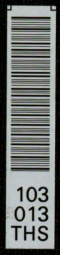
103
013
THS

This is to certify that the

thesis entitled

Efficacy of Video Tape Production

In Post-Operative Instruction

presented by

Dwight Brady

has been accepted towards fulfillment
of the requirements for

Masters degree in Telecommunication Mgt.

Major professor

Date August 8, 1990

# Efficacy of Video Tape Production In Post-Operative Instruction

By

Dwight John Brady

A THESIS

Submitted to

Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Telecommunication

1990

# ABSTRACT

## EFFICACY OF VIDEO TAPE PRODUCTION IN POST-OPERATIVE INSTRUCTION

By

Dwight John Brady

This thesis studied the efficacy of using the video tape medium in post-operative instruction of patients recovering from open heart surgery. Efficacy was measured in two primary dimensions: (a) perceived involvement of physician with recovery, and (b) actual understanding of information.

It was found that patients who were given a half hour video tape containing advice and instruction from health care professionals showed significantly higher levels of perceived physician involvement, than patients who were not given a tape.

Though not a significant factor individually, exposure to video tape combined with level of education, proved significant in increasing the level of actual understanding of information presented.

## DEDICATION

This thesis is dedicated in memory of Robert Curtis. During the final stages of preparing this writing, Uncle Bob was overcome by a lengthy bout with lung cancer (July 28,1990). His wealth of knowledge and his many stories will be sorely missed, but not forgotten.

## ACKNOWLEDGEMENTS

I would like to express my gratitude to Dr. Thomas Muth, for providing the impetus for this project and offering helpful guidance all along the way. I would also like to thank Dr. Gina Garramone, who not only devoted her time to analyzing the data, but her computer as well. A special thanks is due to Gary Reid and Stana Martin, who greatly contributed to the production phase of this work. Finally, I would like to thank Dr. Alonso Collar and the staff at Ingham Medical Center for their participation in making this undertaking possible.

TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

# INTRODUCTION

The need for extending health communication beyond the protective environment of the hospital is becoming increasingly important. Ten years ago, the normal stay for a patient following open heart surgery was ten to twelve days.[1] During this period, the patient was given extra time to assimilate new information required to best facilitate their recovery. Now, patient stays have been reduced to less than a week for many heart operations. This reduction is due in part to financial cut backs from Medicare and insurance companies, and advances in technology. Currently the trend is to eliminate the overnight stay in the hospital prior to certain heart operations. In addition to reductions in the length of stay, other factors may contribute to surgeons spending less time with their patients.

According to a panel of nurses and patient care managers, much of the contact with a patient following surgery has been delegated from the surgeon to physician assistants. This is attributed to greater work loads undertaken by heart surgeons. Ten years ago, a doctor would do no more than one surgery per day, now they perform as many as three.[2] This reduced opportunity for physician-patient interaction calls for alternate methods which provide health care information to recovering patients.

The purpose of the present study is to explore the efficacy of using the video tape medium as a means of extending home health care information to patients recovering from open heart surgery.

The study will attempt to assess the medium's ability to convey certain interpersonal qualities and instruction, often associated with positive health communication.

Efficacy will be examined in several different dimensions:

1. Perceived involvement of physician (Index of interpersonal involvement; i.e. demonstrated concern, attention sympathy, friendliness etc.)
2. Actual understanding of information presented
3. Perceived wellness of patient
4. Perceived helpfulness of information
5. Perceived effectiveness of media (print and/or video)
6. Usage of media (print and/or video)

## Scope of the Study

Although this field experiment is comprised of a nonrandom sample of relatively small size, it may provide useful information in several capacities. First of all, this study hopes to offer greater understanding of video tapes role in extending health communication into the home. Secondly, findings will aid in conducting more extensive research in this area. In an effort to improve the educational design and quality of future tapes, data regarding content and

helpfulness of the presentation will also be provided by this experiment.

This study will examine the efficacy of the video tape medium by using a four group design. The first group will be comprised of patients who view their own physician on the video tape. The second group will view the same video tape but will not be under the care of the physician shown on the tape. The third group will serve as the control for group one. These patients will be under the care of the same physician as those in group one, but will receive no video tape treatment. Group four will serve as the control for group two. Patients in group four will not be under the care of the same physician as group one and will receive no video tape treatment. All four groups will receive the same printed information to take home.

By employing a four group design, comparisons between users and nonusers of the medium will not only be possible, but comparisons regarding the personalization of the video tape medium will also provide meaningful information for future studies.

# CHAPTER I

## Reference Notes

1. Interview with Marilyn Ballantine and Renee Shannon, Patient Care Manager and R.N. Ingham Medical Center, Lansing Michigan, 28 June 1990. (Information based on their personal experience and recollection of procedure at Ingham Medical)

2. Ibid.

# CHAPTER II

## LITERATURE REVIEW AND CONCEPTUALIZATION

Research indicates that patients are satisfied with the medical care they receive from doctors, but are dissatisfied with the communication accompanying that care. (Decastro, 1972; Fuller & Quesada, 1973; Skipper, 1965a). This may be due in part to a tendency by physicians to see concern with "bedside manner" as a concession to "selling medicine" (Korsch & Negrete, 1972). Despite what preconceived ideas exist, numerous studies indicate significant relationships between patient satisfaction and the degree of the physician's perceived interpersonal involvement (Street and Wiemann, 1987; Kreps et al., 1987; Korsch et al., 1971). Perception of physician involvement has been studied by focusing on concepts such as amount of concern shown by physician, interest shown by physician, and time spent (Ben-Sira, 1976, 1980; Carter et al., 1982; Korsch & Negrette, 1972). These studies all found positive relationships between patient satisfaction and perceived involvement.

While the literature supports the need for positive interpersonal involvement by the physician, this may not be expedient due to the on going reduction of time spent by patients in the hospital. To help in extending the surgeon's role in the patient's recovery, use of the video tape medium is being explored. Production techniques used to foster

concerned and caring appearances by the health care professionals will be discussed in greater detail later in this chapter. At this point however, it is sufficient to say that findings from related research was utilized in the selecting content and style of the presentation.

Research also indicates that over use of medical jargon cannot only deter a patient's understanding of communication, but diminish their satisfaction with their physician (Cousins, 1985; Daly & Hulka, 1975). For this reason highly technical medical language was used only when absolutely necessary. Even in these circumstances, the technical term was often followed with a layman's term or description. Also, verbal instruction offered by the health professionals was at times supplemented by visual graphics displaying printed information.

A common problem for doctors, is getting patients to comply and adhere to medical treatment instructions (Hendin, 1977). Many studies have found that compliance is enhanced when doctors offer education about important aspects of the patient's illness and treatment regimen (Boyd, et al. 1974; Leistyna & Macaulay, 1966). Information of this nature was thoroughly presented during the first several minutes of the video tape in a segment titled, "Understanding Heart Disease." By using a plastic heart model accompanied with graphics and operative video, the physician explained the cause, treatment, and potential outcomes for patients.

Researchers also suggest that explaining the importance of adherence can increase patient compliance (Cole & Emmanuel 1971). Explanations regarding adherence were scattered throughout the presentation and were particularly frequent during the portion on exercise. These explanations by health care professionals were accompanied by an exhorting and encouraging testimonial from a recovering patient.

While an effort was made to limit the amount of authoritarian language, it was used in certain portions of the script. Research has shown that use of threatening communication has been found to be an effective method of enhancing adherence (Schmidt, 1977). Although communicating in an authoritarian manner may be hazardous, it can facilitate compliance when used sparingly and when the patient's viewpoint is considered (Svarstad, 1976).

## Needs Assessment

Patient needs were determined through consultation with health care professionals and existing literature regarding health communication.

An initial meeting consisting of medical professionals and media specialists met several months prior to the shooting of the video. This meeting was to help establish a goal for the production and the study as a whole. From this meeting it was determined that a video presentation comprised of distinct, clearly defined segments, would be most helpful. By producing the video in this manner, it was reasoned that the

patient would be allowed to select particular portions of the information most endemic to their individual needs. The segments outlined from this meeting were: Emotional aspects of recovery; Practical considerations (guidelines for daily activities); Medical considerations (taking medication, care of incisions, etc.); Warning signs; and Exercise.

These elements proved similar to information already being disseminated in print. It was important that the information included in the video also be covered in the accompanying take home literature in order to draw direct comparisons between the efficacy of the two media in terms of actual understanding.

Once having selected the overall topics, a more detailed needs assessment was undertaken.

Based on post-discharge research of cardiac patients, the most notable concerns of patients are: chest pain, arm numbness, and shortness of breath (Nicklin, 1986). In a study conducted at the University of Ottawa Heart Institute, patients were encouraged to telephone nursing coordinators anytime of the day or night if a concern or question arose. Fifty-three of the 217 patients called regarding chest pain, arm numbness, and shortness of breath. These leading concerns were addressed in the video during the portion on Warning Sings. The second most common concern or question pertained to medication. This issue was also addressed in the formulation of the script, and placed under the heading of Medical Considerations. Also covered under medical

considerations was the third most cited concern dealing with pain and swelling of the leg.

Research has shown that the emotional and psychological status of a patient can effect their recovery process, even to the point of life or death in certain cases of coronary surgery.

Low morale was a significant predictor of death in the study conducted by Garrity and Klein that assessed 48 patients for anxiety, hostility, and depression as compared with calmness and cheerfulness five days following admission to intensive coronary care. Of the 12 patients who died within six months of discharge, 10 had been characterized as suffering from unresolved emotional distress, and previous physical status did not explain the excess death rate among the depressed patients (Garrity & Klein, 1975). Another study found that 17 patients with myocardial infarctions (heart attacks) who subsequently died had significantly higher depression scores than did survivors (Bruhn et al. 1969).

Due to the importance of emotional and psychological factors in a patient's recovery from heart surgery, a separate category of the video was devoted to addressing these problems. By devoting an entire segment to the psychological aspects of recovery, more detail was included on ways the patient and their family could combat feelings of depression and anxiety. Also, by keeping this portion separate from the others, it could be referred to as needed then easily skipped once the patient had made sufficient emotional adjustments.

## Why Video

Currently, the most common way to extend health care information into the home is through literature given to the patient following their discharge. In the case of patients recovering from open heart surgery, these materials address primary areas of concern such as diet, physical limitations, emotional aspects, and exercise.

Research has shown however, that patients given only pamphlets and other printed literature have been found to demonstrate less adherence and comprehension than those patients exposed to mediated devices such a audio or video tapes (Assaf et al., 1985; Pinto et al. 1989).

Baskerville et al.(1985) found that audio tapes were perceived by 98% of the respondents as being helpful. Support for the use of video tape productions has also been found in pre-operative studies (Pinto et al. 1989), but little is known about the medium's efficacy in post-operative settings.

To maximize the potential effectiveness of the production, literature concerning the visual medium as an educational tool was also solicited along with articles pertaining to production parameters and quality considerations.

Television is a powerful medium. According to Drew Tiene, Assistant Professor in the Educational Technology Department of Kent State University, sequencing of shots and events can be controlled to portray a subject in a positive or

negative light. Music can be used to manipulate emotions and the proper delivery of a script can be very convincing. However the primary strength of the television medium is its ability to combine these stimuli with dynamic visuals. It is the visual that makes the narrative material more interesting (Tiene 1986).

By properly utilizing the television medium, it is hoped that the perceived involvement of the physician can be enhanced along with increased comprehension.

Jaako Ukkonen, an audio/visual specialist from Helsinki, Finland has published some extremely interesting statistics. Of all the things we hear, we recall about 70 percent after three hours and only 10% after three days; of things we see, we remember about 75% after three hours and about 20% after three days; of the things we both hear and see, we remember about 85% after three hours and about 65% still after three days (Ukkonen, 1988). This information seems to suggest that by combining audio and visual stimuli, a patient would tend to have greater comprehension of the information presented.

Equally as encouraging, is that learning through the visual medium has been elevated to a new dimension due to the rapid proliferation of the home VCR. With the popularity of the VCR, a barrage of exercise videos, home fix-it tapes, and others have emerged as instructional videos. While the integrity and quality of some of this fare is questionable, the potential for quality video instruction does exist in many different applications.

The use of a take home video tape for post-operative instruction may be especially helpful in eliminating miscommunication problems endemic to the medical profession (Kreps & Thornton, 1984). Cardiac patients in particular, are often in a state which seriously limits their comprehension, even several days following surgery (Atman, 1972; Sethee, 1967). By allowing the patient to take home a video tape containing carefully encoded messages, proper decoding of the intended information may be increased.

The ability to replay portions of the video that are of extreme importance or more complex is also made available by a made for VCR presentation. This is especially true with the addition of remote control units which would be invaluable to a recovering patient.

The environment in which the information is displayed may also be beneficial to both the patient and their families. According to previous post-operative studies using mediated devices, 75% of the patients listened to the audio tape with their spouses and 32% listened with other household members present (Baskerville et al. 1985). While the visual medium may produce differing levels of family participation it is logical to assume it will occur to some degree. Shared viewing would seem to be important in light of the serious consequences coronary surgery can mean for a family (Segev & Schlesinger, 1981). By placing a video tape in the home, it may help to foster family participation in the patient's

recovery and dispel certain misconceptions held by family members.

While the potential of the video tape medium is certainly promising, it is not to suggest that this medium is in any way a substitute for personal contact by a physician with a patient. The literature and recent trends in telecommunication do however, lend support for this medium as a viable supplement to personal communication.

## Production Parameters

The production under study was written and produced during a six month period from October, 1989 to April, 1990. All of the visual components, except for graphics were shot on location at Ingham Medical Center in Lansing, Michigan or in the surrounding area. Nearly seven hours of raw footage was required to produce the twenty-eight and a half minute video.

During the planning stages of the production many different details had to be considered. The length, content, pacing, and types of camera shots all had to be estimated and planned around the development of the script.

The length of the program was determined by several factors. The first consideration was made with respect to the amount of content. In order to parallel the written material, a great deal of information had to be included. This presented a problem of including enough information to be effective, without violating the parameters of the visual

medium which should not be used simply to transfer written information to a television screen.

Previous studies utilizing audio tapes ranged in length from 12.5 minutes to 20 (Young, et al. 1986; Baskerville, 1983). It was determined that the length of the participatory part of the video would be sufficient at roughly fifteen minutes in length while the semi-interactive exercise portion would proceed for approximately ten minutes. The completed length of the presentation, including introductory segments and close, totaled twenty-eight and a half minutes. Though several minutes longer than originally planned, the completed length was determined well within the typical television viewing time of half hour time blocks.

In order to maximize the patient's attentiveness during the nonparticipatory segments, the doctor's role of instruction was divided into four separate parts. Another section covering emotional aspects of recovery was placed in the middle of the doctor's instruction. This portion was hosted and narrated by a nurse. Her scripted instruction was also interspersed with comments from patients and their spouses regarding emotional and familial adjustments to the post-operative stage. By placing this portion between the doctor's instruction it allowed for a change in setting, personality and tone of voice. It was felt that changing the pace of delivery would help reduce the tendency for viewers to lose concentration.

The ordering of the topics was determined through the review of literature and through consultation with the participating physician.

As previously stated, compliance is enhanced when physicians educate their patients about important aspects of their illness and treatment regimen (Boyd et al. 1974; Leistyna & Macaulay, 1966). These findings plus a desire to present such background information in the early part of the video, made the topic Understanding Heart Disease first in the order of individual segments. The only disadvantage of making this topic the first instructional portion was the length required to fully explain the necessary information. Due to the length and detail of this segment, it was followed by Emotional Impact, which featured a new host. This was done for pacing considerations mentioned earlier. In addition to changing the talent and setting, the placing of this topic in the second position permitted the discussion of emotional aspects before getting into medical and practical considerations. This ordering scheme was used to make transitions more natural while creating a build up to the exercise portion (see Table 1). For instance, the three topics of: Medical Considerations, Warning Signs, and Practical Considerations were all related and allowed for logical transition statements made by the talent. Because information regarding practical considerations contained guidelines to activity it was easy to make the transition from this topic to the portion on exercise. In addition to

Table 1

Breakdown of time

spent by segment

| Item | Time |
|---|---|
| Musical Introduction | 1:00 |
| Talent Introduction | 1:10 |
| Understanding Heart Disease | 4:30 |
| Path To Recovery | 1:00 |
| Psychological Impact | 2:45 |
| Medical Considerations | 2:20 |
| Practical Considerations | 2:15 |
| Exercise Portion | 11:30 |
| Closing Comments | 1:15 |
| Credit Roll | :45 |
| Totals | 28:30 |

creating a building process, the exercise portion was placed near the end of the tape to facilitate easy location of this portion. It was felt that after one or two viewings of the entire tape, the patient would refer primarily to the exercise portion due to the repetition of exercises on a daily basis.

## Production Techniques

As stated earlier, a television producer has the ability to portray someone or something in a positive or negative light. For the goals of this project the former option was obviously selected in order to make the health care professionals as warm and caring as possible, without over dramatizing their appearance.

To give an example of how such abstract objectives were accomplished, a breakdown of the production techniques for the opening shot of the talent may be helpful.

The first consideration for this shot was the setting. This sequence was very important, because it would offer the health care professionals their first chance to make a positive visual impression on the viewer.

The second concern centered around the type of apparel the talent would be wearing. The third and perhaps most important consideration was the type of lighting that would be used to create the desired visual feeling.

After considering different options, a conference room which also served as a library for a group of physicians was chosen as the proper setting for the opening shot. This

decision was made for several reasons. First of all, the room's decor was virtually all wood which gave it a warm visual feeling. Secondly, the books on the shelves behind the subjects would also help to symbolize knowledge and medical competence.

The second issue of clothing was addressed by having only the exercise physiologist wearing the typical white clinicians coat, while the surgeon and nurse would appear well dressed but casual. The surgeon wearing a suit and tie, was placed between the exercise physiologist and the nurse who wore a dark colored dress. The rational for having the doctor and nurse appear without medical attire was to allow them to blend with the warm color and atmosphere of the setting. By having the exercise physiologist present in her white coat, it gave this shot an identifiable medical look while permitting the physician and nurse to retain a personable yet professional appearance.

The reason so much attention was paid to creating a warm and friendly atmosphere is due in part to research which found that the amount of warmth and friendliness shown by a doctor is positively related to satisfaction (Daly & Hulka, 1975; Korsch et al., 1968). To add warmth to this scene a golden gel was placed into to the back light. This helped accent the wood work while giving the talent more natural flesh tones than typical lighting techniques.

Other scenes were shot based on similar production techniques and research to determine the look and feel of the video in which health care professionals were portrayed.

The scene following the introduction was shot in a new location to simulate the physician making rounds. This was done by having him enter the picture coming out of an examining room. This time he was wearing a white coat which coincided with the clinical setting and the technical information about to be presented. Another reason for wearing a white coat is to allow the physician to establish medical authority following his role in the open which was purposely more informal. A study done in 1976, offers support for the manner in which these scenes were produced. Patients expect a certain degree of reassurance along with technical competence (Ben-Sira, 1976).

In an effort to add impact and a more personable feel to the entrance of the nurse, specific production techniques were utilized. A moving shot known as truck was used to give the feel of her talking with the patient while walking down the hall. By using this trucking technique, there was no need to verbally cue her entrance. This was due to an adequate change in time and space created through the use of the camera movement and transition music.

In striking contrast, a direct verbal cue was used to establish the entrance of the exercise physiologist. This verbal cue was accompanied by visuals effects. These obvious indications were purposely employed to cue the viewer as to

the events about to follow, and to clearly separate the exercise portion from the rest of the presentation.

A production technique which is normally associated with broadcast journalism was incorporated in this project. This was done by conducting on camera interviews with fomer patients and their spouses regarding their post-operative experiences. Their responses offered indirect sources of information. While they never directly addressed the camera, such as in the case of the health care professionals, their responses offered very candid and accurate information.

Research shows that family dynamics are affected when the head of the household has had an acute myocardial infarction or other serious complication regarding heart surgery. Significant changes in familial relationships can follow causing spouses to have difficulty in adjusting to this new situation (Segev & Schlesinger, 1982).

Because of the important role family members play in a patient's recovery, it was determined that comments from spouses and recovering patients themselves would offer encouragement and allow the viewer to compare their experiences with the persons interviewed in the video.

In addition to offering encouragement, some of the questions that were asked of the patients in the video were designed to solicit replies that would challenge the viewer. This technique was used especially in the portion on exercise. The purpose for such strong motivational appeals in this segment, is due to research which shows patients who are in

good physical condition may better tolerate further heart damage than those who are not (Segev & Schlesenger, 1981). While the use of established field production techniques were utilized to insure proper encoding of intended messages, many post-production techniques were employed to further enhance the quality of the overall production.

Dr. Larry R. Whiting, head of Information and Applied Communications at Ohio State University, states that a high quality video must be produced. Viewers have seen so much television that they easily recognize the difference between good and bad video production. Poor quality productions create boredom and loss of credibility. A program must provide more visuals than the typical "talking head" (McCallum, 1990).

Being mindful of society's demand for quality video production, extensive work was done in preparing a well conceived well edited and fast paced musical introduction. This was done to immediately sell the viewer on the quality of the presentation.

In step with proper visual theory, the opening shot consisted of a wide angle areal view of Ingham Medical Center. The second shot moves the viewer closer with a ground level view. A third shot offers still more detail, by showing a familiar portion of the facilities exterior. Next, a medium close up of a man looking towards the hospital establishes the arrival of a patient. Following these shots the viewer sees the man and his wife climbing stairs and entering the Thoracic

and Cardiovascular Institute. Their location is made known by a tight shot of the lettering on the door. From this point the viewer sees the patient going through preparation for surgery, and the doctors preparing for what appears to be the patients actual surgery. In reality, the surgical video used, was from another surgery that was video taped. As the music builds, a rapid sequence of shots showing the patient being wheeled out of surgery dissolves into a shot of the patient being wheeled out of the hospital in a wheel chair. In all, the entire admitting, preparation, surgical, and discharge sequence was shown in less than sixty seconds.

The introduction not only is used to sell the viewer on production quality, it is also used as means of setting the stage for information about to be presented. By visually reviewing the admitting, operative, and discharge sequence, discussion regarding post-operative care is now in order.

As the music begins to descend from its crescendo, the introduction video dissolves into the opening shot of the talent. At this point the pace is quickly diminished in order to establish a calm and reassuring introduction of the health care professionals. While the verbal pace continues at a very calm and steady rate, the use of visual effects help to provide eye catching movement in order to maintain the viewer's concentration. Use of colorful graphics and printed information also helped to reinforce the verbal instruction.

Each topical section was given a different color background to allow for easy location when scanning through

the video tape. For example, the segment on practical considerations was given a pleasant blue background while the portion on warning signs was given a red (alarming color) for its background.

The use of music was not only important in creating a dynamic introduction for the program, it was used to aid participation of the exercise portion. A certain musical selection was also used to provide a happy and somewhat triumphal close to the program.

In both the intro and the close, the title of the program, Heartcare appears. The title was constructed by using a Chyron character generator. The word Heart was typed in red with the word care typed in blue. A matching blue horizontal stripe was placed under the lettering to add continuity to the title when it was superimposed over other video sources. The color scheme of the title was even held constant in the packaging of the video cassettes. The color of the cases selected was very similar to the blue used on the title.

The reason for such extreme detail in the production and packaging, was due in part to industry and personal standards, and from a desire to simulate a commercially produced video presentation.

Research also indicates the need for quality considerations. John Phillipo of the Merimeck Educational Center in Salsbury, Massachusetts says that people of today are visual learners. Media producers who know about video

need to supply learning materials of high quality, equal to commercial quality.

In practical terms, the video being tested had to have all the components of a commercially viable production in order for this research to offer any clear meaning to those in the medical, and video production fields.

# CHAPTER II

## Reference Notes


1. Decastro, F. J. "Doctor-Patient Communication: Exploring the Effectiveness of Care in a Primary Care Clinic." Clinical Pediatrics 11 (1972):86-87.

2. Fuller, D. S., & Quesada, G. M. "Communication in Medical Therapeutics." Journal of Communication 23 (1973):361-370.

3. Skipper, J. K. "Communication and the Hospitalized Patients. In J. K. Skipper & R. C. Leonard (Eds.), Social Interaction and Patient Care (pp. 61-81). Philadelphia: J. B. Lippincott, 1965.

4. Korsch, B.M. & Negret, V.F. "Doctor-patient Communication." Scientific American 227 (1972;):66-70.

5. Street, R.L. & Wiemann, J.M. "Patient Satisfaction With Physicians' Interpersonal Involvement, Expressiveness and Dominance." Communication Yearbook 10 (1987):591-613.

6. Kreps, G.L., Ruben, B.D., Baker, M. & Rosenthal, S. "A National Survey of Public Knowledge About Digestive Health and Disease: Implications for Health Education." Public Health Reports 102 (1987):270-277.

7. Korsch, B.M., Freemon, B. & Negrete, V.F. "Practical Implications of Doctor Patient Interaction: Analysis for Pediatric Practice." American Journal of Disorders In Children 121 (1971):110-114.

8. Cousins, N. "How Patients Appraise Physicians." The New England Journal of Medicine (Nov. 28, 1985) p. 1422.

9. Daly, M.B., & Hulka, B.S. "Talking With the Doctor." Journal of Communication 25 (1975):148-152.

10. Hendin, D. The World Almanac Whole Health Guide. New York: North American Library, 1977.

11. Boyd, J.R., Covington, T.R., Stanaszek, W.F., & Coussons, T. "Drug Defaulting Part II: Analysis of Noncompliance patterns." American Journal of Hospital Pharmacy 1974, 485-491.

12. Leistyna, J.A., & Macaulay, J.C. "Therapy of Sterptococcal Infections." American Journal of Diseases of the Child 11 (1966):22-26.

13. Cole, P., & Emmanuel, S. "Drug Consultation: Its Significance to the Discharged Hospital Patient and its Relevance As a Role for the Pharmacist." American Journal of Hospital Pharmacy 28 (1971):954-960.

14. Schmidt, D.D. "Patient Compliance: The effect of the Doctor As a Therapeutic Agent." Journal of Family Practice 35 (1977):60-81.

15. Svarstad, B.P. Conformity In Medical Advice. In D. Mechanic (Ed.), The Growth of Bureaucratic Medicine, New York: John Wiley, 1976.

16. Nicklin, W.M. "Postdischarge Concerns of Cardiac Patients As Presented Via a Telephone Callback System." Heart & Lung 15 (1986):268-272.

17. Garrity T.F., & Klein, R.F. "Emotional Response and Clinical Severity As Early Determinants of Six Month Mortality After Myocardial Infarction." Heart & Lung 4 (1975):730-737.

18. Bruhn, J.G., Chandler, B., Wolf, S. "A psychological Study of Survivors and Nonsurvivors of Myocardial Infarction." Psychosom Med 31 (1969):8-19.

19. Baskerville, P.A., Heddle, R.M., Jarrett, P.E. "Preparation for Surgery: Information Tapes for the Patient." The Practioner 229 (1985):677-678.

20. Tiene, D. "Using Video to Facilitate Educational Change." Educational Technology (April 1986).

21. Ukkonen, J., "Audio-Visuality Squeezed Into the Classroom." International Journal of Instructional Media 15 (1988):3

22. Kreps, G.L., & Thornton, B.C. Health Communication: Theory and Practice. New York: Longman, 1984.

23. Atman, N. "Understanding Your Patient's Emotional Response." Journal of Practical Nursing 22 (1972):22-25.

24. Sethee, U. "Verbal Responses of Nurses to Patients in Emotional-Laden Situations in Public Health Nursing." Nursing Resarch 16 (1967):365-368.

25. Segev, U. & Schlesinger, Z. "Rehab of Patients After Acute Myocardial Infarction; An Interdisciplinary Family Oriented Program." Heart & Lung 10 (1981):841-846.

26. Young, R. S., Jourgenson, R. J., & Shapiro, S. D. "Efficacy of and Patient Preference for Three Counseling Formats." Journal of Craniofacial Genetics and Developmental Biology 6 (1986):3-14.

27. Baskerville, et al. "Preparation for Surgery Information Tapes for the Patient." The Practitioner 229 (1985):667-678.

28. Boyd, et al. "Drug Defaulting Part II: Analysis of Noncompliance Patterns." American Journal of Hospital Pharmacy (1974):485-491.

29. Leistyna, et al. "Therapy of Streptococcal Infections." American Journal of Diseases of the Child 111 (1966):22-26.

30. Daly, et al. "Talking With the Doctor." Journal of Communication 25 (1975):148-152.

31. Korsh, B. M., Gozzi, E. K., & Francis, V. "Gaps in Doctor-Patient Communication." Pediatrics 42 (1968): 855-871.

32. Ben-Sira, Z. "The Function of the Professional's affective Behavior in Client Satisfaction: A Revised Approach to Social Interaction Theory. Journal of Health and Social Behavior 17 (1976):3-11.

33. Segev, et al. "Rehab of Patients." Heart & Lung 10 (1981):844.

34. Ibid., p. 843.

35. McCallum, C. L. "Paint Blitz 89." M.A. Thesis, Michigan State University, 1990.

# CHAPTER III

## HYPOTHESES, RESEARCH QUESTIONS AND METHODOLOGY

Based on the preceding literature review we hypothesized that when a patient views his or her own physician on the video tape, they will demonstrate higher levels of satisfaction with their physician's involvement than patients under the care of another physician who view the tape. We also predicted that both groups exposed to the video will demonstrate higher satisfaction levels than those not exposed.

H1a: Patients exposed to video tape treatment will perceive greater physician involvement than those not exposed to the video.

H1b: The difference of perceived involvement between treatment groups and control groups, will be greater when patients view their own surgeon, than when patients do not view their own surgeon on the tape.

Due to the exploratory nature of this study, many research questions were asked to examine relationships and to inquire as to the preference of media type.

RQ1: Does the relationship between video tape exposure and satisfaction vary according to a patient's sex, education level, and age?

RQ2: Do patients exposed to the video tape demonstrate significantly greater satisfaction with their recovery process?

RQ3: Will patients consider the video tape production more helpful than written materials?

RQ4: Does media preference hold true regardless of whether a patient's own physician is featured in the video presentation?

RQ5: What are the reasons given for choice of media?

RQ6: Do age, gender, or education significantly interact with media preference?

H2: Patient exposure to media, significantly interacts with their actual understanding of messages:

R Q7: Which components of the video tape were most helpful?

## Methodology

Participants in this study were solicited from the Thoracic and Cardiovascular Institute in Lansing, Michigan. The non random sample contained 75 patients recovering from open heart surgery. Patients were assigned to one of four treatment conditions: Group 1, video exposure with own physician on tape (n=17) 9 male and 8 female; Group 2, video tape exposure without own physician on tape (n=30) 22 male and 8 female; Group 3, same doctor as Group 1 but no video tape exposure (n=11) 8 male and 3 female; Group 4, different physician than Group 1 with no video tape treatment (n=17) 8 male and 9 female. While only two groups received the video tape to take home, all four groups were given identical printed material.

The first and second conditions were compared to the third and fourth to test the efficacy of the video tape medium in altering levels of perceived physician involvement. Groups one and three and two and four were also compared for significant differences of perceived involvement.

Other comparisons were made regarding actual understanding, perceived wellness of patient, variables measuring effectiveness and patient preference of media.

## Stimulus

Patients were given several weeks to utilize their instructional materials as they chose. Along with their

printed materials, patients in the two video groups were given an identical 28 and a half minute video featuring instruction by medical professionals from Ingham Medical Center. The physician appearing on the tape was the surgeon who had operated on the patients in Group 1. Patients in Group 2, were under the care of other physicians. All patients in the study were under the care of the nurse and exercise physiologist appearing in the video.

## Questionnaire

Due to the absence of the video in the control group, two questionnaires were employed in this study. Both questionnaires were identical except that seven questions pertaining only to the video tape, were not present on the questionnaire administered to the control group.

The questionnaire given to the control group was made up of six parts, while the survey given to the two treatment groups divided into seven parts: perceived general health and understanding of material; actual understanding of material; specific information pertaining to the doctors role in the patient's recovery; information on the use and effectiveness of written materials; information on the use and effectiveness of the video tape presentation; information regarding the exercise portion; and demographic data.

Perceived general health, and understanding of information were determined by asking the patient to rate the overall progress of their recovery. The rating scale used in

this portion was a five-point summated rating scale. Patients were also asked to rate the ease of understanding and helpfulness of verbal information given to them by their doctor prior to discharge.

The perceived role of the doctor in the patient's recovery was compiled through an index of certain characteristics. The index included: concern for patient's well being; personal attention or interest shown; degree of sympathy; friendliness; encouragement; and amount of time spent with patient. Being consistent with the first three items, a five-point summated rating scale was used to measure the patient's perceived satisfaction with their physician's role in their recovery. Use of a five-point Likert scale is in keeping with previous studies examining patient satisfaction (Street and Wiemann, 1987; Zyanski et al. 1974). The Likert method of scoring with a range of five response alternatives was used in these studies in order to place greater emphasis on the strength or intensity of the patient's belief, which is important in understanding attitudes (Zyzanski, et al. 1974).

The eight items evaluating perceived satisfaction with involvement, were designed based on Zyzansky's satisfaction questionnaire which offered the patient an equal number of positive and negative statements. For instance, "My physician showed genuine concern for my well-being." This was followed by, "My physician did little to keep me from worrying."

Combining positive and negative statements was used as a means of reducing response set.

Statements regarding patient satisfaction with their physician were deliberately positioned before asking questions pertaining to use of instructional materials. This was done to insure that patient responses about their physician were not influenced by their answers to other questions.

Information concerning use and effectiveness of written materials include a forced choice question to determine frequency of use. Again a five-point scale was used to measure ease of understanding and level of helpfulness.

Identical questions were asked in reference to the use of the video tape. One other question regarding the presence of family members was added to the questionnaire containing the video tape portion.

A direct forced answer question asked the respondents which medium they found to be most helpful, the video tape or written materials? This question was followed by an open ended question leaving room for the patient to explain their choice of media.

To shed further light on the usefulness of the video tape, patients were given a list of the segments contained in the video and asked to rate them in order of helpfulness.

Information pertaining to a patient's perceived participation and actual recall was obtained by using both the five-point Likert and forced choice and open ended questions. For example, in evaluating the exercise portion, the patient

was asked: "How would you rate the effectiveness of your exercise program in helping you return to your normal daily activities?" The five choices ranged from, "very effective," to "not at all effective." The forced choice question determined perceived frequency of participation in home exercise work outs. This was done by asking patients to choose from listed frequencies such as "once per day," "once per week," etc.. This item was followed by an open ended question which probed for actual participation and understanding by asking respondents to list the names of the exercises contained in both the video and written materials.

Questions pertaining to gender, education level, and age were asked at the close of the survey.

Response to the questionnaire was nearly 100%, with no refusals and only several incomplete surveys.

## Procedure

The administration of the questionnaire took place during May through July of 1990. After spending three weeks at home following surgery, patients returned to TIC for a routine check up. Before seeing their doctor, patients were asked to fill out a brief questionnaire. Patients were told that all responses were to remain confidential.

The reason patients were given the questionnaire prior to their examination by their physician was to guard against any contamination of the key variables under study. The primary interest of this research was to obtain knowledge concerning

the manipulation of the personalization and media type variables. In sum the goal was to measure the effect of media manipulation on a patient's perceptions, rather than to measure the effectiveness of a physician's interpersonal skills on these perceptions.

It should be noted that patients who received the video tape were selected on the basis of access to a VCR. Patients who did not have access to a video player were either left out or placed in the control group. Ramifications of this procedure will be covered more fully in the discussion portion.

All instructional materials were distributed to the patients by the same nurse under similar conditions. This was done to eliminate any bias that may have occurred if some patients received the materials directly from their physician and others did not.

## Dependent Measures

To generate perceived physician involvement, a factor analysis was performed on the Perceived Involvement Index The eight items loaded together, forming a relatively strong index, alpha = .82.

Actual understanding was also generated by forming two separate indexes. The two items pertaining to comprehension of practical instruction shared a weak relationship $r = .17$, while the two items regarding exercise recall and warning signs shared a stronger relationship $r = .28$. An effort was

made to incorporate a four item index, but the items loaded independent of one another alpha = .39.

Perceived progress was developed by correlating measures of perceived progress with recovery and the perceived helpfulness of exercise in returning the patient to good health r = .49. Perceived progress was also used at times as a single item index.

Determination of elements in the video that were most helpful, was done by simply tabulating frequencies and means for each item according to the rank assigned to them by the patients.

To test H1a, ANOVA procedures were utilized to determine the significance of the tape treatment along with the interaction of the individual physicians.

To determine significant differences between the two groups exposed to the video and their respective control groups, a t-test was employed.

Except for RQ3 which required Chi-square, ANOVA procedures were utilized for the remaining hypotheses and research questions.

# CHAPTER III

## Reference Notes

1. Street, R. L., & Weimann, J. M. "Patient Satisfaction With Physicians' Interpersonal Involvement, Expressiveness, and Dominance." Communication Yearbook 10 (1987): 591-613.

2. Zyzanski, S. J., Hulka, B. S. & Cassel, J. C. "Scale for the Measurement of Satisfaction with Medical Care: Modification in Content, Format and Scoring." Medical Care 12 (1974):611-620.

3. Ibid.

# CHAPTER IV

## RESULTS

Hypothesis 1a proposed that patients exposed to video tape treatment would perceive greater physician involvement than those not exposed to the video. The data offered support for this prediction. Viewers of the tape demonstrated a significantly higher evaluation of their physicians perceived involvement (M=36.87) than did patients who did not view the tape (M=34.48), $F = 5.23$, $p < .05$.

According to Hypothesis 1b, it was also expected that patients who viewed their own physician on the tape would have a greater difference between their control group's mean than would patients who viewed a physician other than their own. The data did not offer support for this hypothesis. Utilization of a t-test actually revealed contrary findings. Viewers of their own physician (M=36.80) showed no significant difference with their control group under the care of the same physician (35.86). Patients exposed to the tape featuring a physician other than their own showed a significantly higher level of perceived physician involvement (M=36.92) than their control group (33.59), $t = 2.49$, $p < .05$.

Research question 1 asked if the relationship between video tape exposure and satisfaction with physician involvement varies according to a patient's sex, education level, and age. This question was important because these

level, and age. This question was important because these three variables were not evenly distributed among the four groups. In this test, both treatment groups were analyzed along with a third group which combined both control groups. In all three of the ANOVA tests which included the perceived satisfaction index with the tape variable and sex, education and age, the video tape variable emerged as the only significant difference between the groups, $F = 5.16$, $p < .05$, $F = 7.16$, $p < .001$, $F = 5.74$, $p < .05$ respectively.

Research question 2 asked if patients exposed to the video tape demonstrate significantly higher levels of satisfaction with the progress of their recovery regardless of age, sex and education. Once again the tape variable proved highly significant in all three ANOVA tests $F = 8.67$, $p < .05$, $F = 7.82$, $p < .001$, $F = 5.33$, $p < .05$ respectively. The education variable, did however prove significantly different between groups as well $F = 3.53$, $p < .05$.

Research question 3 asked whether or not patients would perceive the video tape production more helpful than the printed materials. Research question 4 extended RQ3 by asking whether media preference or perceived helpfulness of media, holds true regardless of whether a patient's own physician is featured in the video presentation.

A Chi-square of the data showed a significant relationship between perceived media helpfulness and personalization of the visual message (see Table 2).

When the patients viewed their own physician on the tape, 7 out of the 17 said they felt the video tape was the most helpful media while 5 said the printed materials were the most helpful and 5 said both were helpful.

Table 2

Frequencies of Media Choice By Group

Group: 1 = Own surgeon on tape
2 = Other than own surgeon on tape

| | Group | | |
|---|---|---|---|
| | 1 | 2 | |
| Media Choice | | | Row Total |
| video tape | 7 | 3 | 10 or 21.7% |
| printed material | 5 | 17 | 22 or 47.8% |
| both | 5 | 9 | 14 or 30.4% |
| Column Total | 17<br>37.0% | 29<br>63.0% | 45 or 100% |

Chi-Square = 6.60, Significance = .036

When patients viewed a physician other than their own, the perceived helpfulness of the video tape dropped significantly. Only three of the 29 patients rated the video as the most helpful of the two media, while 17 felt the printed materials were the most helpful and 9 said both were helpful.

To help determine why certain respondents preferred one form of media over the other, research question 5 asked, "what are the reasons given for choice of media?" This question is worded virtually in the same manner as the open ended question which appeared on the actual survey form.

Responses of those who felt the printed material was the most helpful seemed to center around two main factors. Many felt the printed material was easier to refer to, and that it contained more specific information. Other respondents who said they preferred the printed material felt the video was more of a reinforcement to information already presented in the hospital.

Those who preferred the video tape seemed to appreciate being able to actually see the exercises being done to insure they did them correctly. Others felt the video was easier to understand and that it was very helpful to the spouse and family members who had not been exposed to the information presented in the hospital.

To help in determining what types of patients tend to show certain preferences regarding choice of media, research question 6 asked, "Do age, gender, or education significantly interact with media preference?" A significant relationship was found to exist between a patient's age and their choice of media (see Table 3).

Table 3

Frequencies of Media Choice By Age

Age: 1 < = 60 years
2 > = 61 years

| | Age | | |
|---|---|---|---|
| | 1 | 2 | |
| Media Choice | | | Row Total |
| video tape | 3 | 7 | 10 or 22.2% |
| printed material | 13 | 9 | 22 or 48.9% |
| both | 2 | 11 | 13 or 28.9% |
| Column Total | 18<br>40.0% | 27<br>60.0% | 45 or 100% |

Chi-Square = 7.03, Significance = .029

The variable of education approached significance when comparing frequencies with the variable "Media Choice" (see Table 4). No significant findings emerged as a result of introducing a patients gender, which suggests an even distribution of media preference between males and females (see Table 5).

Table 4

Frequencies of Media Choice By Education

Education: 1 = Some High School
2 = High School Graduate
3 = Some College or Grad School

| | Education | | | |
|---|---|---|---|---|
| Media Choice | 1 | 2 | 3 | Row Total |
| video tape | 8 | 2 | 0 | 10 or 21.7% |
| printed material | 8 | 6 | 8 | 22 or 47.8% |
| both | 7 | 5 | 2 | 14 or 30.4% |
| Column Total | 23<br>50.0% | 13<br>28.3% | 10<br>21.7% | 46 or 100% |

Chi-Square = 7.83, Significance = .097

Table 5

Frequencies of Media Choice By Sex

Sex: 1 = Male
2 = Female

| Media Choice | Sex 1 | Sex 2 | Row Total |
|---|---|---|---|
| video tape | 7 | 3 | 10 or 21.7% |
| printed material | 15 | 7 | 22 or 47.8% |
| both | 8 | 6 | 14 or 30.4% |
| Column Total | 30<br>65.2% | 16<br>34.8% | 46 or 100% |

Chi-Square = .588, Significance = .745

Hypothesis 2 expected that exposure to media, would significantly interact with a patient's actual understanding of information. To control once again for age, sex and education, these variables were figured in to the analysis. An ANOVA test was run for both indexes representing actual understanding. The index combining exercise recall and warning sign recall showed no significant differences between groups, but a significant two-way interaction of media exposure and education was discovered $F = 3.39$, $p < .05$. When analyzing the comprehension index of the driving and lifting variables no significant differences were apparent, although media exposure approached significance when analyzed with the variable age, and education approached significance when analyzed with media exposure.

In order to help obtain information for future productions, research question 7 asked, "which components of the video tape were most helpful?" The segment entitled "Understanding Heart Disease" was rated as the most helpful portion of the video tape (see Figure 1).

## Additional Analysis

In terms of media usage, a significant difference emerged between the print media ($M=2.87$) and video tape ($M=1.55$). A t-test of the means representing frequency of use revealed a highly significant difference $p < .0001$.

# Rating of Instructional Segments
## By Perceived Helpfulness

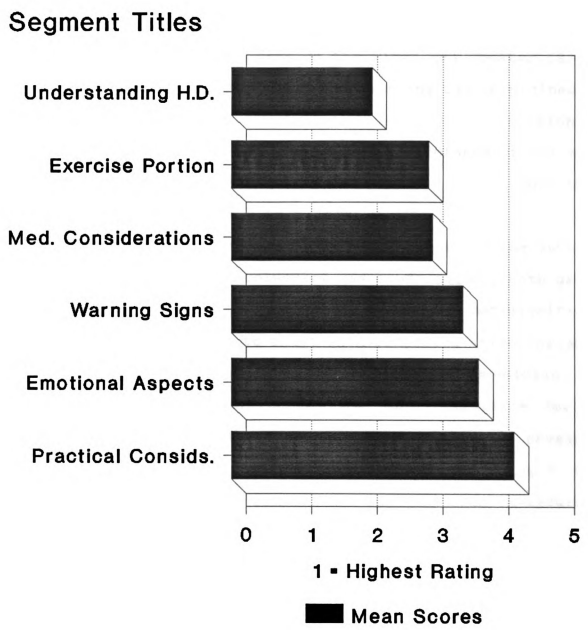


Figure 1

While frequency of use was higher for the print media, there were no differences between the levels of perceived helpfulness of print (M=4.72) and video (M=4.70). Even though the means were virtually identical, the percentage of respondents who marked the highest possible rank on the five-point scale for helpfulness of the video was greater (83.0%) than the seventy-four percent representing the helpfulness of print. It was also found that a significant relationship exists between a patient's perceived helpfulness of the video and their age Chi-Square = 27.0, sig = .007 and their education Chi-Square = 23.1, sig. = .026.

A correlation between video helpfulness and the level of perceived physician involvement was conducted for both groups exposed to the video. A moderately strong but not significant correlation was found to exist when comparing these variables for only the one group who viewed their own physician $r = .34$, $p = .181$. When running the same comparison for the patients who viewed the tape but without their own physician featured, showed a significant correlation $r = .51$, $p = .003$.

Other interesting comparisons included video helpfulness with education. A significant negative relationship emerged when these two variables were correlated for the group not viewing their own physician $r = -.36$, $p = .047$. For the group viewing their own physician, a similar but not significant relationship was also found $r = -.42$, $p = .089$. As one would expect the variable of education correlated well

with the two indexes measuring actual understanding. A significant relationship emerged with the index measuring recall of exercise and warning signs $r = .25$, $p < .05$. The education variable approached significance when correlated with the index measuring recall of practical considerations $r = .20$, $p = .075$.

A multiple regression of six predictor variables with the dependent variable of perceived involvement was also examined. The results showed that the variable "vidhelp" or video helpfulness emerged as the best predictor of perceived involvement $T = 3.28$, sig. = .002.

Information regarding the presence of family members while viewing the video was also made available (see Table 6).

Table 6

| Presence of Family Members | Percent |
|---|---|
| All of the time | 42.6% |
| Most of the time | 27.7% |
| Once in a while | 14.9% |
| Very few times | 6.4% |
| Never | 5.3% |

# CHAPTER V

# DISCUSSION AND RECOMMENDATIONS

## Possible Limitations

The present study sought to explore the effectiveness of the video tape medium in altering the perceived involvement of the patient's physician. It also attempted to determine the medium's effectiveness in contributing to improved understanding of medical information. Before discussing the results and their implications, it is important to mention possible limitations to the generalizability of these findings.

As mentioned in the Methods section, the sampling technique was not randomized. This was due to two main factors limiting this exploratory research. First, before a patient could be given a video tape, it had to be determined whether they possessed or had easy access to a video tape player. Patients who met this criteria were given a video to watch, while those without access to a VCR, were placed in the control group. Secondly, due to time constraints resulting from academic deadlines, the size of the sample had to be somewhat limited.

Despite the limitations of the sampling procedure and the relatively small sample size, there were no significant influences from the education, sex, and age variables upon the index measuring perceived involvement of physician. The

imbalance of these variables in certain cells however is of concern due to the significance of a patients education on their perceived helpfulness of the video tape medium.

It should also be remembered, that this attempt to measure effectiveness of the video tape medium in altering a patient's perception of their physician's involvement, is very new and pioneering. There is a need for alterations and replication before results can be viewed as a basis for any substantial decision making.

While a substantial reliability coefficient was found for the index measuring perceived involvement. A lack of a strong index for actual understanding should be cause for caution when interpreting any findings related to patient comprehension of information. Despite the overall weaknesses of the two indexes measuring actual understanding, there is evidence that they possess at least some accuracy. This is stated because the variable of education approached significance when analyzed with media exposure in an ANOVA with the comprehension index. Education and media exposure also combined for a significant interaction effect in a one-way ANOVA of the index made up of exercise recall and warning sign recall.

Education also approached significance when correlated with the index measuring recall of practical considerations.

## Discussion and Recommendations

The results supported the prediction that patients exposed to the video tape treatment would perceive greater involvement by their physician than those not exposed. The apparent reason for this difference would certainly seem to be the introduction of the video tape, because other factors such as age, sex, and education have no significant effect.

Confounding results surfaced however when testing the hypothesis that patients who are exposed to their own physician will demonstrate more significantly different levels of perceived physician involvement between treatment group and control group than the group not exposed to their own physician and their control group. The results actually showed a larger and statistically significant difference between treatment and control groups for the treatment group not exposed to their own physician. A possible reason for this occurrence was suspected due to an outlying case which was present in the treatment group of those patients exposed to their own physician. The patient in this case was very negative in virtually all of their responses concerning their perceived state of health and perceived involvement of the physician. This particular case was so different from the other 16 in this group, that the mean score with the case included was 36.79, with the case thrown out, the mean score increased almost a full point to 37.72. While this alteration made the differences between groups approach significance at

the .05 level, the overall difference was still less than the significant finding between the treatment and control groups for those patients not exposed to their own physician. Despite failing to reject the null hypothesis for H1b, it would still be worth testing under different circumstances, especially with a larger random sample of patients.

As mentioned earlier, there appeared to be no significant interaction between a patient's age, sex, or education level when rating the level of perceived involvement of their physician. This finding of research question 1, helped offer reliability to this study by ruling out the effect of these demographic variables while showing consistently significant results concerning the role of the video tape.

One of the more interesting findings of this study centered around media preference. While the majority of patients exposed to the video still felt printed materials were of more help, this certainly did not lessen the credibility of the video tape medium. The majority of patients exposed to their own physician found the video to be more helpful than print. Coming as somewhat of a surprise, those who said they preferred video over print were for the most part over 61 years of age, they were also less educated than those who preferred print. These findings lead one to hypothesize reasons why older and less educated patients seem to feel the video is more help than print. This may be due to the likelihood that older patients do not see as well to read as their younger counterparts and because they have less

formal education, they come from a more oral tradition than those who have been educated through written material.

Ratings of the different segments of the video production showed "Understanding Heart Disease," followed by "The Exercise Portion" to be the two most helpful parts of the video. These findings are interesting in that these two portions are by far the longest segments. The portion regarding understanding heart disease contained highly technical and detailed information. These two factors indicate that patients seem to prefer longer more detailed segments than faster moving overviews.

Because of a need for detail and easy reference, patients were found to use the print materials significantly more than the video tape. It is not clear however, exactly what this finding means. Because the measuring instrument did not ask for specific information concerning length of media use, any number of combinations could have brought about such a significant difference.

For instance, a patient may have considered referring to the printed material for one or two minutes at a time, three times a day, three different uses. At the same time they may have considered watching the video for fifteen minutes one use. Even though the total time spent watching the video would be far greater than the time spent with the printed material, this cannot be determined when only asking for the number of media uses.

## Recommendations

Regarding the prospect of future studies there are several options and alterations that should be discussed. One suggestion is that a study be attempted which utilizes a video similar to the one deployed in this study, but in the hospital to offer an overview to the patient and preparing them to go home. Also by offering the video in the hospital, patients who do not own a VCR could at least gain some benefit from the video. More elaborate studies designed to accommodate those not having access to a VCR could also benefit by this design. By having a patient view the tape in the hospital and become familiar with using a remote control device to play the tape, they would be more likely to use the video players provided to them for the experimental period.

In any case, the patient could be given upon discharge, a series of tapes that offer greater detail regarding various aspects of their recovery. For instance, a separate tape could be provided which dealt with diet, smoking and drinking. Another could focus solely on exercise. This would offer the type of detail that many patients seemed to indicate would be of help in video productions for the patient recovering form open heart surgery.

Because this study revealed that older and less educated patients seemed to prefer the video production as it stands, testing should also attempt to determine if too much detail will start diminishing the tapes effectiveness for this group.

In cases where there are no resources available to accommodate patients without access to VCRs, a sampling technique should be employed to assure randomization. This can be accomplished simply by permitting only those patients who own or have easy access to a VCR to be included in the overall population. Once establishing a population of patients who are eligible to participate, subjects could then be randomly assigned to either the treatment group or the control group.

Some amendments should also be considered for the measuring instrument used in this study. Greater information concerning recall and understanding would help in establishing a more reliable recall index. As stated earlier, a need to accurately measure media usage exists and could be solved by simply asking for length of use rather than just frequency.

One particular item on the perceived involvement index also should be reworded. The statement "My physician did little to keep me from worrying," seemed to confuse many patients. It appears that this subtle negative statement may be better worded in a positive manner.

While the questionnaire asked whether any family members were present, it did not ask which family members or how many were usually present when viewing the tape. This information could be helpful in designing a brief questionnaire for the patient's closest family members.

Despite some deficiencies in sampling procedure and questionnaire design, this study provided valuable

information. The findings do indeed indicate that presence of the video tape medium had a certain degree of impact upon the patient's perceived involvement of their physician. The results also suggest that patients perceived progress with recovery is also effected by the video tape treatment. Based on these results, the efficacy of video tape in post-operative care, is certainly a topic worthy of continued study.

# APPENDIX A

## APPENDIX A

## SAMPLE QUESTIONNAIRE

Upon your discharge from Ingham Medical Center, you were provided with information to aid in your rehabilitation process. To help us provide the best post-operative information possible, we would appreciate your participation in filling out this brief questionnaire. All responses will remain confidential.

FOR EACH QUESTION BELOW, MARK THE SPACE THAT BEST INDICATES YOUR FEELINGS.

1. How would you rate the progress of your recovery at this time?

   excellent ____ ____ ____ ____ ____ poor

2. When discharging you from the hospital, your physician verbally explained your rehabilitation process. How difficult was this explanation to understand?

   very difficult ____ ____ ____ ____ ____ very easy

3. How helpful did you find this explanation?

   very helpful ____ ____ ____ ____ ____ not helpful at all

THE FOLLOWING SET OF ITEMS ADDRESSES THE ROLE OF YOUR PHYSICIAN. FOR EACH STATEMENT, MARK THE SPACE THAT BEST INDICATES YOUR FEELINGS.

4. My physician showed genuine concern for my well-being.

   Strongly agree____ ____ ____ ____ ____Strongly disagree

Appendix A

5. My physician did little to keep me from worrying.

Strongly agree____ ____ ____ ____ ____Strongly disagree

6. My physician gave me adequate personal attention.

Strongly agree____ ____ ____ ____ ____Strongly disagree

7. My physician made me feel like everything would be all right.

Strongly agree____ ____ ____ ____ ____Strongly disagree

8. My physician showed little sympathy for my experiences while I was recovering from surgery.

Strongly agree____ ____ ____ ____ ____Strongly disagree

9. My physician needs to be more friendly.

Strongly agree____ ____ ____ ____ ____Strongly disagree

10. My physician seemed personally interested in me.

Strongly agree____ ____ ____ ____ ____Strongly disagree

11. My physician spent too little time with me.

Strongly agree____ ____ ____ ____ ____Strongly disagree

12. In addition to verbal explanations, your physician also provided you with some printed information to take home and review. How often did you refer to this printed information?

____ less than once per week
____ once or twice per week
____ three to four times per week
____ once per day
____ more than once per day

13. How difficult was this printed information to understand?

very difficult ____ ____ ____ ____ ____ very easy

14. How helpful did you find this printed information?

very helpful ____ ____ ____ ____ ____ not helpful at all

15. Your physician also provided you with a video tape which addressed the different aspects of your surgery and rehabilitation process. How often did you refer to this video tape?

____ less than once per week
____ once or twice per week
____ three to four times per week
____ once per day
____ more than once per day

16. When viewing the video tape, were other family members present...

____ all of the time
____ most of the time
____ once in a while
____ very few times
____ never

17. How difficult was this video tape to understand?

very difficult ____ ____ ____ ____ ____ very easy

18. How helpful did you find this video tape?

very helpful ____ ____ ____ ____ ____ not helpful at all

19. Which did you find most helpful, the video tape or the printed material?

____ video tape ____ printed material

20. In the spaces below, please explain your choice for question number 19.

_____

_____

_____

_____

21. What portions of the video tape were the most helpful to you? (Please rank the following with 1 being the most helpful and 6 being the least helpful.)

____ Practical considerations
____ Emotional aspects
____ Understanding heart disease
____ The exercise portion
____ Medical considerations
____ Warning signs

NOW WE WOULD LIKE TO ASK YOU SOME QUESTIONS REGARDING YOUR EXERCISE PROGRAM.

22. How would you rate the effectiveness of your exercise program in helping you return to your normal daily activities?

very effective ____ ____ ____ ____ ____ not at all effective

23. About how many times per week did you follow the exercise regimen given to you?

_____ 0
_____ 1 to 2
_____ 3 to 4
_____ 5 or more

24. What were the names of the exercises you were assigned? List as many as you can recall...

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

THE INSTRUCTIONAL MATERIALS YOU RECEIVED CONTAINED INFORMATION REGARDING VARIOUS ASPECTS OF YOUR RECOVERY. THE FOLLOWING QUESTIONS PERTAIN TO SPECIFIC INSTRUCTIONS YOU WERE GIVEN.

25. How many weeks following surgery should you wait before attempting to drive an automobile?

_____ two weeks
_____ four weeks
_____ six weeks
_____ eight weeks

26. During the early period of your recovery, you were instructed not to lift more than...

_____ five pounds
_____ ten pounds
_____ fifteen pounds
_____ twenty pounds

27. There are certain warning signs that you were instructed to look out for. Please list as many as you can recall.

_____ _____

_____ _____

_____ _____

THE FOLLOWING INFORMATION WILL BE USED TO MAKE STATISTICAL COMPARISONS BETWEEN PARTICULAR GROUPS OF PATIENTS.

28. Your age is between...

_____ 30 to 40
_____ 41 to 50
_____ 51 to 60
_____ 61 to 70
_____ over 70

29. Your sex... ____male ____female

30. Your level of education...

_____ some high school
_____ high school diploma
_____ some college
_____ college diploma
_____ graduate degree

Thank you very much for your time and participation.

---

FOR OFFICE ONLY

Patient # _____ Tape # _____ Physician # _____

# BIBLIOGRAPHY

# BIBLIOGRAPHY


Atman, N. "Understanding Your Patient's Emotional Response." Journal of Practical Nursing 22 (1972):22-25.

Baskerville, P.A., Heddle, R.M., Jarrett, P.E. "Preparation for Surgery: Information Tapes for the Patient." The Practioner 229 (1985):677-678.

Ben-Sira, Z. "The Function of the Professional's affective Behavior in Client Satisfaction: A Revised Approach to Social Interaction Theory. Journal of Health and Social Behavior 17 (1976):3-11.

Boyd, et al. "Drug Defaulting Part II: Analysis of Noncompliance Patterns." American Journal of Hospital Pharmacy (1974):485-491.

Bruhn, J.G., Chandler, B., Wolf, S. "A psychological Study of Survivors and Nonsurvivors of Myocardial Infarction." Psychosom Med 31 (1969):8-19.

Cole, P., & Emmanuel, S. "Drug Consultation: Its Significance to the Discharged Hospital Patient and its Relevance As a Role for the Pharmacist." American Journal of Hospital Pharmacy 28 (1971):954-960.

Cousins, N. "How Patients Appraise Physicians." The New England Journal of Medicine (Nov. 28, 1985) p. 1422.

Daly, M.B., & Hulka, B.S. "Talking With the Doctor." Journal of Communication 25 (1975):148-152.

Decastro, F. J. "Doctor-Patient Communication: Exploring the Effectiveness of Care in a Primary Care Clinic." Clinical Pediatrics 11 (1972):86-87.

Fuller, D. S., & Quesada, G. M. "Communication in Medical Therapeutics." Journal of Communication 23 (1973):361-370.

Garrity T.F., & Klein, R.F. "Emotional Response and Clinical Severity As Early Determinants of Six Month Mortality After Myocardial Infarction." Heart & Lung 4 (1975):730-737.

Hendin, D. The World Almanac Whole Health Guide. New York: North American Library, 1977.

Kreps, G.L., Ruben, B.D., Baker, M. & Rosenthal, S. "A National Survey of Public Knowledge About Digestive Health and Disease: Implications for Health Education." Public Health Reports 102 (1987):270-277.

Kreps, G.L., & Thornton, B.C. Health Communication: Theory and Practice. New York: Longman, 1984.

Korsch, B.M. & Negret, V.F. "Doctor-patient Communication." Scientific American 227 (1972;):66-70.

Korsch, B.M., Freemon, B. & Negrete, V.F. "Practical Implications of Doctor Patient Interaction: Analysis for Pediatric Practice." American Journal of Disorders In Children 121 (1971):110-114.

Korsh, B. M., Gozzi, E. K., & Francis, V. "Gaps in Doctor-Patient Communication." Pediatrics 42 (1968): 855-871.

Leistyna, J.A., & Macaulay, J.C. "Therapy of Sterptococcal Infections." American Journal of Diseases of the Child 11 (1966):22-26.

McCallum, C. L. "Paint Blitz 89." M.A. Thesis, Michigan State University, 1990.

Nicklin, W.M. "Postdischarge Concerns of Cardiac Patients As Presented Via a Telephone Callback System." Heart & Lung 15 (1986):268-272.

Schmidt, D.D. "Patient Compliance: The effect of the Doctor As a Therapeutic Agent." Journal of Family Practice 35 (1977):60-81.

Segev, U. & Schlesinger, Z. "Rehab of Patients After Acute Myocardial Infarction; An Interdisciplinary Family Oriented Program." Heart & Lung 10 (1981):841-846.

Sethee, U. "Verbal Responses of Nurses to Patients in Emotional-Laden Situations in Public Health Nursing." Nursing Resarch 16 (1967):365-368.

Skipper, J. K. "Communication and the Hospitalized Patients. In J. K. Skipper & R. C. Leonard (Eds.), Social Interaction and Patient Care (pp. 61-81). Philadelphia: J. B. Lippincott, 1965.

Street, R.L. & Wiemann, J.M. "Patient Satisfaction With Physicians' Interpersonal Involvement, Expressiveness and Dominance." Communication Yearbook 10 (1987):591-613.

Svarstad, B.P. Conformity In Medical Advice. In D. Mechanic (Ed.), The Growth of Bureaucratic Medicine, New York: John Wiley, 1976.

Tiene, D. "Using Video to Facilitate Educational Change." Educational Technology (April 1986).

Ukkonen, J., "Audio-Visuality Squeezed Into the Classroom." International Journal of Instructional Media 15 (1988):3

Young, R. S., Jourgenson, R. J., & Shapiro, S. D. "Efficacy of and Patient Preference for Three Counseling Formats." Journal of Craniofacial Genetics and Developmental Biology 6 (1986):3-14.

Zyzanski, S. J., Hulka, B. S. & Cassel, J. C. "Scale for the Measurement of Satisfaction with Medical Care: Modification in Content, Format and Scoring." Medical Care 12 (1974):611-620.