THE EFFECT OF TRAINING ON THE CHARTING PROCEDURE

by

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ABSTRACT

The documentation in the medical record is of utmost importance in the care of the patient. The medical record includes the recording, by professional nurses, of the care which they render to the patient. The charting technique is taught to nurses during their basic nursing educational programs. Additional training is given to many nurses by their employers after their graduation. This study measured whether or not charting improved after in-service training.

A Solomon Four Group Design was used to determine the effect of three training sessions upon five areas of charting. A control and an experimental group were established. Measurements of the control and the experimental groups were compared prior to treatment, post treatment with pre-treatment assessment, and post treatment without pre-treatment assessment. The five items assessed were:

1. Nursing observations and interventions.
2. Reason for PRN medication or treatment.
3. Medical treatments such as liver biopsy, dressing changes, and by whom.
4. Patient's reactions to nursing and medical treatments.
5. Signs and symptoms exhibited by the patient.

Significant difference between the control and the experimental group was demonstrated only in Item four of the group that had both pre-treatment and post-treatment assessment. The same trend was obvious in the same group with Item five, but significant difference was not demonstrated.
CHAPTER I

INTRODUCTION

When a person seeks treatment at any one of the varied health agencies available in our society, one of the first tasks the health agency worker undertakes is the starting of a patient record. The patient record is commonly referred to as the patient's chart and many persons make entries on this record. The physician documents the patient's medical treatment plan and the patient's medical progress on the chart. Other professionals, such as social workers and dieticians, may write on the patient's chart as necessary. The professional nurse documents observations of the patient, medical treatments that were prescribed, and the nursing care of the patient (Fuerst and Wolff, 1964).

All professional nurses who graduate from an accredited school or college of nursing have had both theory and clinical experience regarding charting. As with many other employees, nurses become involved with the routines of the day and some tasks are not completed with as much diligence and thoroughness as demonstrated by previous performance. For this reason, in-service or continuing education programs are a common occurrence in the hospital setting; however, the evaluation of the charting procedure is a more recent endeavor. Therefore, methods of evaluating these programs must be established. This study was undertaken to determine what effect, if any, further training with experienced nurses has on the charting procedure.
Statement of the Problem

Do professional nurses, after in-service training in charting, perform better than nurses without in-service training?

Significance of the Problem

One of the most important aspects of modern medical care is the proper recording of the data concerning a patient's illness. It is primarily the responsibility of the nurses and physicians to record this data, which includes signs and symptoms, diagnosis, and treatment.

The basic reason for using a medical record is to provide accurate and complete information regarding the treatment and care of patients. However, other important uses are made of the medical record. The medical record provides the principal means of communication between the physician and the nurse (Huffman, 1963). The physician records his plan of treatment for the patient and writes orders for the nurse to implement. The nurse records her observations of the patient, the treatment, and the services which the patient has received in the physician's absence. In this manner, the record is being used as a timesaver for the physician (Huffman, 1963).

Another use for the medical record lies in its convenience for later study and evaluation. It can be reviewed and audited to determine the quality and the extent of the care given to the patient; both by physicians and nurses. This information can then be used for statistical data, research, or educational purposes.

The last major use of the record is that of being used in court proceedings. As physicians and nurses are called upon to testify in
a court, they are allowed to refresh their memory of the facts of a specific case by referring to the medical record. The medical record may be admitted into evidence, so it is imperative that the information recorded be factual and complete (Springer, 1970).

The documentation, or lack of it, may be a major factor in the decision which is rendered in the event of a lawsuit. Professional nurses, as well as their employers, must be aware of their responsibility for proper documentation of the care rendered to the patient.

Hypothesis to be Tested

Stated in the null form, the hypothesis of the study is: There will be no difference between professional nurses with in-service training and those without in-service training in the following charting procedures:

1. Description of the patient's physical condition.
2. Description of the patient's emotional condition.

Assumptions Underlying the Problem

All professional nurses have been taught the charting procedure in their basic nursing programs.

Professional nurses can recognize the physical and emotional condition of the patient about which they are charting.

Professional nurses have been exposed to the charting procedure of the specific hospital being sampled.
Limitations of the Study

This study does not include the charting of nurses other than professional nurses.

This study does not weigh factors such as educational and exper- iential background, acuity level of the patient, or the amount of time the nurse has in which to do the charting.

Definitions of the Terms Used

Professional nurse: a nurse who meets the qualifications to be licensed as a registered nurse in the State of Arizona.

Pertinent information: information which describes the patient's physical or emotional condition, including changes in condition; reaction to treatments and care; unusual happenings; and any teaching done with or for the patient.

Meaningless information: statements about the patient that do not reflect his condition or that are not pertinent to his care, such as "watching T.V.," "visitors here," "offers no complaints," or "had a good day."

Nurses' record: the nurses' record of the patient's progress. The nurse records on this record during the time she is caring for the patient, using it to describe the patient's condition and response to treatment while he was in her care.
CHAPTER II

RESUME OF RELATED LITERATURE

Literature on Nurses' Records

The majority of current research data relating to the charting of nurses' records agrees on the importance of nurses' records and that the records should be complete and accurate. Donovan (1971) indicates that "the chart is a record of the patient's responses to that nursing and to other patient services and therapies; and of pathological conditions and psychosocial influences."

Nurses often do not realize how valuable the patient information is to others concerned with the patient's care and therefore the information is stored with one nurse rather than used as a tool to augment the patient's care. One group of authors expresses the spirit of charting rather succinctly in the following statement: "The essence of the practice of nursing should be clearly evident in the nurses' notes for all to see and research" (Rubin, Renaldi and Dietz, 1972).

Another aspect of charting is the legal aspect. Sister Mary Agnes (1962) indicates that "every day hospitals receive subpoenae for charts of one of their professional personnel. As a rule, it is the nurse who is called upon to verify a signature or to explain some notation made in the nurses' notes."

While the above authors ascribe to the importance of the nurses' record, there are a few authors who indicate, specifically, how to improve
the nurses' record. Current literature does illustrate what should be included in nurses' records.

"In general, nurses' notes should record your observations and your actions to protect the patient and his property. Specifically:

1. What you see: bleeding, pallor, deformities, type of drainage, color of urine, etc.

2. What you hear: the patient's complaints, moaning, stertorous breathing, etc.

3. What you smell: alcohol on the patient's breath, malodorous drainage, fecal odor in vomitus, acetone breath, etc.

4. What you feel: motion at a fracture site, crepitus of subcutaneous emphysema, a firm area of induration, etc.

5. What you do for the patient and what his response to treatment is: whether cervical traction relieves his headache or makes it worse, etc.

6. What you do to protect the patient: put the side rails up and lock them in place, put soft restraints on, help him to ambulate when he is unable to walk alone, etc.

7. What you do with his private property to protect it from loss: put his valuables in the hospital safe, put his dentures or contact lenses in a safe place, etc" (Kerr, 1972, p. 10).

Literature on the Evaluation of Nurses' Records

Discussing the importance of nurses' notes is only one aspect of interest to the professional nurse. "Nursing is a process which has four major phases: assessment, planning, implementation, and evaluation. The process of nursing is not complete until evaluation has been performed" (Langford, 1971). The documentation of nursing care is part of the process of nursing and nurses have a professional responsibility to evaluate not only the patient's care, but also the documentation of that care.
Currently, in nursing, there are two methods of evaluating nurses' records. These are retrospective audit and concurrent audit, and are being adapted in various health care institutions, oftentimes with modifications.

In one of the retrospective methods, patient records are examined after the patient is discharged to ascertain whether or not the seven functions of nursing have been executed. The seven functions of professional nursing are (Phaneuf, 1972):

1. Application and execution of physician's legal orders.
2. Observation of symptoms and reactions.
4. Supervision of those participating in care, except physician.
5. Reporting and recording.
6. Application and execution of nursing procedures and techniques.
7. Promotion of physical and emotional health by direction and teaching.

The author advocating this method of auditing suggests having a committee of five or more nurses to do the auditing. The charts are to be selected randomly, with the number of charts dependent upon the number of discharges per month. If the number of discharges is fewer than fifty, then all of the charts should be audited. If there are over fifty discharges per month, then a ten percent randomized selection should be audited (Phaneuf, 1972).

The concurrent audit is completed while the patient is still in the hospital. This audit plan is set up to evaluate the patient's
nursing record, the nursing care plan and the patient's care at the bedside. The nursing audit committee is composed of staff nurses, head nurses, and administrative nurses, from representative areas of the hospital. The nursing audit committee writes the standards for nursing care in the hospital and then develops the tools to evaluate whether or not the standards are being fulfilled. An audit is completed on each nursing unit each week. Two members of the nursing audit committee go to the randomly assigned nursing unit any day during the week that their schedules permit. When they arrive on the nursing unit, they randomly select a patient. They take the patient's chart and nursing care plan to a quiet place and evaluate them. When they finish with this task, they go to the patient's room and discuss his care with him. There is specific information to be obtained from the patient. Part of the information is obtained while talking with and observing the patient and part of the information comes from observing the environment of the patient. The nursing audit committee members then return the audit forms to the audit chairman for tabulation. The chairman of the nursing audit committee is responsible for communicating the audit results back to the nursing staff so that improvements can take place (Carter et al., 1972).
CHAPTER III

METHODOLOGY

Research Design

The Solomon Four Group Design, as described by Campbell and Stanley (1968), was utilized in this study. Four groups were initiated, two experimental and two control. One experimental and one control group were assessed prior to treatment. The other experimental and control group were not assessed until after the treatment had occurred. By using this method, one is able to determine the effects of testing and the interaction of testing and treatment. The use of this design also increases generalizability.

Each of the groups was composed of ten nurses, selected from four nursing units. Each group consisted of an equal number of nurses from general medical and surgical units. True random assignment did not occur because two of the groups constituted the entire nurse population assigned to that unit.

Pre-treatment samples were taken from one control group and one experimental group. Treatment was then instituted with the two experimental groups.

Instrument and Treatment

Patient records of recently discharged patients were selected. The records were obtained from the Medical Records Department to ensure
that the nurses involved in the study would be unaware of its occurrence. A nursing audit is being established in this institution and a modification of a portion of the audit tool was used to evaluate the charting. Five items were included in the evaluation tool. These were:

1. Nursing observations and interventions.
2. Reason for PRN medication or treatment.
3. Medical treatments such as liver biopsy, dressing changes, and by whom.
4. Patient's reactions to nursing and medical treatments.
5. Signs and symptoms exhibited by the patient (see Appendix).

Each sample of charting was evaluated on each item and judged to be either Not Acceptable, Acceptable, Good, or Not Applicable.

The charting samples were evaluated by two competent nurses who are very familiar with the auditing process and who teach the auditing procedure. They were not aware of which nurses were assigned to the control group and which were assigned to the experimental group. Both judges examined each charting sample and agreed as to the rating of the sample.

For the pre-assessment, five samples of charting were randomly selected for each of ten nurses from the control group and from each of ten nurses from the experimental group. These samples were evaluated prior to the institution of the training classes. The only control placed on the selection of charting samples was that no more than one sample per nurse could be used from each patient's chart. After the initial samples were collected, the nurses in the experimental groups
were involved in a series of three classes. Because of the complexity of
the working situation, several repeat classes were held in order to
involve all of the nurses in the experimental group. The writer conducted
each class. The first class was a review of the standards for the
nurses' record and discussion about the auditing process. During the
class, a patient record was audited, by the writer, to demonstrate the
auditing process.

During the second class, each two participants were given a
patient record to audit. The writer had audited each of these patient
records prior to the class and had specific comments to make regarding
each patient record. As part of the class, the participants discussed
the audit results of their assigned chart.

The third class was a discussion by two nurses who have given
depositions regarding a patient's record and the nursing care of that
patient. The writer moderated and summarized this discussion. Because
of the time involvement of the panel members, this class was recorded and
the remaining small groups were exposed to the recording.

Approximately two weeks after the completion of the classes, five
samples of charting were collected from the Medical Records Department
for each of the forty nurses involved in the study. The samples were
analyzed by the same two judges who evaluated the pre-treatment samples.

**Analysis Procedure**

Each charting sample was evaluated to be Not Acceptable,
Acceptable, Good, or Not Applicable for each of the five items on the
audit instrument. In looking at this data, it was apparent that there
were not adequate differences between the Acceptable category and the
Good category, so these columns were combined. Therefore, each charting
sample was rated as either Acceptable, Not Acceptable, or Not Applicable
for each item. Not Applicable was defined as not being necessary for
that patient (e.g., not all patients require medication for pain during
the time they are hospitalized).

For the five charting samples, a percentage of Acceptable
responses was computed for each nurse on each of the five items (e.g.,
four out of five charting samples rated Acceptable on Item #1 = 80%).
Not Applicable ratings were not included in this computation. In this
manner, each nurse's score was placed into a three by two matrix. The
matrix was control group compared with experimental group and the per-
centage scores were divided into categories of 0-33, 34-66, and 67-100.
A chi-square analysis was then conducted on this matrix using a .05 alpha
level. Yates correction for continuity was used since some expected
values were less than five in all of the analyses (Minium, 1970). When
the expected value level in a cell was zero, it was combined with the
adjointing cell.

The data were submitted to three chi-square analyses. In the
first analysis, the control and experimental groups were compared prior
to treatment to establish that the groups were similar.

In the second analysis, the control and experimental groups which
had been assessed prior to treatment were compared post treatment.

In the third analysis, the control and experimental groups which
had not been assessed prior to treatment were compared post treatment.
By using this method, both the effect of treatment and the similarities of the control and experimental groups were established.
CHAPTER IV

DATA ANALYSIS

The data were submitted to three chi-square analyses. In the first analysis (see Table 1), the control and experimental groups were compared prior to treatment to establish that the groups were similar.

Table 1. Control and Experimental Groups Prior to Treatment.

<table>
<thead>
<tr>
<th>Item</th>
<th>Observed Values</th>
<th>Control</th>
<th>Experimental</th>
<th>Group</th>
<th>X^2</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td></td>
<td>0</td>
<td>0</td>
<td>3-3%</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>2</td>
<td>34-66%</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>#2</td>
<td></td>
<td>0</td>
<td>0</td>
<td>67-100%</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>3</td>
<td>66-100%</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>#3</td>
<td></td>
<td>0</td>
<td>0</td>
<td>3-3%</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>34-66%</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>#4</td>
<td></td>
<td>2</td>
<td>6</td>
<td>67-100%</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>66-100%</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>#5</td>
<td></td>
<td>0</td>
<td>2</td>
<td>3-3%</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
<td>34-66%</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

There was no significant difference between the experimental and control groups prior to treatment. As the data are examined, there is little room for improvement on items one, two, and three, as most of the nurses were already charting acceptably on these items. Items four and five indicate that there was room for improvement as more charting samples were unacceptable for these two items.
In the second analysis (see Table 2), the control and experimental groups which had been evaluated prior to treatment were compared post-treatment to ascertain the effect of the training.

Table 2. Control and Experimental Groups Post Treatment with Pretreatment Assessment.

<table>
<thead>
<tr>
<th>Item</th>
<th>Group</th>
<th>Observed Values</th>
<th>( X^2 )</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0-33%</td>
<td>34-66%</td>
<td>67-100%</td>
</tr>
<tr>
<td>#1</td>
<td>Experimental</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>#2</td>
<td>Experimental</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>#3</td>
<td>Experimental</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>#4</td>
<td>Experimental</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>#5</td>
<td>Experimental</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

There is no significant difference on items one, two, and three. Item four indicates that there was improvement in the experimental group, while the control group did not show as much improvement. This same trend was indicated in item five. When significant improvement is noted in a group that has had an evaluation prior to treatment, one would question whether the evaluation caused the improvement. However, the nurses in this study were unaware of the assessment prior to treatment; therefore, it can be concluded that the training was the reason for the significant level of improvement of the group.
In the third analysis (see Table 3), the control and experimental groups which had not been measured prior to treatment were compared post treatment to ascertain the effect of the training.

Table 3. Control and Experimental Groups Post Treatment Without Pretreatment Assessment.

<table>
<thead>
<tr>
<th>Item</th>
<th>Group</th>
<th>Observed Values</th>
<th>X²</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0-33%</td>
<td>34-66%</td>
<td>67-100%</td>
</tr>
<tr>
<td>#1</td>
<td>Experimental</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>#2</td>
<td>Experimental</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>#3</td>
<td>Experimental</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>#4</td>
<td>Experimental</td>
<td>0</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>#5</td>
<td>Experimental</td>
<td>0</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>0</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

There was no significant difference between the control and experimental groups. These two groups were similar to the groups described in Table 2. Items one, two, and three indicate that the nurses were at the upper limit of the range. Items four and five indicate the same trend as occurred with the nurses who had assessment prior to training.
CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This study was undertaken to determine whether or not the charting of nurses exposed to additional training would improve. Data were collected and analyzed comparing the control and experimental groups: prior to treatment, post treatment for those who had an evaluation prior to treatment, and post treatment for those who had no evaluation prior to treatment. Five items were used as criterion measures to determine the acceptability of the charting samples.

All of the measurements showed no significant difference except item four of the group which had assessment prior to treatment. Item four measured the documentation of patients' reactions to nursing and medical treatments. It has only been within the last fifteen to twenty years that this aspect of nursing responsibility has been stressed in basic nursing programs. Prior to that time, nurses only executed the physician's orders. They did not ask questions of either patients or physicians. Although time of schooling and experiential background of the nurses involved in the study were not assessed, undoubtedly this was a factor as to why this item demonstrated significant difference. During the training classes, there was opportunity given for the nurses to discuss charting. Comments such as, "Oh, are we supposed to chart that? I thought we were only supposed to chart that we did it," were common. Other, more recent graduates, indicated that they had been taught to
chart this type of information, but because others with whom they were working did not include it, the newer graduates had decided it was not necessary.

Other discussions that occurred enumerated some additional areas of concern about charting. The nurses discussed the fact that they seldom did the charting about any one patient without being interrupted. Others discussed the number of patients about which they chart, varying from four to fifteen. Another concern was regarding the feelings of some of the nurses that no one (primarily meaning physicians) reads the charting anyway.

Along with the improved charting regarding patients' reactions to nursing and medical treatments, the data indicated a trend toward improvement in the notations regarding the signs and symptoms of the patient (item five). While this item did not indicate significant difference, the trend was there and possibly significant difference would have been demonstrated with a larger sample.

Measurements for three of the five items on the instrument, prior to treatment, indicated there was little or no room for improvement. This could be interpreted to indicate three possibilities: either the nurses needed no training on these items, there were sampling factors, or the instrument needed to be more definitive. The writer's and the judges' experience with auditing charts would indicate that the instrument needs to be more definitive.

Item One (nursing observations and interventions) could be categorized according to disease entity and specific criteria established to be documented about the patient having that disease.
Item Two (reason for PRN medication or treatment) needs to be examined as to its appropriateness as a measure for each patient. This item had many Not Applicable responses. It would also be possible to select a different sampling of patient records to evaluate with this measure (e.g., first-day, post-operative patients, who are receiving analgesics or antiemetics).

Item Three (medical treatments such as liver biopsy, dressing changes, and by whom) also needs to be examined as to its appropriateness as a measure for each patient. This item also had many Not Applicable responses.

Item Four (patients' reactions to nursing and medical treatments) could be specific as to the list of treatments about which documentation is necessary. The criterion could be designed to include exactly the information that is to be charted about each specific treatment.

Item Five (signs and symptoms exhibited by the patient) could be categorized according to disease entity and specific criterion delineated to be documented about each patient having that disease.

Considering the concerns of the nurses about charting, the fact that lawsuits involving nurses and hospitals are occurring daily, and the indication that documentation can be improved with additional training, the writer concludes that nurses do need additional training in charting beyond their basic preparation. However, the instrument utilized in this study was not as definitive as was necessary to measure the need for additional training.
The researcher suggests the following topics for further study:

1. Delineate the instrument to achieve finer discrimination.
2. Study the area of work space where the nurse charts to determine if this factor influences the quality of charting.
3. Study the number of interruptions the nurse has while charting to determine if this factor influences the quality of charting.
4. Determine the priority the nurse places on charting as compared to other duties.
5. Determine the priority placed upon charting by the nurse's employer or immediate supervisor.
6. Determine the effect of staffing patterns and patient acuity level on the quality of charting.
7. Compare methods of charting to determine which method is most effective.
8. Compare the experiential background of nurses and its relationship to charting.
9. Determine the reasons why the nurse charts.
10. Determine who reads the nurse's notations and if there is a correlation between who reads the notes and the quality of the charting.

These suggested studies, when validated, would be an aid to the improvement of the documentation of patient care.
APPENDIX

EVALUATION TOOL
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LITERATURE CITED


Sister Mary Agnes. "Why We Need the Nursing Audit," *Hospital Progress,* December, 1962, Vol. 43, pp. 50-61.
