The Relationship Between Stress and Communication When Receiving an Injection

Ulla Maria Sundell

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THE RELATIONSHIP BETWEEN STRESS AND COMMUNICATION WHEN RECEIVING AN INJECTION

by

Ulla Maria Sundell

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

June 1966
I certify that I have read this thesis and that in my opinion it is adequate in scope and quality as a thesis for the degree of Master of Science.

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ACKNOWLEDGMENT

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CHAPTER I

INTRODUCTION TO THE STUDY

Researchers in many fields have studied the way people react to different situations in their environment. In the field of nursing it is important to understand the way patients react to their daily environment in the hospital where they are exposed to various satisfying and unsatisfying situations that create emotional responses.

I. THE PROBLEM

Statement of the Problem

Patients enter the hospital with mixed feelings because they do not know to what they will be exposed during their hospitalization. Injections are ordered by their doctors and given by nurses. As injections are given nurses use three main types of communication: the positive, the by-talk, and the negative. This study was concerned with the immediate reactions of the patients to these types of communication as used by the nurses during the administration of injections.

Need of the Study

Most patients would like to know something about what is being done to them. Skipper has stated that patients
are frustrated because of a lack of insufficient communication by nurses.\(^1\) The nurse herself needs a deeper insight into how her communication affects patients. Receiving an injection is often stressful for patients. A study of the effect of the nurses' communication on patients receiving an injection was chosen to demonstrate the degree of insecurity patients feel if information is inadequately given.

One of the main responsibilities of the nurse is to maintain the patients' equilibrium.\(^2\) This equilibrium is destroyed by stressful stimuli. Any stressful situation can produce pathologic changes in a patient's nervous system.\(^3\)

**Purpose of the Study**

The purpose of this study was to find out if there is a relationship between patients' stress and the three kinds of communication mentioned above as nurses administer the injection of a medication to patients. The three kinds of communication used in this situation were the positive, the by-talk, and the negative.


Hypotheses Guiding the Study

The researcher felt that positive communication will create less stress in the patient than by-talk communication, that by-talk communication will create less stress in the patient than negative communication.

Hence the following null hypotheses were used:
1. Positive communication will create more stress in the patient than by-talk communication.
2. By-talk communication will create more stress in the patient than negative communication.
3. Positive communication will create more stress in the patient than negative communication.

Basic Assumptions

For the purpose of this study it was assumed that nurses had been taught to meet the nursing needs of the patients by giving them adequate information regarding injections. But, since stress is often demonstrated when there is a lack of information at the time an injection is given, it was assumed nurses do not always fulfill one of their main responsibilities.

Scope and Limiting Factors

Patient stress was measured according to the
Subjective Stress Scale Checklist B that was developed by Kerle and Bialek. This scale is described in Chapter III.

The study was limited to 45 patients, age 18-75, who were selected without respect to religion, education, occupation, socio-economic background, or race.

The study was made among literate English speaking patients who were hospitalized between August 10 and September 30, 1965, in two general hospitals on the medical and rehabilitation units.

The study included patients' reactions to injections other than those given for relief of pain.

The study was limited to non-critically ill patients who were well enough to answer the checklist. Disoriented patients were not included.

The study covered only the feelings that the patients expressed on the checklist. No attempt was made to measure unexpressed fear or the effect of pain which might have occurred at the time the injection was given.

The study was conducted within the limits of the normal hospital situation.

II. METHOD OF THE STUDY

In this study the descriptive research method was employed with the use of the Subjective Stress Scale B.5

A pilot study was conducted to test the use of the SSS B checklist in the hospital situation and to find out if the patients understood the meaning of the checklist. In addition to the SSS B checklist three questions were asked the patients: (1) To explore their feelings about the checked items, (2) To determine the medication given, and (3) To find out what information the physician may have given about the medication.

A review of the literature was carried out to define communication in various forms and ascertain opinions of different writers regarding stress.

III. DEFINITION OF THE TERMS

Positive Communication

Positive communication is successful communication. Ruesch suggests that successful communication has four qualities: feedback, flexibility, appropriateness, and efficiency. Feedback provides an opportunity for a receiver to give back to the sender the effect of the message. Flexibility is neither enlarged control nor

5Kerle, op. cit., p. 10
exaggerated permissiveness. Messages are transmitted without losing information or adding anything to it. Appropriateness means that answers are suitable to the circumstances, are relevant, and are given directly to the original message. Efficiency is a use of clear simple language. The sender gives appropriate time to the receiver to evaluate the message, to find the answer, and to retransmit it.  

By-talk Communication

By-talk communication is irrelevant communication. It ignores the true message, and it replaces it with an entirely new topic. Disregarding the original message a conflict is introduced. The sender of the message hopes that whatever happens the situation will take care of itself.  

Negative Communication

Negative communication provides insufficient quality of information. Free flow of communication is delayed or hindered. Given message is inadequate or fully missing. Reply is inappropriate or not given at all. Flexibility is missing. Lack of efficiency is dominant.  

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8 Ibid., pp. 40-44, 273.
Nurse

In this study "nurse" was considered to be a person who worked on the unit caring for sick people. This included the R.N., the L.V.N., and the students of nursing.
CHAPTER II

REVIEW OF THE LITERATURE

This study is concerned with different types of communication, patient's reactions to stress stimuli, and relationships between communication and stress. An attempt has been made to gather a few thoughts and opinions from literature and recent research studies in the field.

I. COMMUNICATION

Definition

Kelly has defined communication briefly as, "Communication in the simplest sense means sending and receiving message." Davis quoted Ruesch's definition saying, "... communication embraces all the modes of behavior that one individual employs, consciously or unconsciously, to affect another ..." Bridgman referred in his definition of communication to expressed words, thoughts, and feelings. Sociologist Wayland pointed to communication as transferring
and interchanging processes of meanings and ideas between persons.  

The ancient Greek orators exercised the art of communication. They emphasized that practice and theory of communication should be combined. Eisenson supports the ancient Greek orators by saying that "the best communication is based upon a compend of theory." Garner does not hesitate to indicate that the most important tool in human communication is language. The main purpose of communication is to transfer ideas from one person to the other. When the transfer is accomplished then the speaker has communicated with the other person. "... This and nothing else, is meant by communication from person to person."  

Each word that the speaker says has a meaning. "Your words and the tone of your voice can elicit interest and

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17Ibid.
cooperation or boredom and inattention, even resentment and anger," 18 writes Kelly. She emphasizes also that communication is more complex and effective when it involves at the same time mannerism, attitudes, and emotions. 19

Types of Communication

Patients' emotional response to a certain procedure is largely influenced by communication that is given with the procedure. Past experiences also play a great role when the person is coping with stress. Meyers recently made a study of "The Effect of Types of Communication on Patients' Reaction to Stress." She employed in her study three types of communication: "structuring" communication, "no" communication, and "irrelevant" communication. Seventy-two hospitalized patients were divided into three groups. Each group was treated with different controlled communication as related to an artificial procedure that was unknown to the patients. Post-experimental interviews were performed. Meyers concluded that

. . . Less tension is created when the patient is given specific information upon which he can structure the event of impending stress . . .; but regardless of the fact that he may be over-fearful or denying as a result of his person-

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18 Kelly, op. cit., p. 104.

19 Ibid., p. 98.
alicy, communication is important. To tell the patient exactly what is going to happen to him . . . is most desirable. It decreases tension and can make the patient more comfortable during stressful events throughout hospitalization and/or illness.  

**Positive Communication.** The art of positive communication lies in effective interchange of ideas. The word positive can be defined in various ways. The common meanings are clear, unconditioned, sure, absolute, explicit, real, true, and affirmative.  

Patients expect positive communication from hospital personnel because these people are in charge of their welfare during hospitalization. In one of his studies Skipper found out that the patients had two primary objectives for communication in hospitals. The first one was to secure information, and the second was to provide interpersonal contact. From the patient's point of view "information" included a knowledge of their disease, the extent of their disease, an explanation about procedures done to them, and the hospital set-up. Interpersonal contacts included communication which brought less loneliness and helped them

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to obtain their rights in nursing care. 22

According to Aasterud the nurse has been considered as an "explainer" to patients. The nurse should be a judge of the stress experienced by her patients and decide how much explanation is needed in different situations. She should also determine when the explanation should be given. The information should include what will be done, how it will be done, and the extent of the expected action and the expected reaction of the patient. The patient would like to know these things, because he is not acquainted with them though they might seem to the nurse to be routine procedures that require minimum explanation. Aasterud pointed out that it is most important for the patient to get an opportunity to express his view of what will be happening to him. In other words positive communication should be two-way communication. 23 Nursing procedures should be explained briefly just before they are done. Psychologist Janis presumed that if a person is told in advance he may have too much time to think about it and a procedure can seem worse than it really is. A person who is afraid of an injection will suffer while he is waiting for it. 24

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22 James Skipper, and others, "Some Barriers to Communication Between Patients and Hospital Functionaries." Nursing Form 2:1:15, 1963.


24 Ibid., p. 41.
By-talk Communication. By-talk communication ignores the true message and replaces it with unrelated material. This is done because the sender of the message feels that certain material should not be related to the receiver. This way the receiver's response to the message will be postponed, fully avoided, or delayed. 25

Nurses often direct their words and communication to the patients in a manner that turns their attention away from their illness or what will be done to them. Kelly has found that this method is frequently used to distract the patients' thoughts from their problems. 26 Patients seem to be aware of this, since they complain that medical personnel speak to them in a language that they cannot understand. One patient called this "fancy language." He said that it left him to imagine a lot of things. 27 This will focus the patient's attention from the most serious things to the less serious. Another attitude the health team assumes when in the presence of the patient is to speak with highly sophisticated words so that the patient is unable to understand. 28

26 Kelly, op. cit., p. 110.
27 Skipper, "Some Barriers...", op. cit., p. 20.
Negative Communication. Negative communication is disturbed communication. Disturbed communication is deficient in both quality and quantity of the content. Free flow of the message is disturbed. The main features of the disturbed communication are lack of flexibility, inadequate response, and inefficient communication as a whole.29

One source of poor communication in hospitals is "nurses and doctors." They do not take time to speak to their patients. Often the nurses cut off two-way communication with their patients. They pretend not to hear what the patient asks them, and they walk away.30 This causes ill feelings in the patient. They give short unsatisfactory answers to the questions of nurses, and they refuse to ask questions. The same situation exists between doctors and patients. Certain patients decided to keep diaries about their hospitalization experiences. One patient wrote about a doctor, "He came over to me to talk, and when I was just about ready to say something, he was on his way out. He did that every day."31 Fear settled over many patients. They did not want to communicate about services, since they

29Ruesch, Disturbed... op. cit., pp. 40-44, 273.
31Skipper, "Some Barriers..." op. cit., p. 19.
thought that the result would be negative.32

Limited communication is often kept to the minimum level by the nurses as well as by the other hospital functionaries. Communication is considered a time consuming factor that should be avoided. Some nurses think that the patients do not need information about their illness. In the first place they are not able to understand it, and in the second it might cause an emotional response which will hinder their care and cure.33

II. STRESS

Stress Defined

Psychological stress can be defined in various ways. How stress is interpreted is related to a person's education and background. One calls it pressure of life, another feels it a disturbing factor in social intercourse, and still another experiences it as a response to an unpleasant stimuli which causes psychosomatic disease.34 Langner


33 Ibid., p. 37.

34 Richard S. Lazarus, and others, "A Laboratory Study of Psychological Stress Produced by a Motion Picture Film." Psychological Monograph, 76:34:553:1, 1962.
has spoken of stress as an environmental force pressing on an individual. Engel has emphasized stress as a bad force that keeps a person a victim of circumstances. If the person does not find any outlet for stress it will have harmful effects on his health.

**Stages of Stress**

Three general classes of stress have been designated by Schwab and Pritchard. (1) Mild stress lasts for two to a few hours. (2) Moderate stress lasts for days. (3) Severe stress remains for weeks, months, and years. Mild and moderate stress are usually found in hospital situations, whereas severe stress is the type that may take place in prolonged separation from loved ones.

Peplau has also described stress as mild, moderate, and severe, but she added "panic" as a fourth stage. In panic a person is terrified, is unable to function or communicate, and needs help to become comfortable.

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Marshall join Peplau in dividing stress into four stages.  

Funkenstein found in his experiments that, seen from the emotional point of view, the acute emergency reaction in a man can be divided into three main types, (1) anger directed inward, (2) anger directed outward, and (3) anxiety. Pointing anger at oneself is a threat to one's life. Directing anger outward is an escape from stress. Anxiety is a result of the total life experience of an individual.

Clack has explained anxiety in operational steps.

1. A person has expectations.
2. The expectations are not met.
3. A higher level of anxiety is experienced.
4. Aggression occurs.
5. Aggression is justified.

These operational steps can occur in different degrees. In the first step the person becomes emotionally involved and directs expectations toward the object. If an obstacle blocks the way he becomes more emotionally encircled by anxiety and he looks for a way out. Now anxiety is changed to relief-seeking behavior. This may occur in different ways. The person may be deeply upset. Mentally his defense mechanism is looking for an outlet. If the person has not

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39 Ibid., pp. 323-327.
41 Burd, op. cit., p. 357.
found the way out by accepted forms of behavior then anxiety will be converted into physical symptoms and become psychosomatic disease. Anxiety and stress can be controlled by converting them into learning behavior. 

Peplau's suggestions will take one of the following aspects, "to observe, to describe, to analyze, to formulate, to validate, to integrate, to test, and to utilize."

Selye has studied many stress situations, and he has divided them into three stages, alarm-reaction, resistance, and exhaustion. Alarm reaction occurs when a person tries to deal with a stress situation. In the stage of resistance one experiences emotional disturbance which might go so far that he is not aware of what he is doing. The other way to handle resistance is to overact to stress with normal or abnormal response. The third stage is exhaustion. This stage leads person to use up all resources of patience, strength, and also physical health. The consequences can be serious.

\[\text{\textsuperscript{42}}\text{Ibid.} \]
\[\text{\textsuperscript{43}}\text{Ibid.}, pp. 335-336. \]
\[\text{\textsuperscript{44}}\text{Robert V. Heckel, and Rode M. Jordan, Psychology. The Nurse and the Patient (Saint Louis: The C. V. Mosby Company, 1963), p. 103.} \]
Person's Reaction in Stress

Many studies have been made of people's reactions to stress situations. There is still no clear answer as to why people react as they do to varying situations of stress. Coleman points out that at our present stage of understanding only tentative assumptions regarding human reactions to stress situations can be made. 45

People react to stress both physically and mentally. First the body reacts with discomfort. Then the mind realizes an approaching obstacle and decides how to defend. Cooperating with each other mind and body meet consequences that lead to physical and mental efficiency. 46

Janis reported on a study of a few patients who displayed various symptoms in acute situations. After surgery a 31-year-old housewife had several emotional attacks. In one occasion she said, "I felt terrified. I had cold sweat all over my body. I didn't think I could stand it." 47

People react different ways in stress. A doctor was interviewed after a stress situation. He said, "I could tell you that I went through it fine, but the truth is that


47 Janis, op. cit., p. 240.
I didn't. I was like a child . . . and I really learned what intense anxiety is from that experience."\(^{48}\)

An acute reaction may become very dramatic. After being beaten by someone a person said, "I felt there was no use going on living. I threw myself under a car and I was run over but not badly hurt . . . I have been afraid of crossing the street ever since then, and I worry about my children crossing streets because of it."\(^{49}\)

These reported cases show the different ways people react to stress. The housewife felt terrified and powerless. The doctor felt as a child. The mother did not feel worth living. Speaking about similar situations Freud wrote that "The price of civilization is paid, not only in the coin of psychological suffering, but also in psychological coin as well."\(^{50}\)

**Relationship of Communication and Stress**

In view of the relationship between information and stress, it seems that poor communication in the form of insufficient and inadequate information from medical personnel is a major cause of stress. Janis' research in the field of stress shows many valuable findings concerning the relationship between communication and stress experienced by the patient.


\(^{50}\) Funkenstein, *op. cit.*, p. 169.
The findings bear out the prediction derived from the assumption that the occurrence of acute emotional disturbances during exposure to stressful circumstances depends partly upon whether or not the person has been exposed to preparatory information beforehand.51

One of Janis' interviews revealed that inadequate information of a procedure can cause a patient to oppose a stress situation. Mrs. C. had undergone an abdominal surgery. She had been cooperative during her hospitalization. A day after surgery a doctor stepped into her room with a lavage tube and asked her to open her mouth. She refused since she did not know why this was done and what he was doing. She asked him to leave her alone. A little later another doctor came in and explained the procedure to her and why it was to be done. He finished the lavaging. Later the patient told that "This thing was so awful because I hadn't expected it and I thought something must have gone wrong."52

Ruesch wrote about gratifying and frustrating communication.

The pleasure that individuals derive from well-functioning communication constitute the driving force which induces them to seek human relations. Frustrating communication, in contrast, manifest itself by increasing symptom formation, and it tends to make individuals withdrawn from illfunc-

51 Janis, op. cit., p. 358.

52 Ibid., pp. 361, 362.
tioning networks. Gratifying communication is the key note of mental health.\textsuperscript{53}

The patient's separation from his familiar surroundings upon entering the hospital causes him to think about the dangers and threats of the hospital life. Good communication of medical personnel will give him security and happiness.

If his condition is related to an inner conflict which is evidenced by guilt, shame, fear, anger, or depression, communication can help the patient to relive past experiences, to gain insight into his present circumstances, and to adopt a behavior which is favorable to the gradual reduction of the conflict.

If his condition is related to the experience of anxiety in the face of unalterable somatic, physical, or social circumstances, communication with the patient may help to reduce his apprehension and fear.\textsuperscript{54}

Successful and efficient communication gives pleasure to human beings in the social network, but disturbed, inappropriate communication creates frustration and stress.

III. SUMMARY

Authors agree that communication is important in the social network. Different authors give a variety of reactions to positive communication. They show that both sender and receiver play an active role in communication with each other. A nurse particularly should be a good "explainer"

\textsuperscript{53}Jurge Ruesch, \textit{Therapeutic Communication, op. cit.}, p. 460.

\textsuperscript{54}\textit{Ibid.}, pp. 462-464.
to patients.

Some authors draw attention to the fact that there is much social and psychological pathology in to-day's communicative behavior. Irrelevant or by-talk communication is used to confuse or distract the patients; disturbed or negative communication appears when a sender does not give needed information to the receiver.

The writings of psychologists and sociologists show that people react in various ways upon discovering that they are exposed to danger. Here starts a stress situation. A person can experience fear, anger, hatred, tension, loss of memory, and frustration. Writers have identified as many as four stages of stress: mild, moderate, severe, and panic.

The relationship between communication and stress is intimate. A well-functioning communication leads the participants to reach the goal of successful communication that is satisfying to both sender and receiver. Negative communication often causes the patient to resist a procedure and create anger.
CHAPTER III

METHODOLOGY

The descriptive research method was used to test the hypotheses. The descriptive method "is concerned with conditions or relationships that exist; practices that prevail; beliefs, points of view, or attitudes that are held; processes that are going on; effects that are being felt; or trends that are developing." 55

I. THE SAMPLE AND THE TOOL

Selection of the Sample

The purposive sampling method was used; patients who were too old or too young, who received pain medications, who did not understand English, and those unable to comprehend or understand questions because of confused minds, anesthesia, and physical suffering were automatically excluded from the study. The sample was selected on seven medical and on one rehabilitation units during the administration of morning medications.

Selection of Nurses

Seventeen nurses participated in this study. These nurses were assigned to administer injections to the patients on one rehabilitation and on six medical units. The nurses selected were Californian Registered Nurses, Licenced Vocational Nurses, and students of nursing. Each nurse was observed while she prepared the injection; how she cooperated with her fellowworkers and visitors was scrutinized.

The nurses carried out fifteen positive communications, fifteen by-talk communications, and fifteen negative communications. Four of seventeen nurses gave only one injection each. The rest of the nurses gave two or three injections each.

Subjective Stress Scale B

Subjective Stress Scale B was developed by Kerle and Bialek. The purpose of the SSS B Scale was to measure the dimension of fatigue after a stress situation. The authors assumed that this scale would reveal an individual's reaction to stress.

In developing of the SSS B checklist Kerle and Bialek gathered 210 words which described stress. One-hundred and ten words were eliminated because they could be interpreted more than one way, they were irrelevant; the word was not interpreted according to Thorndike-Lorge Dictionary; or the
word was a colloquialism with no accepted definition. Sixty judges were selected who were English speaking and literate. The judges interpreted the final 100 words. Instructions were given to the judges to place the words into eleven piles according to how they interpreted the words. The piled words formed the checklist. Table I.

The SSS B checklist was tested. The first testing was done at Navy Fire Fighting School. The subjects were selected randomly. Before and after a tank fire and an engine room fire all subjects were asked to check the checklists. The subjects reported that putting out fire is a stress situation.

---

56 Kerle, op. cit., pp. 5-10, 18-23, 34, 35.
<table>
<thead>
<tr>
<th>Item</th>
<th>Score Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wonderful</td>
<td>00</td>
</tr>
<tr>
<td>Fine</td>
<td>09</td>
</tr>
<tr>
<td>Comfortable</td>
<td>17</td>
</tr>
<tr>
<td>Steady</td>
<td>27</td>
</tr>
<tr>
<td>Didn’t bother me</td>
<td>40</td>
</tr>
<tr>
<td>Indifferent</td>
<td>48</td>
</tr>
<tr>
<td>Timid</td>
<td>57</td>
</tr>
<tr>
<td>Unsteady</td>
<td>64</td>
</tr>
<tr>
<td>Nervous</td>
<td>69</td>
</tr>
<tr>
<td>Worried</td>
<td>74</td>
</tr>
<tr>
<td>Unsafe</td>
<td>78</td>
</tr>
<tr>
<td>Frightened</td>
<td>83</td>
</tr>
<tr>
<td>Terrible</td>
<td>87</td>
</tr>
<tr>
<td>In agony</td>
<td>92</td>
</tr>
<tr>
<td>Scared stiff</td>
<td>94</td>
</tr>
</tbody>
</table>

The second testing was done by the Rope Bridge at Pilarcitos. A random sample of thirty selected soldiers crossed a rope bridge that was 150 feet long and fifty feet high above the bottom of the ravine. The SSS B was administered before and after crossing the bridge. The results indicate that there was "a significant shift toward the positive affect region upon completion of the bridge crossing as compared to the feelings expressed both at the beginning of, and during, the crossing." The findings of the studies increased the confidence of the control in the SSS B checklist.

Nine years after the development of the SSS B checklist Berkun, Bialek, Kern, and Yagi made a study of psychological stress in man and used the SSS B checklist. This study was performed at the United States Army Leadership Human Research Unit, Presidio, California. The rank-difference correlation coefficient "between the mean performance score and the mean SSS score for the seven situations was -.60 for Low and -.82 for High performance." The findings were that different subjects responded differently in an emergency situation.

57 Ibid., pp. 23-27.
58 Ibid., p. 27.
The SSS B checklist has four positive or low items, two neutral items, and nine negative or high items. It ranges from the word "wonderful" to the word "scared stiff." The SSS B checklist with space for comments as used in this study is found in Appendix A.

Selection of Two General Hospitals

Two general hospitals that have several medical units were selected for collecting the data. Permission to use the facilities was obtained from the Director of Nursing Service of each hospital.

II. ADMINISTERING THE INJECTION

Identifying information was recorded on each patient and included the name of the patient, sex, age, nationality, chart number, days of hospitalization, previous hospitalization, and the name of the medication administered. "Patient's Data Sheet" is found in Appendix B. The days and the number of hospitalizations were considered important, since experienced patients would be more adapted to the ways and procedures in the hospital. All this information was obtained from the patients' charts.

Except for the controlled communication of nurses the patients' environment was kept as it is found in routine hospital life.
The nurse prepared the ordered injection and checked it against the patient's records. She entered the room of the patient and carried out the controlled communication.

Positive Communication

The nurse communicated with the patient effectively. She tried to stimulate positive responses. The nurse emphasized knowledge and basic information of the medication and exchanged ideas to affect the behavior of the patient in a positive way.

The nurse spoke to the patient in the following manner.

1. She said, "I would like to give you the injection which was ordered by your doctor."

2. She told the patient any possible effect of the injection, for example, "This injection will help to clear up your infection. The effect of it will last about twelve hours. If you feel any side effects, please let me know."

3. She asked the patient where would he like to get the injection.

4. She explained to the patient that the injection would hurt a little.

5. She informed the patient of the time of the next injection.

---

By-talk Communication

By-talk communication is that used by the nurse when distracting the patient's attention from the procedure of administering the injection. The method used was to speak to the patient, for example, about a nice day, or something else she thought would be of interest to the patient. The injection was not explained to the patient. The nurse carried on the following procedure.

1. She said, "I would like to give you your injection."

2. The nurse tried to lead the patient's thoughts from the beginning to the existing day or something else that would interest him.

3. The injection was not mentioned any more.

4. The nurse administered the injection and departed without explaining anything about the injection.

Negative Communication

Negative communication was limited to the extent that the patient did not get any sufficient information or its substitute before or after the injection. The following procedure was carried on by the nurse.

1. She said, "I would like to give you an injection."

2. The nurse did not say more about the injection or anything else. She gave the injection and left the room.

3. If the patient insisted on an answer she was
allowed to say, "Just a moment, please." She quickly administered the injection and left without giving the wanted explanation to the patient.

III. ADMINISTERING THE SSS B CHECKLIST

Immediately after the nurse stepped out of the room the researcher stepped in with the SSS B checklist. She said to the patient, "I need to know your reaction to what the nurse said about the injection you just received." She handed the SSS B checklist to the patient and said, "Would you please check the word on the checklist which best describes your feelings just before I entered." After the patient had checked the word on the list she asked the patient to (1) "Explain in a few words how you feel about the word you just checked," (2) "How did you feel about the medication which you just received?" and (3) "What did the doctor tell you about this injection?" The answers were recorded under "Comments."
CHAPTER IV

FINDINGS, ANALYSIS, AND INTERPRETATION OF DATA

Forty-five patients were given the SSS B checklist to measure the stress they experienced immediately after they received their injections with controlled communication. A description of the patients and the data gathered are treated in this chapter.

I. DESCRIPTION OF THE SAMPLE

The forty-five patients included some who were on the units at the beginning of the study, and some who were admitted to the units the day before the researcher was present. All forty-five patients met the study criteria. The group included thirty-five females of which only one was unmarried, and ten males, all of whom were married. More than half (23) of the patients had been hospitalized more than six days. The others had been hospitalized from seven to twenty days. Appendix D. The medium age for the whole sample group was forty-six (46). Thirty-three of the patients had had an earlier hospitalization. Appendix F. Six of the patients received their first injection during this period.

The patients were assigned to three groups according to the type of communication to which they had been subjected.
II. HANDLING AND INTERPRETING THE DATA

The responses to the SSS B checklist were tabulated according to the score values as shown in Subjective Stress Scale Checklist. Table I. Means and standard deviations were calculated from the score values of the SSS B checklists.

The answers of the patients to the three interview questions were gathered from three different communication groups and categorized according to their responses to the three different approaches of nurses. In addition, the answers to the three questions in each individual group were analyzed according to the patients' identification data.

Some items of interest and recommendations were recorded and conclusions drawn.

III. DESCRIPTION OF THE SUBJECTIVE SELF-REPORT OF THE SSS B SCALE

The words in the SSS B checklist ranged from "Wonderful" with the score value 00 to "Scared stiff" with the score value 94. After the nurse administered the injection to the patient, the patient picked the one word in the SSS B checklist that best described his feelings toward the nurses' communication. The means of each controlled communication group are shown in Table II.
TABLE II

MEANS OF THE PATIENTS' SUBJECTIVE SELF-REPORT OF THE CONTROLLED COMMUNICATION BY NURSES

<table>
<thead>
<tr>
<th>Controlled communication</th>
<th>N</th>
<th>M</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>15</td>
<td>26.8</td>
<td>16.8</td>
</tr>
<tr>
<td>By-talk</td>
<td>15</td>
<td>35.8</td>
<td>18.1</td>
</tr>
<tr>
<td>Negative</td>
<td>15</td>
<td>45.0</td>
<td>26.3</td>
</tr>
</tbody>
</table>

N=Number of patients in group

The mean of the positive communication fell between "Comfortable" and "Steady" in the SSS B checklist. In the by-talk it was between "Steady" and "Didn't bother me," and in the negative communication between "Didn't bother me" and "Indifferent." None of the subjects checked the items "Worried," "Terrible," and "Scared stiff." All other items were checked unevenly. Statistically significant levels are discussed later.
IV. STATISTICAL RELATIONSHIPS BETWEEN THE CONTROLLED COMMUNICATION GROUPS

Independent score values of positive communication ranged from 00 to 48 in the SSS B checklist. By-talk scores ranged from 09 to 69, and negative values ranged from 00 to 92.

Means and sample variances were calculated for each communication group. Then the T-tests were performed to test the extent of the difference in patients' responses to positive and by-talk communication, positive and negative communication, and by-talk and negative communication. The null hypotheses were:

1. Mean_b is smaller than mean_p.
2. Mean_n is smaller than mean_p.
3. Mean_n is smaller than mean_b.

The T-test values are presented in Table III.
TABLE III

T-VALUES OF THE CONTROLLED COMMUNICATION GROUPS

<table>
<thead>
<tr>
<th>Controlled communication groups</th>
<th>T-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive and by-talk</td>
<td>1.508</td>
</tr>
<tr>
<td>Positive and negative</td>
<td>2.087</td>
</tr>
<tr>
<td>By-talk and negative</td>
<td>.874</td>
</tr>
</tbody>
</table>

The T-values and significant levels may be summarized as follows.

1. There was no significant difference between positive and by-talk communication as related to patients' stress. The null hypothesis was not rejected at the .05 level. Perhaps a larger sample would have given a significant difference.

2. There was a significant difference between positive and negative communication. The null hypothesis was rejected at the .05 level. A larger sample might have given a still larger significance level.

3. There was no significant difference between by-talk and negative communication as related to patients' stress. Thus the null hypothesis
was not rejected at the .05 level. Probably a larger sample would have given a significant answer.

Chi-square was used to check the relationships between variables of each communication group. The variables were taken from the SSS B scale: "low" scored between 00 and 27, "neutral" scored between 40 and 48, and "high" scored between 57 and 94. The null hypothesis was that there is no relationship between the variables. The contingency table and computation of the Chi-square is found in Appendix C.

The Chi-square values with four degrees of freedom were significant at the 5 percent level. Thus the null hypotheses was rejected. A relationship exists between the variables.

The conclusion of the statistical findings revealed that most stress is created in the situation where the patients received the negative communication from the nurses when they administered the injections to them. The patients who were treated with the positive communication and obtained answers to their questions suffered less stress than others. While the statistical evidence indicates no significant difference, there seems to be a tendency toward more stress in the by-talk communication than in the positive communication. This might have shown more clearly with a larger sample.
V. FACTORS THAT MIGHT HAVE INFLUENCED THE FINDINGS

This study was performed to find out how the patients reacted to a frustrating situation in routine hospital life. There might have been some factors that influenced the findings of the study.

Patients seemed to express hesitancy in making derogatory remarks about their care. This might have been due to the fact that the researcher wore a nurse's uniform. Patients might have been more free to talk if she had worn a white coat or street clothing and not been identified as a nurse.

Cultural and racial differences might have influenced the findings to some extent. Both the patients and the nurses who participated in this study represented different cultures and races.

Previous experiences influenced two patients' attitude toward checking of the SSS checklist. This may also have been true of others. Likely the patients' health condition affected the findings more than the previous experiences. Four of the patients were very anxious about their health condition and could hardly speak about anything else.

Personalities of the nurses varied as the researcher observed them in their work. Most of them were kind and professional. Two were kind and unprofessional. One of them was unkind, and another one was unkind and uncooperative.
It is presumed that the nurse who was uncooperative spoke to two patients more than negative communication permitted. Thus previous experience with the nurse might influence the emotional attitude of the patients toward the injection and study participation.

VI. ANALYSIS OF PATIENTS' RESPONSES TO THREE INTERVIEW QUESTIONS

Three interview questions were given to the patients to explore their feelings about the word which they checked on the SSS B checklist, how they felt about the medication they received, and if they were informed by their doctors about the injection.

Naturally patients selected for this study were psychologically different. No two people responded to the same kind of stimuli in the same way. The participants in this study reacted according to how they perceived and interpreted the situation. Some of them seemed to be full of anxiety, others were hostile, and a few of them were indifferent. All reactions were recorded under the SSS B checklist and analyzed.

Analysis of Patients' Responses to Positive Communication

The findings relative to the positive communication seem to parallel the statistical results which showed that
positive communication created less stress than the others.

Thirteen of fifteen patients expressed satisfaction concerning the communication. Two of them maintained that nurses had never explained to them before what kind of injection they would get. They were amazed at being told what "the shots" were for.

A sixty-six year old woman was satisfied with the test injection, but she was still upset over the injection given the night before. "Last night the night nurse gave me one, [shows the arm] and I do not know whom she was mad at, but she took it out on me and left a mark as you see. I'll not have another shot from her. I'll call it off."

This patient's words reveal that the nurse's way of handling her was rough, because she was mad at someone or something. Apparently this woman expected kinder treatment from a nurse. The previous experience of this patient did not affect her feeling toward the nurse who gave her the injection in question.

A fifty-six year old woman looked nervous, irritable, and upset after the injection. She was not satisfied with the nurse's injection technique. She said that the other nurses gave painless injections, but this one "screws" the needle into her flesh. She demonstrated the screwing. "If she comes once more with the shot to me I'll refuse to take it from her." Yet after these complaints she checked the
item "comfortable." Apparently the patient did not feel very bad after all. The nurse who gave the injection was a kind and seemingly efficient nurse.

Ten of fifteen patients reported that their doctors did not tell them that they would get these injections. The SSS B Checklist Responses of Patients Previously Informed by Physicians About Injections is found in Appendix E.

**Analysis of Patients' Responses to By-talk Communication**

Though the statistical findings did not show a significant difference between by-talk and positive communication as related to the patient's stress, there seems to be some indication to that the by-talk communication might create more stress than the positive communication.

Two patients expressed doubt and curiosity toward their treatment, since they did not know what was being done to them. Four patients revealed mixed feelings about the communication. Nine patients were satisfied, because they knew what kind of injection they received and therefore no explanation was needed.

A fifty-six year old, friendly, and calm looking woman referred to the injection with a wish "I would like to know what they do to me. Doctors forget to tell."

A thirty-eight year old, paralyzed woman was grateful for the care she received, but she admitted to some curiosity
about her injection, since nothing was explained.

A fifty-four year old woman came to the conclusion that "nurses are not supposed to tell anything. They never do, I know, because I have been here many times."

A forty-nine year old man was upset at a nurse because she had told him to get into his room at once and stay there. In spite of this he laughed at the checklist's word "in agony." "Can anyone be in agony because of an injection?" he asked, "Everybody gets needles. Why should it worry one?" Regardless of his disturbed condition he checked the word "Didn't bother me." Apparently this patient had no marked complaints about the communication of the nurse.

Another middle-aged man laughed and said, "Who can feel wonderful after a shot? No one can be scared stiff because of a shot." When asked to explain his feelings of the checked word "Fine," he exclaimed, "because it cannot be wonderful." This patient seemed to be a happy and easy-going fellow. Although he did not accept the extremes on the checklist, he did lean toward the positive side.

Eight of fifteen patients reported that their doctors had not told them what kind of injection they were getting.

**Analysis of Patients' Responses to Negative Communication**

The statistical findings revealed that patients'
responses to the negative communication of nurses created more stress than the positive communication. No significant difference was found between the negative and the by-talk communication, but it was noted there was a marked tendency for negative communication to create more stress than the by-talk.

Two patients were disturbed after they had received their injections. Two other patients wanted to know what kind of injections they were getting. Four patients did not expect the nurse to explain anything to them about their injections. Five patients had an indifferent attitude toward the nurse's communication, and two of the fifteen were very satisfied.

A 56-year old business man checked the word "In agony." After inquiring about his feelings he stated "I think agony describes best my feelings." Probably this patient expected and needed more information about the injection.

A middle-aged woman checked the word "Frightened." Her appearance did not reveal any fear or distress. She said that she was scared and felt terrible. Her doctor told her nothing of the injection, and she assumed that it was given to her as a sedative.

One of the four patients who did not expect any explanation about the injection stated, "It is not only this
girl, but all of them do not tell what I get." In this case the doctor had not told anything about the injection.

Two patients who were very satisfied with their injections received them from a nurse who was suspected of being uncooperative in the way she communicated with the patients.

Eight of fifteen patients were not told by their doctors that they would get these injections.

Discussion

Some patients did not express strong feelings toward the injection or the communication. A few did reveal strong emotions of satisfaction, anxiety, and anger. It was mentioned before that the nurse is "an explainer" to the patients. The thoughts of different participants showed that where the sufficient information was given about the injection the stress was minimized. It seems clear that the patients need adequate communication when injections are to be administered to them.

The majority of injections given to the patients were not explained to them by their physicians. This placed a greater responsibility on the nurses. Should they give the patient information or should they not? Where the positive communication was used most patients had not received any information from their doctors. Perhaps, if the positive
communication group would have received more information about the injection they would have experienced less stress.

The findings of this study agreed with the findings of Meyers that "... less tension is created when the patient is given specific information upon which he can structure the event of impending stress." However, Meyers found that "no" communication created less tension than "irrelevant" communication. This may have been due to the difference in the sizes of the sample.

VII. SUMMARY OF ANALYSIS AND INTERPRETATION OF DATA

From the data collected it was found that the range of responses to the SSS B checklist was between "Wonderful" and "In agony." The means of the patients' subjective self-report of the positive communication was 26.8, the by-talk communication was 35.8, and the negative communication was 45.0. Forty-five patients participated in this study.

Between positive and by-talk communication there was no significant difference shown by T-test, and the null hypothesis was not rejected at the 5 percent level. Between positive and negative communication the null hypothesis was

61 Meyers, op. cit., p. 131.
62 Ibid.
rejected at the 5 percent level. Between by-talk and negative communication the null hypothesis was not rejected at the 5 percent level.

The Chi-square test showed that there existed a relationship between the variables, low, neutral, and high, and it was significant at the 5 percent level.

The patients included in this study were both satisfied and dissatisfied with the nurses' communications. Some of them had unpleasant experiences while they received their injections, but only a few patients were influenced by them when they checked the SSS B checklist. Twenty-six of forty-five patients were not told by their doctors what kind of injection they would get. Other factors might have influenced the feelings were, (1) the researcher wearing the R.N. uniform, (2) cultural and racial differences, (3) patients' previous experiences, (4) and the nurses personality.
CHAPTER VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

The purpose of the study was to find out if there is a relationship between patients' stress and three kinds of controlled communication of nurses—the positive, the by-talk, and the negative—as they administered injections of medication to patients.

The problem of this study was suggested by the fact that many patients have complained that nurses do not give sufficient information about the injections that they receive in the hospital. Another factor was Skipper's findings about frustration caused by insufficient communication of nurses.

The principle limiting factors of the study were, first, it was limited to the use of the SSS B checklist, secondly, it was limited to non-critically ill patients, and finally, it was directed within the boundaries of normal hospital life situation.

Literature was reviewed to find out what the various writers tell about the effect of different kinds of communication on a person, about how stress affects a person in various situations, and about how closely stress and communication are related to each other in a person's daily life.
The method chosen for this study was the descriptive research method using the technique of a checklist followed by three interview questions. The checklist used was the Subjective Stress Scale B checklist that has been used in several U. S. Army researches. The SSS B checklist included fifteen items ranging from "Wonderful" with score value 00 to "Scared stiff" with score value 94. The checklist was handed to thirty-five female and ten male patients. Fifteen patients were approached with positive communication, another fifteen with by-talk communication, and still another fifteen with negative communication. Each patient checked the one item on the SSS B checklist that best described her or his feelings. Then the researcher asked the patient three interview questions about their feelings and recorded them on the checklist.

The means and standard deviations of the patients' subjective self-report of controlled communication were calculated. The mean of the positive communication was 26.8, the by-talk 35.8, and the negative 45.0. T-test and Chi-square test were used to test the significant levels and relationships between different communication groups. Between the positive and negative communication there was a marked difference. The null hypotheses was rejected at the 5 percent level. Between the positive and the by-talk, and the by-talk and the negative communication there were no
significant differences. The null hypotheses were not rejected at the .05 level. The Chi-square test showed a relationship between the variables and was significant.

The findings of the study supported the hypotheses that positive communication creates less stress than negative communication. There was noted a marked tendency, though not significant, that positive communication creates less stress than by-talk communication. There was also an indication of tendency toward less stress in the by-talk communication than in the negative communication.

A few of the patients revealed strong feelings of satisfaction, anxiety, and anger. The answers to the interview question concerning information given by doctors to the patients about injections showed that the positive communication group of the patients received less information than the other groups and suffered less stress over the communication of nurses. The by-talk and the negative communication groups received more information about their injections from the doctors and were more frustrated about the nurses' communication than the positive communication group. The findings showed also that twenty-six of forty-five patients were not informed that they would get injections or what kind they would be.

The researcher presumed that some factors might have influenced the study findings. Nurses and patients belonged
to different cultural and racial groups. A couple of the patients hesitated to answer the checklist because they did not want to say anything critical against the researcher's fellow workers. In a few occasions it was suspected that the patients' previous experiences with nurses might have swayed the answering of the SSS B checklist. Personalities of the participants differed. Some of them were reserved and uncooperative, and others were kind and cooperative.

II. CONCLUSION

Thus, within the limitation of the study it can be concluded that there is a relationship between stress engendered at the time of giving an injection and the nurse's communication.

III. RECOMMENDATIONS

In order to discover the patients' true feelings toward the nurses' information about the injections and to find the way to more satisfactory communication of nurses the following suggestions for study are recommended from the findings of this study.

1. It is suggested that a similar study be carried out among patients who receive their first injections during a present hospitalization.

2. It is suggested that a similar study be made of a
larger sample of patients, and that the researcher wear street clothes.

3. It is recommended that a study be conducted on different socio-economic, racial and age groups.

4. It is suggested that a comparative study be carried out among male and female patients.
BIBLIOGRAPHY


B. PERIODICALS AND PAMPHLETS


APPENDICES
Would you please check the word on the check list which best describes your feeling just before I entered.

<table>
<thead>
<tr>
<th>Item</th>
<th>Check here</th>
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</thead>
<tbody>
<tr>
<td>Wonderful</td>
<td></td>
</tr>
<tr>
<td>Fine</td>
<td></td>
</tr>
<tr>
<td>Comfortable</td>
<td></td>
</tr>
<tr>
<td>Steady</td>
<td></td>
</tr>
<tr>
<td>Didn’t bother me</td>
<td></td>
</tr>
<tr>
<td>Indifferent</td>
<td></td>
</tr>
<tr>
<td>Timid</td>
<td></td>
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<tr>
<td>Unsteady</td>
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<td>Unsafe</td>
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</tr>
<tr>
<td>Frightened</td>
<td></td>
</tr>
<tr>
<td>Terrible</td>
<td></td>
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<tr>
<td>In agony</td>
<td></td>
</tr>
<tr>
<td>Scared stiff</td>
<td></td>
</tr>
</tbody>
</table>

Comments: (1)

(2)

(3)
# APPENDIX B

## PATIENT DATA SHEET

1. **Identifying information**
   - Date: __________________
   - Name: __________________
   - Male: __________________
   - Female: __________________
   - Age: __________________
   - Nationality: ____________
   - Chart number: ____________

2. **Days of hospitalization to date** ________

3. **Previous hospitalization** Yes ______ No ______
APPENDIX C

CHI-SQUARE CONTINGENCY TABLE

<table>
<thead>
<tr>
<th>Communication</th>
<th>High</th>
<th>Neutral</th>
<th>Low</th>
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<tbody>
<tr>
<td>Positive</td>
<td>8.</td>
<td>7.</td>
<td>0.</td>
<td>15.</td>
</tr>
<tr>
<td>By-talk</td>
<td>4.</td>
<td>9.</td>
<td>2.</td>
<td>15.</td>
</tr>
<tr>
<td>Negative</td>
<td>4.</td>
<td>6.</td>
<td>5.</td>
<td>15.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16.</td>
<td>22.</td>
<td>7.</td>
<td>45.</td>
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COMPUTATION OF CHI-SQUARE

<table>
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<th>Communication</th>
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<th>Low</th>
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<tr>
<td>By-talk</td>
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<td>7.33</td>
<td>2.33</td>
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<tr>
<td>Negative</td>
<td>5.33</td>
<td>7.33</td>
<td>2.33</td>
</tr>
</tbody>
</table>

Chi-square is 8.064 with 4 degrees of freedom.
## APPENDIX D

### SSS B CHECKLIST RESPONSES OF PATIENTS BY LENGTH OF HOSPITALIZATION

<table>
<thead>
<tr>
<th>Checklist Item</th>
<th>-6</th>
<th>7-20</th>
<th>21-</th>
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<tbody>
<tr>
<td>Wonderful</td>
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<td>-</td>
<td>1</td>
<td>2</td>
</tr>
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<td>Fine</td>
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# APPENDIX E

**SSS B CHECKLIST RESPONSES OF PATIENTS PREVIOUSLY INFORMED BY PHYSICIANS ABOUT INJECTIONS**

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**Total** 17 28 44
APPENDIX F

SSS B CHECKLIST RESPONSES OF PATIENTS WHO HAD EXPERIENCED PREVIOUS HOSPITALIZATION

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LETTER SENT TO HOSPITALS FOR PERMISSION TO CONDUCT STUDY

Dear ________:

Communication is very important in the field of nursing, and poor communication can cause unnecessary fears in patients. Receiving injections is another fear of patients. I am conducting a study on the effect of various types of communication on hospitalized patients who receive injections.

I would like your permission to let the unit nurses give the injections with controlled communications, and I would follow the nurse and give a very brief checklist to the patients. The names and dosages of the medication would not be told to the patients. The welfare and safety of the patients would be carefully protected.

I am a student in the Graduate School of Loma Linda University.

Sincerely yours,

Ulla Sundell
THE RELATIONSHIP BETWEEN STRESS AND COMMUNICATION WHEN RECEIVING AN INJECTION

by

Ulla Maria Sundell

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

June 1966
A descriptive research study was conducted on forty-five patients. The study was guided by the null hypotheses that: (1) positive communication will create more stress than by-talk communication, (2) by-talk communication will create more stress than negative communication, and (3) positive communication will create more stress than negative communication. The purpose of the study was to find out the patients' reaction to nurses' controlled communication as they administered injections to the patients. Known factors that might have influenced the findings were eliminated. The Subjective Stress Scale checklist developed by Kerle and Bialek was used to measure stress. Collection of the data was performed in two general hospitals. The purposive sampling method was used in selection of the patients. The patients were divided into three groups of fifteen according to the three types of communication. Each patient checked the one item on the SSS B checklist that best described his feelings immediately after the nurse had administered the injection and stepped out from the room. After checking the checklist the researcher asked the patient three questions. (1) How would you explain in a few words your feeling of the word which you just checked? (2) How did you feel about the medication which you just received? (3) What did the doctor tell you about this injection? The Chi-square test showed
there was relationship between variables. The findings of the study were that the positive communication created less stress than the negative communication, and in the other groups there were seen tendency toward stress. Maybe a larger sample would have shown more of a difference between the three communication groups.

There might have been some factors that could have influenced the findings, such as the researcher wearing a nurse’s uniform, cultural and racial differences, patients’ previous experiences with nurses, personality of the nurses and patients, and the patients’ health condition.

In spite of the fact that the patients in the negative and by-talk groups had been told more about their injection by their physicians than those in the positive communication group, there was less stress in the latter group. This suggests the importance of nurses giving communication at the time when the patient actually receives the injection.