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The Effect of Written Sigmoidoscopy Information on Discomfort

Sharon Anderson

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THE EFFECT OF WRITTEN SIGMOIDOSCOPY
INFORMATION ON DISCOMFORT

by

Sharon Anderson

A Thesis in Partial Fulfillment
of the Requirements for the Degree
Master of Science in the Field of Nursing

June 1967
I certify that I have read this thesis and that in my opinion it is acceptable in scope and quality as a thesis for the degree of Master of Science.

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CHAPTER I

INTRODUCTION TO THE STUDY

The need for adequate communication with patients who are to participate in a diagnostic or treatment procedure has been recognized by those concerned with patient care. The patient who has not been adequately prepared for a diagnostic or treatment procedure may approach it with a fearful and apprehensive attitude. This attitude may hinder the patient's acceptance of the procedure and prevent cooperation and relaxation.

The nurse has been in a key position to explain procedures and instruct the patient. However, because other demands placed upon the nurse often take precedence, the patient may be given only a brief and inadequate explanation. Since nurses often feel that they are unable to have adequate verbal communication with patients, they have sought help from printed material. Many pamphlets, books, and instruction sheets have been written to inform patients about a particular aspect of their care. Although written information about a diagnostic or treatment procedure has often been given to patients, little seems to be known concerning the effectiveness of this type of communication.
A simple procedure which proctologists are increasingly emphasizing for the detection of cancer of the lower bowel and rectum is known as the sigmoidoscopic examination. This examination may become a threatening experience for patients who have not been adequately informed about the procedure. Nursing personnel often feel that they are unable to give patients an adequate verbal explanation of this procedure. The effectiveness of written information in preparing patients for this examination has not been tested. The use of written information in reducing the symptoms of discomfort for patients experiencing the sigmoidoscopic examination needs more exploration.

I. THE PROBLEM

Need for the Study

The nurse-researcher spent ten months, prior to initiating this study, assisting in a proctology clinic. She noted that many patients approached the examination without any knowledge of what would take place. Patients expressed symptoms of discomfort by crying and screaming with pain, complaining of nausea and vomiting, showing inability to relax, and by refusing to cooperate during the procedure. The question was asked whether or not much of the discomfort experienced by the patient could have been avoided if the patient had known what
was going to happen to him. If the information given prior to a sigmoidoscopic examination is of informative interest to the patient and also decreases the complaints of discomfort, the explanation becomes most important.

The findings of this study could be useful in determining a method of communication that would produce better prepared clinic patients for the sigmoidoscopic examination.

**Statement of the Problem**

The problem was to find out if patients who receive specific written information about the sigmoidoscopic procedure would experience less discomfort than those patients who did not receive this information.

**Hypothesis Guiding the Study**

The researcher proposed that written communication would create less stress than no communication and that the patient would therefore experience less discomfort with written communication. The following null hypothesis was used:

The patient who receives specific written information before the sigmoidoscopic examination reports the same discomfort as the patient who has not had this information.

**Purpose of the Study**

The purpose of the study was to compare the discomfort
experienced by patients who received specific written information about the sigmoidoscopic examination with discomfort of patients who had not had this information. The following differences that might exist were assessed:

1. The symptom differences, both physical and emotional, reported by the two groups of patients.

2. The number of discomfort symptoms and the degree of discomfort reported by the two groups of patients.

**Basic Assumptions**

1. Patients experiencing the sigmoidoscopic examination have discomfort.

2. Fear of the unknown increases discomfort.

3. The information presented to the experimental group was written on the patient's level of understanding and contained information which the patients wanted to know.

4. Patients who are given information do read it.

**Scope and Limiting Factors**

The population included those patients who were experiencing the sigmoidoscopic examination for the first time.

The study was limited to 84 patients, ages 18 through 89.

The study was conducted among English speaking and reading patients who were examined in one proctology clinic in the Los Angeles area between July 21, 1966 and December 21, 1966.
The study was limited to non-critically ill patients who were not to be hospitalized and were well enough to answer the checklist. Disoriented patients were not included.

The study was concerned with the symptoms that best described how the patient felt during the sigmoidoscopic examination. No attempt was made to measure unexpressed stress or pain.

II. DEFINITION OF TERM

The following definition was used:

Discomfort. A loss of one's sense of well-being in either or both the physical and emotional areas of health as reported by the patient.

III. METHOD OF STUDY

The experimental research method was used to test the hypothesis. The experiment represents directed observation guided by the purpose of the study and the understanding of the conditions.¹

A review of the literature was done: 1) to gain information about the sigmoidoscopic examination which would aid

in the construction of a design for study; 2) to gain information about the various forms of communication and their relationship to stress, and 3) to reveal studies that had been conducted relating to the effects of communication on patient's reactions to hospital procedures.

Selection of the Sample

The purposive sampling method was used. Patients who could not speak or read English, were not well enough physically to answer the checklist, and those who were too old and confused or too young to understand were excluded from the study. The sample was selected from part-pay patients who had a sigmoidoscopic examination in one proctology clinic. Permission was obtained to do the study during an appointment with the nursing administrator of the clinic.

Selection of the Tools

A checklist (Appendix A) was developed to assess the amount of discomfort experienced by the patient during the sigmoidoscopic examination. The list included thirteen symptoms. The amount of discomfort could be reported as none, moderate, or severe. Space was provided at the bottom of the checklist for "other" symptoms not listed. In the space the patient could write in a description of how he felt.
The symptoms used on the list were obtained from observations previously made as well as those symptoms described in literature.

A printed instruction and information sheet (Appendix B) about the sigmoidoscopic examination was prepared. The sheet described the procedure and told what steps could be expected to happen during the procedure. The purpose of the information was to answer questions patients have about this diagnostic test.

**Pilot Study**

A pilot study including ten patients was conducted over a two week period in order to test and refine both the checklist and the instruction and information sheet. During the pilot study one question on the checklist was found not to be pertinent to the study. On the checklist used for the study this question was excluded. The data obtained from the pilot study were not included in the study.

**Control Group**

The control group consisted of the first 42 patients who met the criteria for the study. These patients had appointments in the proctology clinic between July 21, 1966 and September 22, 1966.

The regular verbal routine information was given to the
patients in the control group. This included the time of appointment, and the instructions to take enemas before the procedure. No other information was given to this group. At the completion of the examination the nurse-researcher told the patient that a study was being done to find out how much discomfort patients experience during the sigmoidoscopy. The patient was assured that he would not be identified in the study and was asked if he would participate. After consenting to be in the study, the patient was given a checklist and asked to check the symptoms that best described how he felt during the examination. When the list had been completed the patient was thanked and permitted to further express his feelings or to ask questions about the examination.

Experimental Group

The experimental group consisted of the next 42 patients who met the criteria for the study. These patients had appointments in the proctology clinic between September 29, 1966 and December 21, 1966. At the time the patient made a clinic appointment the receptionist gave the patient the prepared printed instruction and information sheet and requested that the patient read the information and follow the instruction. The experimental group were otherwise treated in the same manner as described for the control group.
Organization of Data

Data obtained from the checklist were compiled and analyzed. Conclusions were drawn and recommendations were made.
CHAPTER II

REVIEW OF THE LITERATURE

A review of the literature was made in an attempt to find: 1) information about the sigmoidoscopic examination; 2) information about the relationship between communication and stress; and 3) other studies which have been conducted relating to the effects of communication on patients' reactions to hospital procedures. Opinions from literature and recent research studies were reviewed so that the results of the study could be interwoven with other relevant knowledge.

I. THE SIGMOIDOSCOPIC EXAMINATION

The sigmoidoscopic examination has been utilized by the medical profession 50 years or more. Yet many Americans have never heard of it. However, the value of the examination has been increasingly emphasized by proctologists as a simple test for the detection of the most common of all internal cancers, cancer of the colon and rectum.


Shafer described the sigmoidoscopy as a visualization of the last 12 inches of the digestive tract, including the anus, rectum, and sigmoid colon. Tumors, polyps, or ulcerations may be discovered, examined, and biopsied. Most often a sigmoidoscopy has been done as a part of the physical examination of patients who complain of chronic constipation, diarrhea, bleeding, or other indications of lower intestinal disease.3

Nesselrod reported that "rectal pain" seemed to be the symptom most likely to cause the patient to seek medical aid.4 This pain, Yeomans has stated, is usually anal rather than rectal in origin. Laboratory and clinical evidence has shown that the intestine was practically insensitive to pain. The intestine has been burned, cut, or sutured painlessly, whereas either distention or crushing of the intestine has given rise to pain.5

The anorectal nervous physiology has certain advantages and disadvantages. The same nervous physiology which allows


the physician to inject internal hemorrhoids, to fulgurate polyps, remove tissue from the rectum, or excise sigmoidal lesions without the use of anesthesia, has been a pitfall in search of precancerous or cancerous lesions.\(^6\) Deutsch emphasized that not until the pathologic process reached an advanced stage did changes in the bowel habits, pain, and bleeding occur.\(^7\) Therefore, the patient delays reporting to his physician and by the time he does so his chances of survival are smaller.

On the basis of the anorectal nervous physiology, Nesselrod has stated that the physician should assume that every candidate for the sigmoidoscopy harbors a serious lesion until proven otherwise.\(^8\) Deutsch, in writing for the layman, suggested that no physical examination was complete without a sigmoidoscopy.\(^9\) The sigmoidoscopy could rescue many lives each year.

**Patient Preparation**

Deutsch believes that many people who know about the sigmoidoscopic examination avoid it. They fear both pain and

\(^6\)Ibid.

\(^7\)Deutsch, *op. cit.*

\(^8\)Nesselrod, *op. cit.*, pp. 17-18.

\(^9\)Deutsch, *op. cit.*
embarrassment. Although the physician actually inserts the instrument, it is usually the nurse or the assistant who prepares the patient both physically and emotionally for the procedure.

Shafer reminds the nurse that the patient should be given an explanation of the procedure and of the preparation. For all patients, and especially those who are apprehensive, an explanation will help to bring about relaxation, cooperation, and acceptance of the procedure as a "routine examination."

Patients, especially those experiencing the examination for the first time, will be apprehensive. Friends or relatives may have described the sigmoidoscopy as "terrible" or "very painful." Eisenberg states that patients may fear not only the examination but the outcome which may reveal cancer. The attitude of those assisting with the examination must not suggest that this could be a dangerous procedure or that there could be any suspicion of serious disease. Constant reassurance before and during the examination is important.

10 Ibid.
12 Shafer and others, op. cit., p. 608.
13 Eisenberg and others, op. cit. 14 Ibid.
Procedure Preparation

The patient may be given a small volume disposable enema in the clinic or doctor's office. Riley and Natvig found that this type of enema required little time and satisfactorily accomplished bowel cleansing. Nesselrod suggests that the patient take warm tap water enemas until the returns are clear. This should be done approximately two hours before the examination. No matter which type of enema was used the object of its use remains the same: thorough cleansing of the rectum and sigmoid colon in time for the examination.

Shafer holds that since the examination is upsetting to most patients, all possible preparation should be made before the patient has been brought into the examining room to ensure a smooth-running and rapid procedure. The examination generally takes no longer than five to ten minutes. Nesselrod states that keeping the instruments used for the examination under cover or away from the patient's view lessens his apprehension.


16 Nesselrod, op. cit., p. 38.

17 Shafer and others, op. cit., p. 608.

18 Nesselrod, op. cit., p. 40.
The Procedure

The sigmoidoscope is a lighted tube which the physician slips into the rectum. Traditionally this has been a metal instrument which must be cleaned and sterilized between patients. Recent improvements have provided an inexpensive disposable sigmoidoscope which has been more convenient to use in many cases.

Besides the sigmoidoscope, suction equipment, a draping sheet, rectal gloves, lubricant, long cotton tipped applicator sticks, an emesis basin, toilet tissue, biopsy forceps, and a receptacle for waste are required.\textsuperscript{19}

The positions used during the sigmoidoscopic examination may include an inverted knee-chest position, a side-lying (Sims) position, or a modification of either. Eisenberg does not recommend the knee-chest position; however, he has stated that the knee-chest position seemed to be the one of choice and has been traditionally described and recommended in textbooks.\textsuperscript{20} Although the choice of position has not usually been the responsibility of the nurse, the patient should be made as "fixed" as possible so that repositioning will not

\textsuperscript{19} Shafer and others, \textit{op. cit.}, p. 608.

\textsuperscript{20} Eisenberg, Napoli, and Radding, \textit{op. cit.}, p. 113.
become necessary during the examination.\textsuperscript{21}

Patients should be draped so that only the anal area is exposed. When a female attendant assists the physician during the examination of a male patient, the physician should drape the patient before the female attendant enters the examining room, since men also are easily embarrassed.\textsuperscript{22}

Shafer states that the patient should be told what the physician is going to do, that there will be a desire for defecation, but that no involuntary passage will occur.\textsuperscript{23} The patient should also understand that the examination will cause only a "slight discomfort." Deutsch points out that there is a feeling of fullness in the passage, as the doctor eases the 'scope around a bend at the top of the rectum.\textsuperscript{24} The patient should be encouraged to relax as much as possible and should be watched for any signs of faintness, change in color, or pulse rate, during the examination.\textsuperscript{25}

The sigmoidoscope is advanced slowly through the descending colon for about 25 cm. (10 inches). The patient feels the passage of the instrument but he has no real pain. Air is

\textsuperscript{21} Ibid., p. 115. \textsuperscript{22} Ibid., p. 114.
\textsuperscript{23} Shafer and others, \textit{op. cit.}, p. 608.
\textsuperscript{24} Deutsch, \textit{op. cit.}
\textsuperscript{25} Shafer and others, \textit{op. cit.}, p. 608.
sometimes pumped into the bowel through the 'scope to distend
the lumen of the bowel, this permits better visualization.
The air may cause severe "gas pains."\textsuperscript{26}

Eisenberg explains that the nurse's role throughout the
procedure is that of giving reassurance to the patient and
anticipating needs during each step of the examination.\textsuperscript{27}

\section*{II. THE RELATIONSHIP BETWEEN COMMUNICATION AND STRESS}

This study is concerned with the use of written com-
munication in reducing symptoms of discomfort experienced by
patients during the sigmoidoscopic examination. It has been
hypothesized that the unfamiliarity of this examination
produces stress. Stress could be the cause of some of the
discomfort patients experience. An attempt has been made to
gather from literature pertinent facts regarding the relation-
ship of communication and patient stress.

\textbf{Communication}

Communication in a broad sense includes everything in
which one mind can affect another. This includes not only

\textsuperscript{26}Ibid., p. 609

\textsuperscript{27}Eisenberg, Napoli, and Radding, \textit{op. cit.}, p. 115.
written or spoken speech, but also the arts, music, the theater, in fact all human behavior.\textsuperscript{28}

According to Lockerby, communication is the core of nursing. She defines communication as the meeting of human needs through understanding and being understood.\textsuperscript{29}

What does communication mean to the patient? In a study reported by Skipper and others, communication with physicians and nurses meant two things to patients: first, it was a means of securing information about their illness, treatment, and what the hospital expected of them; and second, it was a source of personal contact. This type of communication was seen as an indicator that medical personnel were interested in the patient and also that they were competent doctors and nurses.\textsuperscript{30}

A person's emotional reaction to a specific condition is largely influenced by the communication the person receives. Ruesch, who has contributed much about the communication theory,


has noted that communication which is therapeutic has helped people overcome stress, get along with others, adjust to circumstances which cannot be altered, and overcome obstacles which prevent self-realization.\textsuperscript{31}

**Stress**

Selye states that stress is the rate at which we live.\textsuperscript{32} In describing stress he writes, "Stress is the sum of all wear and tear caused by any kind of vital reaction throughout the body at any time."\textsuperscript{33}

Engel describes stress as a bad force that keeps a person a victim of circumstance.\textsuperscript{34} Selye interprets stress differently. He assumes that stress is a part of life, it is not necessarily bad, but is sometimes the "spice of life."\textsuperscript{35}

Selye suggested the idea that stress comes in different degrees when he wrote, "... anything pleasant or unpleasant


that speeds up the intensity of life causes a temporary increase in stress.\textsuperscript{36} Stress cannot be avoided, we constantly go through periods of stress all through life.\textsuperscript{37} When general stress becomes excessive then the whole body needs rest.\textsuperscript{38} Selye and Engel both agree that stress can be destructive to health if it does not have an outlet or an expression.\textsuperscript{39}

\textbf{Communication and Stress Reduction}

It has been generally agreed that adequate communication plays a significant role in aiding patients to adapt to illness and treatment with a reduction in stress.\textsuperscript{40} Janis, who has done an extensive study on stress of patients undergoing surgery, reports that when a patient is misinformed, corrective and realistic communication can lessen fear.\textsuperscript{41} Janis suggests that preparatory communications for surgical patients should be done in such a way as to avoid overdoses of fear-arousing material.\textsuperscript{42}

\textsuperscript{36}Ibid., p. 52. \hfill \textsuperscript{37}Ibid., p. 278.

\textsuperscript{38}Ibid.

\textsuperscript{39}Ibid., pp. 278-279, and Engel, \textit{op. cit.}, p. 272.


\textsuperscript{42}Ibid.
Johnson states that the real purpose of nursing care is to reduce the stress that patients experience. From a nursing standpoint it is important to know what factors need to be considered to divert the patient's energies so that stress of a new situation can be reduced.

Smith suggests the idea that an event is less stressful if there has been preconditioning. Smith has said that one who leaves a patient in ignorance about what is going to happen to him, is providing a fertile field for the activation of fantasy. Meyers states that "Basic to tension reduction is the need to attach some meaning to the event; to give it some cognitive structure." Meyers suggests that the structuring process is different for each person. Structuring may be based upon factual information, actual past medical experience, a vivid imagination or other sources such as film fiction and "parlor gossip."

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46 Ibid.

47 Meyers, op. cit.

48 Ibid.
In a study done by Meyers on "The Effect of Types of Communication on Patients Reaction to Stress," three types of communication were explored during a stressful situation to determine the type of communication which would result in cognitive structuring. Meyers found that less tension is created when the patient is given specific information upon which he can structure the event of impending stress. To tell the patient exactly what is going to happen to him will decrease tension and reduce stress. Meyers states that tension is produced by distracting communication. This is discussion of topics other than the one that is important to the patient. In stress reduction, distracting communication is the least desirable, in fact it would be better to say nothing at all than to use this type of communication.

In Sundell's study on the "Relationship Between Stress and Communication When Receiving An Injection," the findings showed that adequate communication with the patient during the injection procedure created less stress than when the nurse had no communication with the patient during the procedure.

\[49\text{Ibid.}\] \[50\text{Ibid.}\] \[51\text{Ulla Maria Sundell, "The Relationship Between Stress And Communication When Receiving An Injection," (unpublished Master's Thesis, Loma Linda University, Loma Linda, California, 1966), p. 50.}\]
Communication about Procedures

Brown describes the plight of many patients who do not know the nature of hospital procedures or are afraid to ask the results. She suspects that the nurses and physicians often know nothing about the anxiety which patients experience. The unasked questions often remain unanswered and the patient remains fearful and uncertain. 52

Medical personnel often assume that the patient has a better understanding of health problems than he actually does. One study that aimed to ascertain the level of a patient's knowledge of medical information showed: 1) that patients fall short of the physicians' expectations of what laymen should know about common health problems; 2) few patients are given systematic explanations of the purpose of the tests or its results; and 3) patients who are given a more thorough explanation are more cooperative in working with the physician. 53

A study done by Kuester concerning information given to part-pay clinic patients revealed: 1) fifty per cent were given the name of the test that they were to experience and where to go for the test; 2) twenty per cent were given the


name, where to go and some instructions; 3) thirty per cent
given instructions plus the purpose of the test. Although
all patients received some information about the tests ordered
for them, the level of information they received left them
feeling uninformed.

Weeks' study on the nature and sources of patients' pre-
test knowledge of the electroencephalography procedure implied
that patients received little pretest information concerning
electroencephalography. The largest number (50 per cent) had
received information from physicians. Primarily, this infor-
mation was concerned with the purpose of the test and did not
explain the patients' personal involvement in the procedure.
Patients who had received information from friends (41 per
cent) were better informed about the procedure than those who
had received information from other sources. Nurses were
responsible for the least amount of information given to
patients about the test (2 per cent).55

A study by Malone and Berkowitz showing the problems a

54 Dorothy Kuester, "A Survey of Verbal Communications to
Clinic Patients Related to Their Health Problem," (Unpublished
Master's Thesis, Loma Linda University, Los Angeles, 1962),
p. 34.

55 Dorothy Weeks, "The Nature and Sources of Patient Pre-
test Knowledge of the Diagnostic Test, Electroencephalography,"
(Unpublished Master's Thesis, Loma Linda University, Los Angeles,
nurse in an out-patient department faces, revealed that administrative duties received high priority. This automatically means that some nursing duties including teaching and informing patients about procedures are accorded low priority. 56

Although medical literature has a great deal to say about the importance of communication with the patient there seems to be little evidence that it receives much attention.

**Written Communication**

The need for adequate communication with patients about their health care has long been recognized by medical persons. Mohammed states that the well-informed patient generally participates in tests, treatments, and self-care more effectively, more safely, and more comfortably than the poorly informed patient. 57 The question now is does written communication result in a well informed patient?

Kotzen was aware of the lack of information that hospital patients received about procedures. He wrote about instruction sheets, composed by people not in the hospital field, that were successful in explaining procedures to patients. The instruction sheets accomplished the following results: 1) they gave


patients greater understanding of what would happen next; 2) they satisfactorily answered patients' questions about diagnostic tests; and 3) they produced a more interested, cooperative and less anxious patient.58

Zimmerman wrote a card which provided reassuring instructions for procedures, used at Louis A. Weis Memorial Hospital in Chicago. He expressed a similar patient response as did Kotzen.59

Although both Kotzen and Zimmerman reported a favorable response to written communication, Mohammed pointed out that the effectiveness of written communication depended not only on the material itself but also on its suitability for the particular reader.60

In explaining how much information should be given to the patient and when this information should be given, Aasleurud states that usually a general summary of what is to be done, the expected action of the patient during the procedure, and the length of time it will take will be sufficient. She felt that it was desirable to inform the person in advance

59 Mertimer Zimmerman, "Instruction Cards Allay Patient's Fears," Modern Hospital, 90:59-61, April, 1958.
60 Mohammed, op. cit., p. 100.
of the event.61

Dlouhy's study revealed that patients wanted to know the following information about their diagnostic tests: 1) why the test was to be done; 2) how the equipment would affect them; 3) what they could do to help with the test; 4) whether the person performing the test was competent; and 5) the results of the test and whether more tests would be necessary.62

III. SUMMARY

In a review of literature on the sigmoidoscopic examination, it was found that although the procedure was usually not painful, it was uncomfortable for most patients. To gain the patient's cooperation and acceptance of the procedure the patient should be given an explanation of what will happen and of the preparation necessary. Most authorities agree that the patient needs information concerning the procedure.

In a review of literature on the relationship between communication and stress it was found that communication does seem to influence a patient's response to stress. Pre-procedure communication designed to explain to the patient exactly what is going to happen to him reduces tension and can make


the patient more comfortable. Patients were interested in and wanted to know their involvement in diagnostic procedures.

Although medical persons are in agreement that information about a procedure decreases the anxiety of the patient, little evidence was shown that they actually gave much information. Because of the need for adequate communication between medical personnel and patient, written information about hospital procedures was being used by some with apparently successful results.
CHAPTER III

FINDINGS, ANALYSIS, AND INTERPRETATION OF DATA

This study was conducted to compare the symptoms of discomfort experienced by patients who received written information about the sigmoidoscopic examination with those of patients who did not have this information. The study included eighty-four patients who were seen in a part-pay proctology clinic in the greater Los Angeles area. Forty-two patients in the experimental group received a written instruction and information sheet about the sigmoidoscopic examination. The sheet described the procedure and told what steps could be expected during the procedure. Forty-two patients in the control group received only brief routine information which included an appointment and instructions to take enemas before the procedure. The data collected were statistically analyzed by the use of the T-test and percentages to determine if there was a relationship between the two groups.

I. DESCRIPTION OF THE SAMPLE

The control group consisted of the first forty-two patients who met the criteria for the study. The age range of the patients included ages 18 through 89. The control
group, according to their ages, could be grouped in this way:

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 39</td>
<td>11</td>
</tr>
<tr>
<td>40 - 59</td>
<td>13</td>
</tr>
<tr>
<td>60 - 89</td>
<td>18</td>
</tr>
</tbody>
</table>

Eleven of the control group were men and thirty-one were women. Twelve of the patients were of Spanish-American ancestry, sixteen were Negro-American, and fourteen were of Anglo-American background.

The second group of forty-two patients who met the study criteria made up the experimental group. The age range of these patients included ages 18 through 89. The patients, according to their ages could be grouped in this way:

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 39</td>
<td>4</td>
</tr>
<tr>
<td>40 - 59</td>
<td>15</td>
</tr>
<tr>
<td>60 - 89</td>
<td>23</td>
</tr>
</tbody>
</table>

Seventeen of the patients in the experimental group were men and twenty-five were women. Four of the patients were of Spanish-American ancestry, twelve were Negro-American, and twenty-six were of Anglo-American background.

II. PRESENTATION AND ANALYSIS OF FINDINGS

The checklist of thirteen symptoms was developed to
find out the amount of discomfort experienced by the patient during the sigmoidoscopic examination. The symptoms that best described how the patient felt during the examination were checked by the patient. The responses were checked as none, moderate, or severe.

A response checked as none was assigned the value of one point, while moderate received two points, and severe received three points. The minimum number of points possible for each patient was thirteen and the maximum number of points possible was thirty-nine. The total points checked by each of the 42 patients in each group were added. The T-test was calculated on the total scores for each symptom to determine the relationship between the experimental and control groups. A .05 significance level was chosen with the hope of being able to reject the null hypothesis. The null hypothesis would be rejected only if the T-value had a probability of less than 5/100 of appearing by chance. For example as shown on Table I, in the experimental group 40 of the 42 patients said they had no headache, two or 4.8 per cent said they had a moderate headache and none reported a severe headache. As two points were given for a moderate headache and one point was given for a severe headache the total score was 44. From the total score of the experimental group (being 44) and the total score of the control group (being 47) the T-value of 1.8 was calculated.
# TABLE I

Differences in levels of discomfort between patients who did and did not receive information prior to having a sigmoidoscopic examination

<table>
<thead>
<tr>
<th>Checklist Item</th>
<th>Experimental N=42</th>
<th>Control N=42</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>44 4.8 40 2 0 47 10 38 3 1</td>
<td>1.8</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vomiting</td>
<td>42 0 42 0 0 44 5 40 2 0</td>
<td>1.7</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shakiness</td>
<td>52 24 32 10 0 63 38.1 26 11 5</td>
<td>2.2</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach cramps</td>
<td>56 31 29 12 1 73 53 20 13 9</td>
<td>2.7</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rectal pain</td>
<td>66 42.9 24 12 6 81 67 14 17 11</td>
<td>2.3</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dizzy</td>
<td>51 20 34 7 1 48 15 36 6 0</td>
<td>0.7</td>
<td>.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faint</td>
<td>45 5 40 1 1 44 5 40 2 0</td>
<td>0.3</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flushed or hot</td>
<td>52 19.1 34 6 2 72 59 19 16 7</td>
<td>3.3</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sick to the stomach</td>
<td>43 2.4 41 1 0 54 23.9 32 8 2</td>
<td>2.9</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embarrassed</td>
<td>61 40.5 25 15 2 78 69.1 13 22 7</td>
<td>2.8</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angry</td>
<td>45 6.7 39 3 0 45 6.7 39 3 0</td>
<td>0.0</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afraid</td>
<td>52 19.1 34 6 2 66 42.9 24 12 6</td>
<td>2.3</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried</td>
<td>59 26.4 28 11 3 77 59.6 17 15 10</td>
<td>2.7</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>668 402 86 18 804</td>
<td>358 130 58 4.4</td>
<td>.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Column 1 - The total score for the 42 patients
Column 2 - Per cent of patients reporting discomfort
Column 3 - Number reporting no discomfort
Column 4 - Number reporting moderate discomfort
Column 5 - Number reporting severe discomfort

T - The T-value of the total score between the experimental and control groups.
Sig. - The level of significance between the experimental and control groups.
The T-value of 1.8 is significant at the .06 level, meaning this has a probability of less than 6/100 of appearing by chance, but since the null hypothesis is rejected only if the T-value has a probability of less than 5/100 of appearing by chance the null hypothesis must be accepted.

A null hypothesis was used to test the main hypothesis. The null hypothesis stated that the patient who received specific written information before the sigmoidoscopic examination reported the same discomfort as the patient who had not had this information.

Each symptom was analyzed separately.

Headache

In the experimental group two or 4.8 per cent of the patients reported a moderate "headache." In the control group four or 10 per cent of the patients reported having a "headache." Three of these patients reported a moderate "headache" and one reported the "headache" as severe.

Although the experimental group reported fewer headaches than the control group the T-value was not significant at the .05 level and the null hypothesis was accepted.

Vomiting

In the experimental group no patients reported "vomiting" while in the control group two or 4.8 per cent of the patients reported moderate "vomiting." Although the experimental group
reported no "vomiting" while the control group had two patients who reported "vomiting" the relationship between the two groups was not significant and the null hypothesis was accepted.

**Shakiness**

Ten or 23.9 per cent of the experimental group reported a moderate "shakiness." In the control group sixteen or 38.1 per cent of the patients reported "shakiness." Eleven in the control group reported moderate and five reported severe "shakiness." The relationship between the two groups was significant and the null hypothesis was rejected.

**Stomach cramps**

"Stomach cramps" were reported by thirteen patients or 31 per cent of the experimental group. Twelve of these patients reported the "stomach cramps" as moderate and one reported "stomach cramps" as severe. In the control group twenty-two or 53 per cent of the patients reported "stomach cramps." Thirteen in this group reported moderate and nine reported severe "stomach cramps." The relationship between the two groups was significant and the null hypothesis was rejected.

**Rectal pain**

In the experimental group eighteen or 42.9 per cent of the patients reported "rectal pain." Twelve of these patients
reported moderate "rectal pain" and six reported it as severe. Twenty-eight or 67.1 per cent of the control group reported "rectal pain." Seventeen of these patients reported having moderate "rectal pain" and eleven of this group reported severe "rectal pain." The relationship between the two groups was significant and the null hypothesis was rejected.

Dizzy

The experimental group had eight or 19.1 per cent of the patients report dizziness. They reported moderate dizziness seven times and severe dizziness once. In the control group six or 15 per cent reported moderate dizziness. Dizziness was reported by more patients in the experimental group than in the control group. The T-value was not significant and the null hypothesis was accepted.

Faint

In the experimental group two patients or 4.8 per cent reported feeling "faint." Moderately "faint" was reported once and severely "faint" was reported once. Two or 4.8 per cent of the control group reported they felt moderately "faint." Both groups had two patients reporting faintness. The relationship between the two groups was not significant and the null hypothesis was accepted.
Flushed or hot

"Flushed or hot" was reported by eight or 19.1 per cent of the experimental group. They reported moderately "flushed or hot" six times and severely "flushed or hot" two times. In the control group twenty-three or 59 per cent of the patients reported they were "flushed or hot." Sixteen in this group reported as moderately and seven reported as severely "flushed or hot." The relationship between the two groups of patients was significant and the null hypothesis was rejected.

Sick to the stomach

In the experimental group one or 2.4 per cent of the patients reported moderately "sick to the stomach." In the control group ten or 23.9 per cent of the patients reported "sick to the stomach." Eight patients of this group reported moderately "sick to the stomach" and two reported severely "sick to the stomach." The relationship between the two groups was significant and the null hypothesis was rejected.

Embarrassed

In the experimental group seventeen or 40.5 per cent of the patients reported embarrassment. Fifteen patients reported moderate embarrassment and two reported severe embarrassment. The largest group of patients to report discomfort on a single symptom were the twenty-nine or 69.1
per cent of the control group who reported embarrassment. Twenty-two of this group checked moderate embarrassment and seven checked severe embarrassment. The relationship between the two groups was significant and the null hypothesis was rejected.

Angry

Three patients or 6.7 per cent of the experimental group and three or 6.7 per cent of the control group reported moderate anger. Since both groups reported the same amount of anger the relationship between the two groups was not significant and the null hypothesis was accepted.

Afraid

Eight patients or 19.1 per cent of the experimental group checked "afraid." Six of these patients checked moderately "afraid" and two checked severely "afraid." The control group reported eighteen or 42.9 per cent of the patients as "afraid." Twelve were moderately and six severely "afraid." The relationship between the two groups was significant and the null hypothesis was rejected.

Worried

In the experimental group fourteen or 33.4 per cent of the patients reported they were "worried." Eleven checked
moderately "worried" and three checked severely "worried." In the control group twenty-five or 59.6 per cent checked they were "worried." Fifteen in this group checked moderately "worried" and ten checked severely "worried." The relationship between the two groups was significant and the null hypothesis was rejected.

**Total discomfort symptoms**

In the experimental group 104 discomfort symptoms were reported while 180 discomfort symptoms were reported in the control group. When the symptoms of discomfort reported by both groups were totaled and the T-value calculated the relationship between the two groups was significant at the .00002 level. The null hypothesis was rejected. This would seem to indicate that patients who receive written information before the sigmoidoscopic examination have fewer symptoms of discomfort than those patients who have not had this information.

One factor that may have influenced the findings was that during the first part of the study the clinic doctors seemed concerned about the way patients responded on the checklist and may have given the control group more support than the experimental group. However, the findings showed that the control group still reported more discomfort than the experimental group.
Summary

The null hypothesis was not rejected at the .05 level of significance for the following five symptoms: 1) headache, 2) vomiting, 3) dizzy, 4) faint, and 5) angry. Dizzy was the only symptom where the experimental group had a higher percent of patients reporting than the control group. The experimental group had a higher score on both dizzy and faint than the control group. All other scores and per cents were either the same or lower for the experimental group.

When the thirteen symptoms were treated as a whole the null hypothesis was rejected. It was also rejected for the following individual symptoms: 1) shakiness, 2) stomach cramps, 3) rectal pain, 4) flushed or hot, 5) sick to the stomach, 6) embarrassed, 7) afraid, and 8) worried.

These findings seem to indicate that patients who receive written information before the sigmoidoscopic examination have fewer symptoms of discomfort than those patients who have not had this information. Literature suggests that written information can successfully explain procedures to patients and produce a more cooperative and less anxious patient.¹

¹Kotzen, op. cit., p. 50.
III. ANALYSIS OF SUPPLEMENTARY DATA

Few written responses were given on the checklist. A description of the responses that patients did give is discussed. For each sex, age, and ethnic group of both the experimental and control groups the mean scores and T-values were calculated from the score values of the checklist. A larger mean score indicated more discomfort than one of less value.

Other responses

On the blank space at the bottom of the checklist marked "other" patients could write a further description of how they felt. In the control group six patients wrote on this blank area. Not all of these remarks could be classified as symptoms. Two of these complained that the examination took too long. One patient stated, "I wanted the doctor to tell me what was happening and to assure me that I could take it." One patient reported pain through the lower part of the abdomen and another stated that the examination table caused pain across the stomach. A patient who had checked five of the symptoms as moderate and one as severe wrote in the blank, "It wasn't as bad as I thought it would be."

In the experimental group one patient wrote on the space provided for a further description of how patient's felt. This patient complained that the "table hurt." The control
group made more comments than did the experimental group. The control group commented six times while the experimental group commented once. This may indicate more stress within the control group than within the experimental group.

The receptionist who worked in the clinic reported more stress, just prior to the examination, in the control group than in the experimental group. She stated that patients who received written information asked fewer questions and appeared less anxious before the examination than those who had not had this information.

**Age**

In both the experimental and control groups the greatest number of patients were between the ages of 60 to 89. The experimental group had twenty-three patients between the ages of 60 to 89 with a mean score of 15.30. The control group had eighteen patients between the ages of 60 to 89 with a mean score of 17.61. The T-value was significant and the null hypothesis was rejected. This age group had the lowest mean scores. This would seem to indicate that the 60 to 89 age group experiences less discomfort during this examination than the other age groups.

There were fifteen patients in the experimental group between the ages of 40 to 59 with a mean score of 16.6. The
control group of this same age had thirteen patients with a mean score of 20.6. The relationship between the two groups was significant and the null hypothesis was rejected.

The experimental group had four patients between the ages of 18 to 39 with a mean score of 16.75. In the control group eleven patients in the 18 to 39 age group had a mean score of 19. The T-value was not significant in this age group.

The mean score of all age groups was less in the experimental group. This would seem to indicate that all ages experienced less discomfort when given written information. The T-values and mean scores are presented in Table II.

**TABLE II**

T-VALUES AND MEAN SCORES OF THE DISCOMFORT EXPERIENCED BY AGE GROUPS

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Number of Patients</th>
<th>Mean Score</th>
<th>T-Value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60-89</td>
<td>23</td>
<td>15.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>60-89</td>
<td>18</td>
<td>17.61</td>
<td>2.8</td>
<td>.006</td>
</tr>
<tr>
<td>Experimental</td>
<td>40-59</td>
<td>15</td>
<td>16.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>40-59</td>
<td>13</td>
<td>20.61</td>
<td>2.7</td>
<td>.011</td>
</tr>
<tr>
<td>Experimental</td>
<td>18-39</td>
<td>4</td>
<td>16.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>18-39</td>
<td>11</td>
<td>19.0</td>
<td>1.6</td>
<td>.132</td>
</tr>
</tbody>
</table>

**Sex**

In the experimental group there were seventeen males
with a mean score of 14.82. The control group had eleven males with a mean score of 17.18. The T-value was significant and the null hypothesis was rejected. The mean score for the males of both the experimental and control groups is less than the female mean score in their respective groups as shown in Table III. This would seem to indicate that men experience less discomfort during this examination than women.

### TABLE III

**T-VALUES AND MEAN SCORES OF THE DISCOMFORT EXPERIENCED BY MALES AND FEMALES**

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex</th>
<th>Number of Patients</th>
<th>Mean Score</th>
<th>T-Value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>M</td>
<td>17</td>
<td>14.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>M</td>
<td>11</td>
<td>17.18</td>
<td>3.0</td>
<td>.005</td>
</tr>
<tr>
<td>Experimental</td>
<td>F</td>
<td>25</td>
<td>16.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>F</td>
<td>31</td>
<td>19.54</td>
<td>3.2</td>
<td>.002</td>
</tr>
</tbody>
</table>

In the experimental group the twenty-five females has a mean score of 16.68 while in the control group the thirty-one females had a mean score of 19.54. The relationship between the two groups was significant and the null hypothesis was rejected.

The experimental group had a lower mean score for both the males and females. These findings seem to show that both
sexes experienced less discomfort when they received written information. The T-values and mean scores of the discomfort experienced by males and females are shown on Table III.

**Ethnic groups**

The three ethnic groups that participated in this study were Spanish-American, Negro-American, and Anglo-American.

In the experimental group four patients with a mean score of 20.75 were in the Spanish-American ethnic group. The control group had twelve patients with a mean score of 18.91 in the Spanish-American ethnic group. The relationship between the two groups was not significant and the null hypothesis was accepted. These findings seem to show that Spanish-Americans who received written information before the procedure experienced more discomfort than those who received regular routine information. The experimental group sample of four patients in this ethnic group may have been too small and therefore, influenced these findings.

Twelve Negro-American patients with a mean score of 15.25 were in the experimental group. In the control group sixteen were in the Negro-American ethnic group and the mean score was 19.75. The Negro-American patients in the experimental group have a lower mean score than the Negro-American patients in the control group. This would seem to indicate that Negro-Americans who received written information about
this procedure experienced less discomfort than those who received regular routine information. The T-value was significant and the null hypothesis was rejected.

There were twenty-six Anglo-American patients with a mean score of 15.5 in the experimental group, while in the control group there were fourteen of this ethnic group with a mean score of 17. The Anglo-American patients in the experimental group had a lower mean score than those in the control group as shown in Table IV. The T-value was significant and

TABLE IV
T-VALUES AND MEAN SCORES OF THE DISCOMFORT EXPERIENCED BY ETHNIC GROUPS

<table>
<thead>
<tr>
<th>Group</th>
<th>Ethnic Group</th>
<th>Number of Patients</th>
<th>Mean Score</th>
<th>T-Value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Spanish-American</td>
<td>4</td>
<td>20.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Spanish-American</td>
<td>12</td>
<td>18.91</td>
<td>.8</td>
<td>.392</td>
</tr>
<tr>
<td>Experimental</td>
<td>Negro-American</td>
<td>12</td>
<td>15.25</td>
<td>3.7</td>
<td>.000</td>
</tr>
<tr>
<td>Control</td>
<td>Negro-American</td>
<td>16</td>
<td>19.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>Anglo-American</td>
<td>26</td>
<td>15.5</td>
<td>3.0</td>
<td>.004</td>
</tr>
<tr>
<td>Control</td>
<td>Anglo-American</td>
<td>14</td>
<td>17.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

the null hypothesis was rejected. This seems to indicate that Anglo-Americans who received written information experienced less discomfort than those who had not had this information. The T-values and mean scores of the discomfort experienced by ethnic groups are shown on Table IV.
IV. SUMMARY

The data collected for this study were taken from eighty-four part-pay clinic patients. The checklists were completed by forty-two patients in a control group who participated during the first part of the study and received no written information; and by forty-two patients in the experimental group who participated during the last part of the study and received written instruction and information sheets about the sigmoidoscopic examination.

Thirteen symptoms of discomfort were listed on the checklist and the responses checked by the patients were scored as none, moderate, or severe. A response checked as none received a score of one, while moderate received a score of two and severe received a score of three. The T-test was calculated for each symptom to determine the relationship between the two groups. Supplementary data included: 1) other symptoms that the patient described, 2) the patient's age, sex, and ethnic group. Mean scores were calculated from the score values of the checklist for sex, age, and ethnic groups.

The null hypothesis was rejected at the .05 level of significance for the findings as a whole and for the following specific symptoms: 1) shakiness, 2) stomach cramps, 3) rectal pain, 4) flushed or hot, 5) sick to the stomach, 6) embarrassed,
7) afraid, and 8) worried.

Patients who received written information did not write as many comments in the space provided for a description of "other" symptoms as those who had not received the written information. Patients of both sexes and all ages who received written information had less discomfort than those who had not had this information. Spanish-Americans who received written information had more discomfort than those who did not have this information. Written information decreased symptoms of discomfort for the Negro-American and Anglo-American ethnic groups.
CHAPTER IV

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

I. SUMMARY

The purpose of this study was to find out if discomfort symptoms of the patients who received written information concerning the sigmoidoscopic examination would differ from those of patients who did not receive this information. Such a study might be useful in better preparing the clinic patient for this examination.

The review of literature on the sigmoidoscopic examination revealed that although the procedure is usually not painful, it is uncomfortable for most patients. To gain the patient's cooperation and acceptance of the procedure the patient should be given an explanation of what will happen and of the preparation necessary. Most authorities agree that the patient needs information concerning the procedure.

In the review of literature dealing with the relationship between communication and stress it was found that communication seems to influence a patient's response to stress. Pre-procedure communication designed to explain to the patient exactly what is going to happen to him reduces tension and can make the patient more comfortable. Patients were interested
in and wanted to know their involvement in diagnostic procedures. Although medical persons were in agreement that information about a procedure decreases the anxiety of the patient, little evidence was shown that they actually gave much information. Because of the need for adequate communication between medical personnel and patients, written information about hospital procedures is being used successfully by some.

The experimental method of study was utilized. An instruction and information sheet and a checklist were prepared. Eighty-four patients participating in the study filled in the checklist when the sigmoidoscopic examination had been completed. The control group consisted of those 42 patients who participated during the first part of the study and received no written information. The experimental group were the next group of 42 patients who participated during the second part of the study and received written instruction and information sheets.

Patients could describe how they felt by reporting on a checklist where symptoms were scored as none, moderate, or severe. A response of none was assigned the value of one point, while moderate received two points, and severe received three points. The T-test was calculated for each symptom to determine the relationship between the two groups. Supplementary data included: 1) other symptoms that the patient
described, and 2) the patient's age, sex, and ethnic group.
As a result of a pilot study conducted on ten patients, one
minor change was made on the checklist.

The null hypothesis stated that the patient who
received specific written information before the sigmoido-
scopic examination reported the same discomfort as the patient
who had not had this information. When the thirteen symptoms
were treated as a whole the null hypothesis was rejected. It
was also rejected for the following specific symptoms: 1)
shakiness, 2) stomach cramps, 3) rectal pain, 4) flushed or
hot, 5) sick to the stomach, 6) embarrassed, 7) afraid, and
8) worried. These findings showed that the patients who
received written information before the sigmoidoscopic exami-
nation experienced less discomfort than patients who had not
had this information.

The supplementary data showed that patients who received
written information had not written as many comments on the
space provided for a description of "other" symptoms as those
who had not received written information. This may suggest
more stress within the control group than within the experi-
mental group.

The mean scores for sex and age groups were less in the
experimental group. This would seem to indicate that patients
of both sexes and all ages who received written information
had less discomfort than those who had not had this information. The mean scores showed that Spanish-Americans who received written information had more discomfort than those who did not have this information. The small size of this sample may have influenced the findings. Written information decreased the symptoms of discomfort for the Negro-American and Anglo-American ethnic groups.

These findings indicate that clinic patients should be given written information about the sigmoidoscopic examination to decrease symptoms of discomfort.

II. CONCLUSION

It can be concluded within the limitations of this study that written information about the sigmoidoscopic examination can lessen the discomfort symptoms patients experience during the procedure.

III. RECOMMENDATIONS

Based on the findings and conclusions of this study, it was recommended that:

1. Clinic patients receive written information prior to the sigmoidoscopic examination.

2. A similar investigation be conducted among patients having the sigmoidoscopic examination in a private doctor's office.
3. Similar investigations be carried out with different types of communication to determine the kind of communication conducive to good patient response and cooperation.

4. A comparative study be carried out among matched subjects, holding age, sex, and ethnic group constant.

5. A similar study be conducted to determine the effect of written communication on stress prior to the procedure.

6. Investigations be conducted with other medical diagnostic procedures to determine if the results would be the same as those found in this study.
BIBLIOGRAPHY
BIBLIOGRAPHY

A. BOOKS


B. PERIODICALS


C. UNPUBLISHED MATERIALS


APPENDICES
APPENDIX A

Checklist for Gathering Data to Assess the Amount of Discomfort Experienced by Patients During the Sigmoidoscopic Examination
Please place a check mark (✓) in the blank that most nearly describes the way you felt during the examination.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>None</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Headache</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Vomiting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Shakiness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Stomach cramps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Rectal pain</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symptom</th>
<th>None</th>
<th>Moderately</th>
<th>Severely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dizzy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Faint</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Flushed or hot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sick to the stomach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Embarrassed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Angry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Afraid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Worried</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (Please describe)..............................................................................

Age

Sex

Race
A sigmoidoscopy is an examination of the lower bowel. A doctor carefully inserts into the rectum a "telescope-like" instrument to visualize any disorder or disease of the lower intestine.

Please follow these instructions:

1. Your appointment is on __________ at _______. Do not eat anything after breakfast on this day.

2. Two hours before your appointment take warm water enemas until the returns are clear.

3. Please be on time for your appointment.

4. Bring your clinic card and the receipt to desk No. 5.

5. Be seated in the waiting room until the nurse calls your name and shows you to the examining room.
This is for your information and what you can expect:

1. The doctor will talk with you before the examination.

2. The nurse will position you on the examination table and cover you with a sheet.

3. The doctor will carefully insert the instrument into the rectum. The instrument sometimes causes a feeling of pressure, or a desire to have a bowel movement. The bowel is empty from the enemas taken earlier and there will not be a movement.

4. The doctor may insert air through the instrument and into the bowel so the walls of the bowel can be seen. The air may give a feeling of "gas" on the stomach.

5. The examination will go by more rapidly and with less discomfort if you can relax as much as possible.

6. The doctor will explain to you what he saw and will give you any needed instructions when the examination has been completed.

That is all!

You may now eat, drink, and be merry!
APPENDIX B

An Instruction and Information Sheet About the Sigmoidoscopic Examination
LOMA LINDA UNIVERSITY
Graduate School

THE EFFECT OF WRITTEN SIGMOIDOSCOPY INFORMATION ON DISCOMFORT
by
Sharon Anderson

An Abstract of a Thesis
in Partial Fulfillment of the Requirements
for the Degree Master of Science
in the Field of Nursing

June 1967
An experimental research study was conducted on eighty-four patients in one part-pay clinic. The study was guided by the null hypothesis which stated that the patient who receives specific written information before the sigmoidoscopic examination reports the same discomfort as the patient who has not had this information. The purpose of the study was to compare the discomfort experienced by patients who received specific information about this examination with the discomfort of patients who had not had this information. An instruction and information sheet was prepared to give the patient an idea of what to expect during the examination. A checklist was developed to assess the amount of discomfort experienced by the patient during the sigmoidoscopy. The patients were divided into two groups. The control group consisted of the first 42 patients who met the study criteria and received brief routine verbal instructions. The experimental group consisted of the next 42 patients who met the study criteria and received the prepared written instruction and information sheet. Following the sigmoidoscopic examination each patient in the study reported the amount of discomfort experienced on the checklist. The T-test findings showed that patients in the control group experienced more discomfort than those in
the experimental group. The findings also seemed to indicate that: 1) all age groups experienced less discomfort when they received written information; 2) both men and women experienced less discomfort when they received written information; 3) Negro-Americans and Anglo-Americans experienced less discomfort with written information but that Spanish-Americans experienced more discomfort with written information. It was concluded that written information lessened discomfort symptoms patients experienced during the sigmoidoscopic examination.