the conclusion that the professional nurse, generally, was or was not available at the patient's side. The amount of time determined, through the questionnaire, as available to the professional nurse for patient side activities is of questionable value unless there is information as to how this time is actually spent.

Valid information in this area could be obtained by direct observation of the patient care area for the actions of the professional staff.

Recommendations

In this emerging area of nursing practice there are many implications for continuing research. From this study the investigator sees the following areas in intensive coronary nursing which need to be explored. This by no means exhausts the potential for research in this area.

(1) Study is needed with regard to the role of the professional nurses and the use of the auxiliary worker within the coronary care unit.

(2) Further study is needed regarding the involvement of professional nurse educators in providing instruction in intensive coronary nursing and in the determination of program content with the assistance of other health and medical personnel.

(3) The curricula for intensive coronary nursing programs need to be determined in accordance with the objective of coronary care.

(4) Study needs to be undertaken to determine the optimum length of an instructional program in intensive coronary nursing.

APPENDICES

APPENDIX A

Dear:

I am a graduate student in the School of Nursing at Montana State University. For my Technical paper I am doing a study of the preparation of professional nurses working in intensive coronary care units and those coronary units combined with regular intensive care units. To make this study as meaningful as possible, I need to include all of the hospitals in the State which provide intensive coronary cardiac care and would appreciate the following information regarding your hospital.

1. Do you have, in operation, facilities for cardiac monitoring in a coronary care unit or as a part of your intensive care unit?
2. How many professional nurses do you have working in this area?
3. It will be necessary for me to contact the professional nurses individually and to do this I will need a list of those working in this area in your hospital. These names will be kept in strict confidence and will not be used in this study other than to initially contact the individual nurse.

I am enclosing a self-addressed envelope for your convenience. I appreciate your assisting me with gathering this information.

Sincerely,

Betty McDougall, R. N.

The above name is enrolled in the Master of Nursing Program at Montana State University. Any assistance you may give her will be appreciated.

Laura M. Walker, PhD.
Director, School of Nursing
Montana State University

APPENDIX B

Apartment 306,
217 W. Koch,
Bozeman, Montana, 59715
March 1, 1968

Dear:

As partial fulfillment of the requirements of a Master of Nursing Program at Montana State University, I am doing a study of the preparation of Professional Nurses working in Intensive Coronary Care Areas.

The attached questionnaire has been designed for obtaining information pertinent to this study. I would appreciate a few minutes of your time to supply the requested answers and assist me in the completion of my project.

A self-addressed envelope is included for the return of the completed questionnaire. If you desire results of the findings please indicate such on a separate piece of paper and enclose this with your questionnaire.

Thank you for your cooperation.

Sincerely,

Betty McDougall

The above named is enrolled in the Master of Nursing Program at Montana State University. Any assistance you may give her will be appreciated.

Mrs. Laura Walker, Ph. D.
Dean, School of Nursing

APPENDIX C

QUESTIONNAIRE

1. Please indicate your present position.

☐ Staff Nurse ☐ Assistant Head Nurse ☐ Supervisor
☐ Charge Nurse ☐ Head Nurse

2. Please indicate your Basic Nursing Education.

☐ Diploma ☐ Baccalaureate Degree ☐ Associate Degree

3. Please indicate education beyond that of your Basic Nursing Education.

☐ Baccalaureate Degree ☐ Masters Degree
☐ Post-Baccalaureate

4. Please indicate your present age group.

☐ 20 - 24 ☐ 30 - 34 ☐ 40 - 44 ☐ 50 - 54
☐ 25 - 29 ☐ 35 - 39 ☐ 45 - 49 ☐ 55 - 60

5. Please indicate your major area of nursing practice prior to present employment in intensive coronary nursing.

-
6. How long have you been employed in intensive coronary nursing?

-
7. Which shift do you usually work in the intensive coronary care unit?

☐ 7 - 3 ☐ 3 - 11 ☐ 11 - 7

8. What is your employment status?

☐ Full-Time ☐ Part-Time

- (continued)

14. continued

☐ 4 patients to 1 professional nurse

☐ more than 4 patients to 1 professional nurse

15. Do you have any responsibilities other than those directly related to nursing care of patients in the intensive coronary care unit on the shift which you work?

☐ yes

☐ no

If your answer is yes, please list additional responsibilities.

16. Please indicate the date of your initial preparation in intensive coronary nursing. _____

17. Please indicate the source of your initial preparation in intensive coronary care nursing.

☐ Inservice program conducted by the hospital in which you are or were employed.

☐ On the job training.

☐ Workshop conducted by an agency other than the employing hospital.

Please name the agency _____

☐ Educational program conducted through the continuing education department of an institution of higher learning.

Other (please specify) _____

18. Please indicate the length of the program in which you participated.

☐ 40 hours (1 week) ☐ 160 hours (4 weeks)

☐ 80 hours (2 weeks) ☐ 200 hours (5 weeks)

☐ 120 hours (3 weeks) ☐ Other. Indicate length _____

19. In your initial program in intensive coronary nursing the instruction was given by? (indicate all those persons participating in the course instruction)

☐ Inservice director and inservice staff of the hospital.

☐ Professional nurses working in coronary care units in the local area .

☐ Professional nurse consultants outside of the local area

☐ Cardiologist

☐ Internist

☐ Anaesthesiologist

☐ Pathologist

☐ Psychiatrist or Psychologist

☐ Dietitian

Other (indicate specialty) _____

20. Please indicate those areas included in the theoretical (class-room) instruction of your preparation of intensive coronary care nursing.

☐ Concepts of coronary care units

☐ Administration and planning of coronary care units

☐ Anatomy and physiology of the cardio-pulmonary system

☐ Pathophysiology of myocardial infarction

☐ Clinical features of myocardial infarction

☐ Complications of myocardial infarction

☐ Electrocardiography

☐ Cardiac monitoring equipment

☐ Cardiac arrhythmias

continued

20. continued

- ☐ Drug therapy in cardiac diseases
- ☐ Medical management of the patient with myocardial infarction
- ☐ Nursing care of the patient with myocardial infarction
- ☐ Nursing care of patients with arrhythmias
- ☐ Cardio-pulmonary resuscitation
- ☐ Nurse's role in cardio-pulmonary resuscitation
- ☐ Indications for defibrillation
- ☐ Nursing care of the patient following defibrillation
- ☐ Nursing care of the patient following cardioversion
- ☐ Inhalation and oxygen therapy in cardiac patients
- ☐ Nursing role in external pacing
- ☐ Nursing care of patients with temporary and permanent internal pacemakers
- ☐ Stress and the cardiac patient
- ☐ Psycho-social aspects related to patients with myocardial infarction
- ☐ Rehabilitation of patients with myocardial infarction
- ☐ Legal aspects of intensive coronary nursing

21. Please indicate those areas in which you were given supervised practice and/or clinical experience during your initial preparation of intensive coronary nursing.

- ☐ Interpretation of electrocardiograms
- ☐ Observation and interpretation of cardiac monitors
- ☐ Application of electrodes and initiation of cardiac monitoring
- ☐ Planning and providing care for patient in intensive coronary care units.

21. continued

- ☐ Participating in patient care conferences
- ☐ Resuscitation techniques using a manequin
- ☐ Use of the defibrillator
- ☐ Techniques of venipuncture and initiation of intravenous therapy
- ☐ Use of inhalation and oxygen therapy equipment

22. What proportion of your preparation in intensive coronary nursing was supervised practice and/or clinical experience?

- | | | |
|-------------------------------------|-------------------------------------|---|
| ☐ one-fourth | ☐ one-half | ☐ three-quarters |
| ☐ one-third | ☐ two-thirds | ☐ none |

23. In which of the following areas would you have desired more theoretical (classroom) instruction before assuming a position in an intensive coronary care unit?

- ☐ Cardio-pulmonary anatomy and physiology
- ☐ Pathophysiology and clinical features of myocardial infarction
- ☐ Electrocardiography and arrhythmias
- ☐ Nursing care of patients in coronary care units
- ☐ Cardio-pulmonary resuscitation and the nurses role
- ☐ Drug therapy in cardiac disease
- ☐ Psycho-social aspects of patient with cardiac disease
- ☐ Rehabilitation of the cardiac patient
- ☐ Legal aspects of intensive coronary nursing
- ☐ Other areas not included in the above

24. In which of the following areas would you have desired more supervised practice and/or clinical experience before assuming a position in an intensive coronary care unit?

☐ Interpretation of electrocardiograms and electrocardiographic monitors

☐ Planning and providing nursing care for patients in intensive coronary care units

☐ Initiation of intravenous therapy

☐ Cardio-pulmonary resuscitation

Other areas not included in the above.

25. Upon completion of your initial instruction in intensive coronary nursing did you feel adequately prepared to assume the responsibilities of a professional nurse in the intensive coronary care unit?

26. Have you had additional education in intensive coronary nursing since your initial preparation?

☐ yes

☐ no

If your answer is yes, please describe briefly.

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