

A TOOL FOR THE ASSESSMENT
OF RADIATION ONCOLOGY PATIENTS

by

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A Thesis Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF SCIENCE

In the Graduate College

THE UNIVERSITY OF ARIZONA

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ACKNOWLEDGMENTS

The author wishes to express her appreciation to all those who were involved in this research study.

The enthusiasm and cooperation of the staff in the Radiation Oncology Department at the Arizona Medical Center made data collection for this study a very positive experience.

My committee members, Dr. Karen Sechrist, Chairman, and Dr. Ada Sue Hinshaw and Nancy Martin were most generous with their support, personal time, and helpful suggestions, all of which were greatly appreciated. A special thank-you is given to Dr. Karen Sechrist for her encouragement and unfailing optimism.

Special thanks must go to my classmates and friends who were unfailing in their support and encouragement throughout this study.

Finally, a very special thank-you to my parents, who made this all possible.

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ABSTRACT

Based on some of the concepts and assumptions of Betty Neuman's "Total Person Approach to Patient Problems" and Sister Callista Roy's "Adaptation Theory," A Tool for the Assessment of Radiation Oncology Patients was developed and tested for face and content validity and inter-rater reliability.

Twelve patients beginning treatment in a large southwestern university radiation oncology department were interviewed twice each by different radiation oncology nurses using the developed assessment tool. Answers on each set of interviews were compared and rated as to their degree of sameness. This was translated into percent agreement and was reported for each item, each section and for the tool as a whole. The tool as a whole had face and content validity and scored 70.88% inter-rater agreement.

The evaluation of the tool by the nurses was favorable and contained excellent suggestions for further revisions.

CHAPTER 1

INTRODUCTION

The need for a systematic approach to planning patient care, based on a scientific foundation, is well recognized. Such an approach, the nursing process, encompasses four phases: assessment, goal setting and planning, implementation, and evaluation (Zimmerman and Gohrke, 1970). Carlson (1972) also includes assessment as the first part of her definition of nursing process. The last phases of the nursing process are dependent on accurate and thorough assessment of the patient, and where, in terms of physical, mental, and emotional states, he is at the time he comes under nursing care.

With assessment being such an important part of nursing care, it follows that time and effort should be expended in developing tools to aid in that assessment. These tools should allow for a systematic, structured gathering of information on each patient. Marshall and Feeney (1972) concluded that a structured intake interview yielded significantly more information in approximately half the time as an unstructured intake interview. Maccoby and Maccoby (1954) noted that structured interviews tend to be more reliable and comparable from case to case. The structured interview provides greater assurance that the needed information will be gathered (Zimmerman and Gohrke, 1970; Smith, 1968).

In order to conduct a systematic, structured interview, an assessment tool pertinent to the particular patient population being interviewed and assessed is necessary. Most tools developed so far have been very general to any inpatient population (McCain, 1965; McPhetridge, 1968; Smith, 1968). The tools are generally good, but often contain areas of assessment that are less pertinent to a smaller, more specialized outpatient population.

The area of radiation oncology is an example of a fairly new patient population with concerns specific to its population. Many of the areas covered in published assessment tools are very pertinent to radiation oncology, but others are not. A systematic, structured assessment tool which allows for the individuality of the patient, and takes into consideration areas special to his medical problem and planned mode of treatment would seem the ideal tool. With this belief in mind, an assessment tool specifically for the radiation oncology patient seems to be needed. After formulating such a tool, but before recommending its use, the tool must be scientifically tested for reliability and validity.

Statement of the Problem

For purposes of the study, the following questions were asked:

1. In terms of percent agreement, to what extent do nurses independently using A Tool for Assessment of Radiation Oncology Patients elicit similar information from the same patient?
2. Does the tool appear to have face and content validity?

3. What are the nurses' attitudes towards the assessment tool in terms of usefulness of data obtained, ease of obtaining information, and personal value?

Significance of the Problem

No published tool for assessing radiation oncology patients was found in the literature. Radiation oncology is a relatively new area of nursing concern and has much room for growth in all directions. Development of an assessment tool for patients about to receive radiation therapy is an attempt to elevate the quality of nursing care for this growing patient population. Special problems in caring for them may be encountered because of the nature of the disease and treatment, and because a large number of them are treated as outpatients and do not have the same 24 hour a day access to the nursing staff for support as the inpatients have.

Purpose of the Study

The purpose of the study is to develop a Tool for the Assessment of Radiation Oncology Patients and to determine if the tool has face and content validity, and to determine the percent agreement between observations of oncology nurses using the tool on the same patient at approximately the same point in time.

Hypotheses to be Tested

1. There will be 70% inter-rater agreement between independent observations of the oncology nurses using the Tool for the Assessment of Radiation Oncology Patients.

2. The tool will have face validity when presented to a panel of oncology nurses.

3. The tool will have content validity when compared to other assessment tools published in the literature and used in other institutions.

Theoretical Framework

As a conceptual basis for designing this tool, concepts and assumptions from Betty Neuman's "Total Person Approach to Patient Problems" (1974) and Sister Callista Roy's "Adaptation Theory" (1974) have been utilized.

The nature of man includes biological, psychological, and social components. Neuman includes cultural aspects with social, and adds developmental components. These components are acting and interacting at all times in many different ways. Man is in constant interaction with a changing environment, both external to himself and internally. This changing environment is seen by Neuman as a series of stressors to the individual, each having the potential to disturb the individual's equilibrium. Many stressors are universal and known. Others are known only to the patient. Each individual has learned over time to react in certain ways to these stressors or to cope with them in certain ways to maintain equilibrium. These coping mechanisms are both innate and are acquired, and are biologic, psychologic, and social in origin.

Health and illness are one inevitable dimension of man's life (Riehl and Roy, 1974:137). Man in state of wellness or illness is a

dynamic composite of the four variables: physiologic, psychological, socio-cultural, and developmental (Riehl and Roy, 1974:101).

Roy quoting Levine states "a truly integrating system within the organism must be one that responds to environmental change" (Riehl and Roy, 1974:137). This process is adaptation. Man's adaptation is a function of stimuli he is exposed to and his adaptation level. Roy conceptualizes man as having various ways of adapting to illness and health. These ways have been categorized into four modes: physiologic needs, self-concept, role function, and interdependence relations. It is possible for the nurse to evaluate the patient's way of coping and/or adapting according to these modes, and formulate interventions to help the patient adapt in positive ways to stressors in his life, thereby releasing energy for the healing process.

Cancer and the treatment of cancer by radiation cause many stressors to the individual that are specific to the disease and treatment. Certain of these stressors are known to medical personnel, but many are known only to the patient. Each health care giver must take into consideration the patient's perceptions of what his stressors are and how he sees them affecting his life. One way to elicit the patient's perceptions of stressors in all components of his life is to use a structured assessment tool that takes into consideration the known stressors and elicits the unknown stressors and how all these stressors are affecting each individual patient. At this point the nurse may make an evaluation of the patient's way of coping with or

adapting to his stressors as he perceives them, and can help the patient to adapt positively and thereby release energy for the healing process.

Assumptions

1. An assessment of the radiation oncology patient can be accomplished and is the first step in the nursing process.
2. The persons using the tool will have some basic skill in interviewing from their basic nursing education.

Limitations

1. The tool was prepared, evaluated, and revised by the same person, the researcher.
2. The tool was tested by radiation oncology nurses familiar with the subject and may not be able to be used by nurses not familiar with radiation oncology patients.
3. The results cannot be generalized to a patient population other than radiation oncology.
4. The tool was tested on outpatients only and cannot be generalized to inpatient radiation oncology patients.

Definitions

1. Radiation Oncology Patients are patients who have been sent to the department on referral, have been examined and accepted for treatment by the radiation oncology physicians, and have consented either verbally or in writing to treatment on an outpatient basis.

2. Assessment is the initial nursing evaluation to determine in what areas these patients may need instruction, help, or support. This occurs after the patient has consented to treatment, and for the purposes of this study, before he has had more than four treatments.

CHAPTER 2

REVIEW OF THE LITERATURE

A review of the literature was made to review published assessment tools and determine if their reliability and/or validity has been tested.

One of the first and, for a long time, only tools tested for reliability was an instrument designed to measure a patient's ability to meet his own needs (Hamdi and Hutelmyer, 1970). This tool was reported by Williams in 1960 and included no reports for validity.

McCain (1965) developed a rather unstructured guide for patient assessment involving identification of patient's functional abilities and disabilities. It has not been reported to have been tested for validity or reliability.

Manthey (1967) reports on "A Guide for Interviewing" form which has been used with success on several nursing units in a hospital. It focuses on the patient's current and past experiences with illness, his personal habits, and general observations. Specific questions are given to encourage the patient to communicate a large amount of information. This tool, having been evaluated and revised often, has not been reported to have been tested for reliability and validity.

The Nursing History Form developed by the University of Florida College of Nursing and reported by Smith (1968) has been tested and revised with continued use. No reports of scientific tests for

reliability or validity were given on this tool which focuses on psycho-social-physical aspects of the individual. The tool lists areas to cover with little explanation of how to elicit the information.

McPhetridge (1968) developed a comprehensive tool focusing on obtaining patient perceptions and expectations related to his illness, specific basic needs, and other applicable data. Specific questions are given to elicit needed answers making the form quite systematic and structured. Reliability or validity studies on this tool have not been reported.

In 1970 Hamdi and Hutelmyer reported on the development of a modification of McCain's assessment tool. Their form was more structured and was individualized for hospitalized diabetics. When tested for validity, a group of registered nurses determined that the tool had logical validity. Measurement of reliability showed 61 of 77 items to be reliable.

Marshall and Feeney (1972) developed a structured tool incorporating basic ideas from the McPhetridge tool. The tool was pretested and revised, after which tests for validity and reliability were carried out. These results from a structured interview were compared with results of an unstructured intake interview for amount, type, and overlap of information obtained. The structured interview tool was both more effective and more efficient than the unstructured interview.

Fuller and Rosenaur's (1974) Nursing Assessment Tool is divided into three sections focusing on demographic data and patient

perceptions of his health status and expectations of his health care, basic needs and usual ways of meeting these needs, and summarization of data obtained to facilitate formulation of a nursing plan of care. It has been used with success by nursing students in primary care clinics at the University of California, San Francisco. It is unstructured as far as how to ask questions, but structured in what areas to cover. The tool has not been reportedly tested for reliability or validity.

In Garant's (1972) article, an Assessment Guide is given which is general and can be used for most patients. No information is given in the article about how the guide came to be or if any testing has been done on it.

Martin (1974) developed a tool for a Systematic Approach to Non-Verbal Assessment of the Patient. This tool assessed the physical condition of ICU patients according to organ systems and major areas by a method not dependent on verbal communication. The method was tested and found to have significant inter-rater reliability.

The main drawbacks of most tools published are that they are usually quite time-consuming for the assessor, and that too few have been tested for reliability and validity.

CHAPTER 3

METHODOLOGY

This chapter includes the research design, description of the tool, population and sample for the study, and data analysis.

Research Design

This study is a descriptive design to develop a tool for the assessment of radiation oncology patients and test this tool for validity and reliability. The tests for validity are for content and face validity. The reliability test is for inter-rater reliability.

The study was approved by the Director of the Radiation Oncology Department and the University Human Subjects' Committee.

Validity

Validity refers to an instrument or test actually testing what it is supposed to test (Treece and Treece, 1973:179); that is, its ability to obtain the needed data (Notter, 1974:74). Validity is estimated and is a matter of degree. It does not exist on an all-or-none basis. It is more important than and much more difficult to establish than reliability. It is specific to some particular use; it is never a general quality (Gronlund, 1970:61).

The two types of validity estimated for this study were face (logical) and content validity. Face validity is sometimes used to indicate that validity has been established simply by looking at a tool

to see whether the items are the important ones to be included (Notter, 1974:74). This is best done by a panel of people with expertise in the field under study. Treece and Treece indicate that face validity is a questionable criterion measure to use by itself for testing validity, but is perhaps the least time-consuming of all methods.

A better way to test the validity of a tool is to establish its content validity. To do this, the investigator points out the authority for the use of the content in the questions, check lists, or other types of tools. This authority may be derived from the literature, from the investigator's personal observations, or from consultation with others who are experts on the content involved (Notter, 1974:74).

Reliability

Reliability is strictly a statistical concept referring to the consistency of measurement of an instrument, its ability to obtain the same data when repeated. Reliability refers to results obtained with an instrument, not to the instrument itself, and, next to validity, is the most important characteristic of evaluation results. Reliability provides the consistency which makes validity possible and indicates how much confidence we can place in our results. Methods of determining reliability are essentially means of determining how much error is present under different circumstances. In general, the more consistent the results are from one measurement to another, the greater the reliability (Gronlund, 1970:79-80).

Inter-rater reliability describes the percentage of time different raters will agree on an answer to an item on a tool. A percent

agreement statistic is one of the simpler ways of determining a degree of inter-rater reliability.

Nursing Evaluation

Evaluation is an integral part of nursing, whether it be evaluation of tools used, activities, programs, theories, or other nursing processes. As one means of evaluating this assessment tool, nurses' attitudes towards the assessment tool in relation to amount of data obtained, ease of use, and personal value were described. The form used was a modification of the form Martin (1974) used in evaluating her study, and was given to each nurse to fill out at the completion of the study (see Appendix A).

Development and Description of the Tool

Before developing an assessment tool specific to radiation oncology patients, assessment tools in the literature were reviewed for content and ways of eliciting information. The tools considered were those included in the review of the literature. Certain areas of each of these tools seemed of first priority in assessment of radiation oncology patients, while other areas did not seem as important. These areas of priority were categorized and arranged in a format whereby the easier, non-threatening types of information could be obtained first and the information that seemed as if it would be more difficult for the patient to relate would be left until the end of the assessment tool, when, hopefully, some degree of a trust relationship has been established.

The tool was submitted to a group of oncology nurses for comment. It was agreed that the tool seemed to contain the types of information important to know. The tool was pretested, reevaluated and revisions were made.

Because one of the goals of the tool is to provide an extension of the history and physical done by the physicians with minimal duplication of what has already been asked, the Vital Statistics and Pertinent Medical History parts of the tool are not detailed. The Diagnosis and Treatment Plan parts are to be taken from the doctor's orders and are not subjective. The rest of the tool is divided into assessing physical entities, patient's perceptions, and the emotional component of the total patient. An assessment of other services needed is included at the end as well as an area for additional comments (see Appendix B).

A guide sheet was prepared to clarify certain areas, to give ideas of what questions to ask to elicit certain information, and to try to minimize tabulation problems encountered with open ended questions (see Appendix C).

Training Session

Two days before data collection began, a training session was held involving the three nurses collecting data and the researcher. The content of the session included a basic explanation of the data gathering process, introducing bias, and discussion and clarification of the items in the tool and guide. Several questions were asked and

answered, and by the end of the session everyone judged they were capable of using the tool.

Nurses' Personal Experience Form

A form noting basic nursing education, number of years of nursing experience since graduation and number of years experience with radiation oncology patients was completed by each nurse at the end of her participation in the study. Nurses were identified by code letters and names were not recorded (see Appendix D).

Patient Identification

Information on the assessment tool was considered sufficient to identify the patient. No names or hospital numbers were recorded. Each patient was letter and number coded.

Population and Sample

The patient population included patients from the Radiation Oncology Department from a Southwestern university hospital. The sample consisted of the first 12 patients consenting to help with the research. Data collection was carried out until 12 patients were interviewed twice by different nurses. The criteria for selection were:

1. The patient had to have been examined by a radiation oncology staff physician, been accepted for treatment, and have consented to treatment, either verbally or in writing.
2. The patient may have been simulated or have had up to and including four treatments.
3. The patient must speak and understand English.

The patients were contacted by the researcher after consenting to treatment, the purpose of the study explained, consent for participation obtained (see Appendix E), and an appointment time for the interviews convenient to the patient arranged. All patients had a right to refuse to participate in the study, and were informed that this would in no way affect their care during treatment. The patient was assured his anonymity would be maintained.

The three nurses in the Radiation Oncology Department volunteered to conduct the interviews. The purpose of the study, the activities required of them, and risks and benefits were explained before obtaining their consent to participate (see Appendix F). They were also informed of their right to refuse to participate in the study and that this would in no way jeopardize their position in the department. They were assured their anonymity would be maintained.

Data Analysis

Following development and revisions of the tool, but before beginning the interviewing process, the assessment tool was tested for validity. To determine face validity, the tool and guide were given to six oncology nurses to review and comment on the content and format, and to give an opinion as to whether the tool has face validity or not.

Content validity was determined by comparing each item in the assessment tool with assessment tools in the literature to see if the item was deemed important enough to be included in these tools. The tools used for comparison were: the University of Florida College of

Nursing's Nursing History Form (Smith, 1968), a Nursing Assessment Tool (Fuller and Rosenaur, 1974), Neuman's Assessment/Intervention Tool (1974:108-112), An Assessment Guide (Garant, 1972) and the University of Minnesota's Guide for Interviewing (Manthey, 1967). The results of the comparisons, done by a nurse oncologist, were reported as frequencies.

To determine inter-rater reliability, each item on the assessment tool was examined twice by the researcher and once by another nurse, and a decision was made as to similarity of responses. A 1 was given to those items in which two nurses obtained identical information from the same patient; a zero was given for information that was not identical. Items that had one or both items unanswered were dropped and dealt with later. This procedure was done on each item for 12 patients. The agreements could then be tabulated for each item, for the tool as a whole and in part, and for each individual patient, and expressed as percent inter-rater agreement.

CHAPTER 4

REPORT OF FINDINGS

This chapter deals with the characteristics of the sample of nurses and patients comprising the study, a description and analysis of the data, and a description of the nurses' evaluation of the tool.

Characteristics of the Sample

The panel of nurses who agreed to comment on the face validity of the assessment tool included three radiation oncology nurses, one medical oncology nurse, and two university nursing instructors with experience in oncology nursing. One of the nursing instructors teaches in the baccalaureate program; the other teaches the oncology content for the graduate nursing program.

The Tool for the Assessment of Radiation Oncology Patients was compared to the other assessment tools by a medical oncology nurse and the researcher.

The three nurses employed in the Radiation Oncology Department volunteered to interview patients using the Tool for the Assessment of Radiation Oncology Patients. One nurse was the head nurse; the other two were staff nurses. Two of the nurses graduated from a 4-year school of nursing with Bachelors' Degrees in Nursing. The third nurse graduated from a 3-year program in nursing. One nurse had five years nursing experience with one year in radiation oncology. One nurse had

seven years nursing experience with two years experience in radiation oncology. The third nurse had six years experience with four years experience in radiation oncology.

The patient population consisted of seven men and five women with various kinds of cancer with various treatment sites, all in their first week of treatment. The men ranged in age from 39-73 years. The women ranged in age from 31-71 years. The mean age of the whole sample was 55.2 years.

Description and Analysis of the Data

Face Validity

One hundred percent of the panel of oncology nurses commenting on the face validity of the tool agreed that the tool has face validity. Because of the knowledge and experience of all these people in oncology, their opinions as to the face validity of the tool are considered valid.

Content Validity

Sixty-four percent of the items on the Tool for the Assessment of Radiation Oncology Patients were found in three or more of the five tools with which they were compared. A few of the items in the Tool for the Assessment of Radiation Oncology Patients were implied in some of the other tools but were not stated specifically and so were not tabulated as being in the tools. A few of the items considered more specific to radiation oncology patients were found on one, two, or none of the tools. Five items (11%) were not found on any other tool.

The tool is estimated to have moderate content validity when assessed in this way (see Appendix G).

Inter-rater Reliability

Inter-rater reliability was based on percent agreement of each item in the tool. Percent agreements were averaged to give the percent agreements for the total tool and for each major area in the tool. The results are in Table 1.

The category "Other" included Language, Education, Work Experience, Hobbies, Diagnosis, Treatment Plan, General Appearance, and Need for Other Services. These areas, with the exception of General Appearance, scored the highest percent agreement and required more structured, objective observations. The section on Physical Assessment also required more structured, objective observations and, as a whole, scored higher inter-rater agreement than did the sections on Patient Perceptions and Psycho-Social Assessment, which are less structured and require more subjective observations.

Appendix H gives the percent inter-rater agreement for each item on the assessment tool.

The number of unanswered questions was tabulated and showed only 0.053% of the total number of questions were left unanswered.

Time lapse between the first and second interviews ranged from a few minutes to three days. Subjectively this was analyzed to see if it might be a factor influencing reliability and seemed to have no effect on it.

Table 1. Percent inter-rater agreement for the Tool for the Assessment of Radiation Oncology Patients.

Tool	Percent Inter-rater Agreement
Total tool	70.88
Major Sections	
Physical Assessment	77.64
Patient Perceptions	41.67
Psycho-Social Assessment	44.86
Other	86.00

Table 2. Frequency and percentage distribution of length of interviews.

Length of Interview	Frequency	Percentage
30 minutes	2	.08
35 minutes	9	37.50
40 minutes	7	24.16
45 minutes	3	12.50
50 minutes	2	.08
60 minutes	1	.04

Nursing Evaluation

Time

Two nurses felt the amount of time needed to complete the interview was moderate in terms of the time away from regular duties. One nurse felt it was a long time. Table 2 shows a breakdown of length of interviews.

The average length of interviews was 39.58 minutes.

Amount of Information Obtained

One nurse felt the information obtained was a moderate amount; one nurse said moderate to extensive amount, and the third nurse indicated she felt she received an extensive amount.

Personal Value of Information Obtained

One nurse felt the information obtained was of moderate value; one nurse felt the information obtained was of moderate to extensive value; the third nurse indicated she felt the tool was of extensive value to her.

Suggestions for Improvement

Main suggestions concerned deleting or combining items. Food likes and dislikes were considered by one nurse to be only important for head and neck radiation patients. Another nurse felt vital signs were repetitive and should be deleted. The same nurse also felt the specific evaluation of the amount of depression was unnecessary except for severely depressed patients.

All nurses agreed that self-image could be included with the personality item and communications with significant others could easily be integrated with support systems.

Other Comments

The most positive other comment was "I enjoyed it." One nurse didn't respond to this portion of the evaluation. The third nurse expressed concern that possible indicators for depression may in fact not be indicators of depression, but may be natural sequelae of surgery and illness. She also felt that too much emphasis is placed on depression, which is a natural reaction to diagnosis of malignancy.

The tool was seen by this nurse as being valuable for new nurses and as a source of continuity of care. This nurse felt that the tool would not ordinarily be completed in one sitting, but could be used over the course of therapy to assess areas of concern to the patient.

CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This chapter is concerned with a discussion of the findings of the study, the nurses' evaluation of the tool, the relationship of findings to the theoretical framework, the relationship of this study to other studies, and conclusions and recommendations.

Findings

As was expected, areas requiring more objective, structured observations scored highest agreement while those areas requiring subjective, independent nursing observations scored lowest.

In order to increase the percent agreement on and clarify Weight and Appetite, a time interval would be helpful, such as, since onset of illness, or since surgery.

The problem with post-operative healing seemed to be in the assessment of what was healed and what was still healing. Inservice education about wound healing might be helpful in clarifying this item.

The rest of the items scoring low percent agreements were all items with less structure, requiring nurses to make more subjective, independent assessments. Some of the items were answered inappropriately which may indicate the training session was not adequate to explain, discuss, and clarify these items. Another factor relating to these areas might be the use of the guide. It is entirely possible

that the guide does not explain adequately what one should be concerned with on the items and how to elicit the information wanted. More descriptors and explanations may be needed. It is also possible that the guide is not used because it is an extra two pages of information that need to be looked at, requiring extra time and interruption of the interviewing process. It may be more feasible to incorporate the information on the guide sheet right into the assessment tool. If this is the case, a more comprehensive training session on using the tool may be necessary to cover the information that, due to lack of space, could not be included right on the interview form.

Motivation as concerns use of the assessment tool and the guide may be a factor influencing the low percent agreement of the open-ended questions. It may be that open-ended questions pose motivational problems because they require more independent judgments and take more time and thought to answer than scaled questions do.

The item calling for the nurse to make a judgment on the amount of depression the patient has scored very low agreement. This may indicate that the items with an asterisk which may be indicators of depression are, perhaps, not accurate, reliable indicators of depression for everyone when incorporated into the tool in this way.

A variable which may affect the tool as a whole and the Psycho-Social Assessment in particular is the initial encounter between patient and nurse, and the way each appears to the other; that is, the personalities of the patient and nurse. One patient may feel very free

and open with one nurse, but for some reason not be able to express himself to another nurse.

Nurses' Evaluation

The nurses in general seemed positive about using the assessment tool.

After revisions have been made, and with more use, nurses may be able to obtain a greater amount of information and do so in less time. Personal value may increase when the assessment tool is used in conjunction with formal care planning.

Suggestions for improvement were valid and very helpful. All will be considered as work on the tool progresses.

Communications with significant others could be easily integrated with support systems because support systems and significant others are seen as being similar. The concept of self-image is quite different from the concepts of personality, temperament, and dependency-independency patterns. In the opinion of the researcher, that difference and the importance of self-image alone make it unwise to try to combine these two items.

Consideration of depression assessment will be a major factor when revisions are made. Depression is considered to be a valid area of assessment because of the number of patients who are depressed to one degree or another. It is an area the nurse can and should be aware of and do something about to help the patient cope with it and be able to adapt positively rather than sinking further into depression. With reliable assessment of depression in the assessment tool, the

nurse can intervene and support the patient as he needs to be supported.

More thought and work will be given to see if some of the more subjective areas can be handled to provide more objectivity without limiting the patient responses or the nursing observations. Assessment skills remain somewhat subjective, although these skills can be enhanced by a structured assessment tool (Martin, 1974:40).

Relationship to Theoretical Framework

Use of this assessment tool, based on concepts of man as a bio-psycho-social being in an ever-changing environment that places many stressors on him with which he must cope and adapt to, has shown that it is possible to identify stressors and ways of coping with and adapting to them with a moderate degree of correlation. These concepts sometimes tend to be very abstract and require subjective, independent nursing observations. Ways of taking these ideas and expressing them more concretely so they can be applied with more objectivity must be considered. The low percent agreements in the tool on the more abstract concepts show that more work will have to be done on the assessment tool to get these concepts into a form where they can be used with more reliability.

Relationship of Study to Other Studies

Only two other studies report development of a nursing assessment tool, and testing it for validity and reliability as was done in this study. These were studies done by Hamdi and Hutelmyer (1970) and

Marshall and Feeney (1972). Martin (1974) developed and tested her assessment tool for reliability in much the same way as was done in this study. She gave no specific reports of estimating validity.

In the studies done by Hamdi and Hutelmyer, and Marshall and Feeney, other known assessment tools were taken, revised, pre-tested, and tested for validity and reliability. Both studies and this study tested for validity with panels of nurses reviewing the assessment tool for content and format. Marshall and Feeney called this content validity. Hamdi and Hutelmyer called it logical validity. In this study it was called face (logical) validity, and content validity was assessed in a different manner.

Data for testing reliability in Hamdi and Hutelmyer's study was collected almost exactly as in this study. Results were analyzed in a similar manner with 70% chosen as the lowest value they would accept for each item.

Marshall and Feeney collected their data for testing reliability a little differently but according to the same principles. Six nurses observed an interview through one-way vision mirrors. On duplicate tools they individually recorded their observations which were compared to the criterion tool used by the interviewer to determine the average percentile of agreement. This gave a measure of inter-rater reliability.

The Marshall and Feeney study showed 79% inter-rater agreement which was considered fairly high. In Hamdi and Hutelmyer's study, 61 of 77 items scored between 70% and 100%. Inter-rater reliability in

Martin's study ranged from 74%-81%. Percent agreement in this study was 70.88%.

Conclusions

From the findings in this study, it can be concluded that information in the areas considered important in assessing radiation oncology patients can be elicited with reliability using the Tool for the Assessment of Radiation Oncology Patients.

Nurses' evaluation of the tool indicates that the tool elicits important information which is of value to them and does so in a moderate length of time.

Recommendations for Further Study

Based on the findings of the study, the following are suggested for further study:

1. After revisions have been made, repeat the study with a larger sample at a different Radiation Oncology Department over a longer period of time.
2. After revisions have been made, construct more quantitative formats for obtaining data presently on the open-ended questions.
3. Development of means of measuring depression with more reliability, and incorporating it into this tool with more reliability.
4. A study of factors influencing the patient's ability to communicate.
5. A study evaluating the assessment tool, the plan of care, and the implementation of the plan of care to see if the care given

patients based on this tool is, indeed, better than the care given without use of the tool.

6. A study to test the usefulness of the tool as a guide for in-service education for radiation oncology staff.

CHAPTER 6

SUMMARY

A systematic approach to planning patient care is recognized as a major need in nursing. An assessment tool which provides a valid, reliable evaluation of a patient population is the basis for gathering information for planning this care.

The purpose of this study was to develop a Tool for the Assessment of Radiation Oncology Patients, and test it scientifically for face and content validity and inter-rater agreement on the items in the tool.

No tools for assessing radiation oncology patients were found in the literature. Developing such a tool and testing it for validity and reliability are seen as beginning attempts to elevate the quality of nursing care for this growing patient population.

The hypotheses for this study were that the Tool for the Assessment of Radiation Oncology Patients would have face and content validity, and that it would have 70% inter-rater agreement when tested by two nurses on the same patient at approximately the same point in time.

The conceptual basis for the study focused on some of the concepts and assumptions from Betty Neuman's "Total Person Approach to Patient Problems" (1974), and Sister Callista Roy's "Adaptation Theory" (1974). The study was a descriptive design to develop and test an

assessment tool for face and content validity, and inter-rater reliability as determined by the percent agreement between two raters using the tool on the same patient.

The patient population was taken randomly from patients who had agreed to be treated by the Radiation Oncology Department of a large Southwestern university hospital. The patient population consisted of seven men and five women, with various kinds of cancer with various treatment sites, all in their first week of treatment. Their ages ranged from 31-73 years with a mean age of 55.2 years.

Three nurses from the Radiation Oncology Department volunteered to interview patients for the study and to give their evaluations of the tool as to the length of time to use it, the amount of information obtained, and the tool's value to them.

The results of the study showed the tool to have face validity, moderate content validity, and 70.88% inter-rater agreement. It can be concluded from this study that information in the areas considered important in assessing radiation oncology patients can be elicited with reliability using the Tool for the Assessment of Radiation Oncology Patients.

The nurses' evaluation revealed the tool taking a moderate amount of time to use. The nurses found moderate to extensive amounts of information being obtained from use of the tool with the tool being of moderate to extensive value to them.

Use of the tool as a basis for planning care for all of the patients in the department, and as a guide for staff inservice to help

staff become more aware of concepts of total person approaches to nursing and adaptation theory and their applications to patient care needs to be evaluated.

Recommendations for further study are to make revisions of the tool based on this study and replicate the study with a larger sample over a longer period of time at another radiation oncology department, do more detailed item analysis, conduct a study to develop a means of measuring the amount of depression with more reliability and incorporating it into this tool, study of the factors influencing a patient's ability to communicate information, using and testing the tool with care planning to see if the information obtained is, in fact, useful and provides improved patient care.

APPENDIX B

A TOOL FOR THE ASSESSMENT OF RADIATION
ONCOLOGY PATIENTS

Vital Statistics:

Name: _____ Age: _____ Sex: _____
 Language spoken: _____
 Education: _____
 Work experience: _____
 Hobbies and/or interests: _____

Diagnosis:

Stage: _____ Grade: _____ Tumor location: _____

Treatment Plan:

What: _____
 How given: _____
 Intent: _____

Physical:

Weight: _____ Height: _____ TPR: _____ BP: _____

Pertinent Medical History:

Smoking: _____
 Alcohol: _____
 Allergies: _____

Other medical problems:

Current medications:

Nutritional status:

Food allergies:

Eating patterns:

Likes: _____

Dislikes: _____

Weight: Gain Loss No change Since: _____

*Appetite: Good Fair Poor

Elimination:

Bowel: Normal Constipated Diarrhea Hemorrhoids

Medications used:

Bladder: Normal Frequency Other: _____

Skin: specifically in the area to be treated

Condition:

Post-op healing: Not pertinent healed not healed

Describe not healed:

Usual skin care:

Type of soap:

Other preparations or medications:

*Sleep patterns: sleeps well fair poorly

Changes in: more less no change

Describe changes:

Physical, continued:

Sleep medications: no yes, list:

*Libido--interest in sex:

Change in: more less no change

*Energy level:

Change in: more less no change

Patient Perceptions:

Patient understanding of illness:

Patient understanding of radiation therapy:

Patient expectations re: prognosis and therapy:

Emotional:

Personality, temperament, dependency-independency patterns:

*Self-image:

Coping mechanisms: past illnesses and this illness:

Support systems: significant others, church, friends, nurses, doctor:

Communications with significant others:

Obstacles to treatment: family, financial, communication, others:

*Amount of Depression: None Mild Moderate Severe

Should not interfere with treatment _____

May interfere with treatment unless intervention initiated _____

General overall appearance:

Need for other services:

Dietition: _____ Transportation: _____
 Cancer Society: _____ Social Service: _____
 Public Health: _____ Other: _____

ADDITIONAL COMMENTS:

*When considered together, these items may indicate a degree of depression.

APPENDIX C

GUIDE FOR USE OF A TOOL FOR THE ASSESSMENT OF RADIATION ONCOLOGY PATIENTS

Much of the information on the tool is self explanatory. Those items which may need further clarification are explained below. From pre-testing this tool, it has been found that patients respond positively to an introductory approach telling them we feel certain information is necessary to get to know them better so we can give them the best care possible.

Diagnosis: To be taken from the physician's plan for therapy.
Treatment Plan: Include chemotherapy plan the patient may be on.

Other medical problems: any problems or diseases for which the patient is being or has been treated; i.e., cardiac, pulmonary, renal, endocrine, GI, etc. Include recent surgery.

Eating patterns:

Likes and dislikes: include if patient eats a lot of and/or excludes certain things in his diet, such as meats, snack foods, carbohydrates, fats, etc.

Medications used for bowel elimination: include use of laxatives, enemas, medication for hemorrhoids, etc.

Skin condition: include integrity, hygiene, excessive dryness, abnormal coloration, presence or absence of edema, lesions, and/or anything else unusual.

Usual skin care: Include use of preparations such as Vitamin E, moisturizers, make-up, etc.

Libido: ask if appropriate

Patient understanding of illness: include what he has been told by his doctor, how he feels about it, if he realizes he has cancer, if he understands what he has.

Patient understanding of therapy: include things he has heard from friends or seen himself, list misconceptions.

Patient expectations: re: Prognosis and therapy: what does he expect therapy to do for him, does he expect side effects, does he expect support and care from the staff?

Personality, temperament, dependency-independency patterns: include such descriptors as friendly, withdrawn, talkative, angry, easily upset, independent, or very dependent on whom.

Self-image: How does the patient see himself in relationship to others, has his image changed since becoming ill. This may have to be a subjective opinion based on the way he relates answers to the rest of the questions.

Coping mechanisms: Include how the patient has coped with past illnesses, how he is coping now: denial, withdrawing, acceptance, regression, repression, etc.

Support systems: significant others--spouse, family, friends, pastor and church, doctors, nurses, technicians, etc. Include who the patient lives with or lives close to.

Communication with significant others: is the patient able to verbalize freely about what he's going through? Does he keep his feelings to himself? etc.

General overall impression: include any impressions you have throughout the interview. To be filled out at the end of the interview.

APPENDIX D

NURSES' PERSONAL EXPERIENCE FORM

1. Basic Program in Nursing 2 3 4 5 years

2. Number of years nursing experience
since graduation _____

3. Number of years Radiation Oncology Experience _____

APPENDIX E

SUBJECT CONSENT FORM

I understand I am being asked to participate in a study to determine the effectiveness of an interview form designed to help nurses get to know their patients better in order to provide the best care they can.

By consenting to participate, I agree to be interviewed by 2 nurses separately at a pre-arranged time at my convenience. The approximate time for each interview is thought to be from 15-30 minutes--a total of from 30 minutes to 1 hour.

The risks to me are thought by the researcher to be minimal because I can refuse to answer any questions I don't wish to answer. There will be no cost to me other than time.

I understand I have the right to ask questions and receive answers pertaining to any part of this study. I also understand I may withdraw from the study at any time without my care during treatment being affected.

I have been assured by the researcher that only she and the interviewing nurses will have access to my name and the data I give in the interview, and that this information will be held in strictest confidence. Because of the nature of the interviewing form, I understand that information given to the nurses may be used in planning my care during treatment. My name and the information I give will not be published in any form.

I have read the above "Subject Consent Form." The nature, demands, risks, and benefits of the study have been explained to me. I understand I may ask questions and that I am free to withdraw at any time without ill will. I consent to participate in this study.

SUBJECT'S SIGNATURE: _____ DATE: _____

RESEARCHER'S SIGNATURE: _____ DATE: _____

APPENDIX F

NURSE CONSENT FORM

I understand I am being asked to participate in a study to test the reliability of an assessment tool developed for Radiation Oncology Patients.

By consenting to participate, I agree to conduct one interview on each patient to whom I am randomly assigned, using the above mentioned tool. The total number of patients I will interview is 8. Each interview may last from 15-30 minutes. I also agree to fill out a Nurses' Experience Form and a Nurses' Evaluation Form at the end of the study, involving about 5 minutes of my time.

The researcher feels there are no risks to me involved by my participation. There is no monetary cost to me. The benefits may be that a useful tool with proven reliability may result from this study. This tool may help me to get to know my patients better and faster, and therefore, initiate an appropriate plan of care as soon as possible.

I understand I may ask questions and receive answers pertaining to this study, and that I may withdraw from the study at any time without ill will.

I understand my name and the information I receive in the interviews will be known only to the researcher and will be held in strictest confidence. This information will not be published.

I have read the above consent form. The nature, demands, risks, and benefits of the study have been explained to me. I understand I may ask questions and that I am free to withdraw from the project at any time without ill will. I consent to participate in this study.

NURSE'S SIGNATURE: _____ DATE: _____

RESEARCHER'S SIGNATURE: _____ DATE: _____

APPENDIX G

CONTENT VALIDITY OF ITEMS ON A TOOL FOR THE
ASSESSMENT OF RADIATION ONCOLOGY PATIENTS
AS COMPARED WITH ITEMS ON FIVE OTHER
ASSESSMENT TOOLS

	<u>Florida</u>	<u>Minnesota</u>	<u>Garant</u>	<u>Fuller Rosenaur</u>	<u>Neuman</u>
1. Name	x			x	x
2. Age	x			x	x
3. Sex	x				x
4. Language			x	x	
5. Education	x		x	x	
6. Work experience	x		x	x	
7. Hobbies	x		x		
8. Diagnosis	x			x	
9. Treatment			x	x	
10. Vital Signs			x	x	
11. Smoking				x	
12. Alcohol				x	
13. Allergies	x		x	x	
14. Other problems				x	
15. Current meds.		x		x	
16. Food allergies	x		x	x	
17. Food likes	x	x	x	x	
18. Food dislikes	x	x	x	x	
19. Weight			x	x	
20. Appetite		x	x	x	
21. Bowel	x	x	x	x	
22. Medications	x	x	x	x	
23. Bladder	x		x	x	
24. Skin condition	x	x	x		
25. Post-op healing	x		x		
26. Soap					
27. Other preparations					
28. Sleep patterns	x	x		x	
29. Sleep changes	x	x		x	
30. Medications	x	x		x	
31. Libido				x	
32. Energy level					
33. Patient understand- ing of illness	x	x	x	x	x
34. Patient understand- ing of therapy			x	x	
35. Expectations	x		x	x	x
36. Personality	x		x		x
37. Self-image					x
38. Coping mechanisms	x		x		x
39. Support systems	x		x		x
40. Communications	x		x	x	x
41. Obstacles	x		x	x	
42. Depression			x		
43. General appearance		x		x	
44. Other services			x		x

APPENDIX H

PERCENT INTER-RATER AGREEMENT OF EACH ITEM ON A TOOL FOR THE ASSESSMENT OF RADIATION ONCOLOGY PATIENTS

1.	Language spoken	100
2.	Education	100
3.	Work experience	100
4.	Hobbies	83
5.	Diagnosis	100
6.	Treatment	100
7.	Smoking	67
8.	Alcohol	83
9.	Allergies	83
10.	Other medical problems	83
11.	Current medications	67
12.	Food allergies	82
13.	Food likes	67
14.	Food dislikes	73
15.	Weight	50
16.	Appetite	64
17.	Bowel	92
18.	Medications	92
19.	Bladder	92
20.	Skin condition	73
21.	Post-op healing	50
22.	Type of soap	100
23.	Other preparations	73
24.	Sleep patterns	70
25.	Sleep changes	64
26.	Sleep medications	100
27.	Libido	92
28.	Energy level	91
29.	Patient understanding, illness	50
30.	Understanding of Radiation	42
31.	Patient expectations	33
32.	Personality, temperament	17
33.	Self-image	17
34.	Coping mechanisms	17
35.	Support systems	67
36.	Communications	75
37.	Obstacles	91
38.	Amount of depression	30
39.	General appearance	30
40.	Other services	75

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