

A PRELIMINARY STUDY DESIGNED TO EXPLORE THE DIFFERENCE IN EFFECTIVENESS OF GROUP AND INDIVIDUAL TEACHING IN SELF-MEDICATION

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Le but du projet est d'étudier l'efficacité de l'initiation à l'auto-traitement afin de déterminer le degré de succès de l'enseignement individuel par rapport à celui de groupe. Les premiers résultats semblent indiquer que l'enseignement de groupe peut augmenter les connaissances du malade en ce qui a trait à l'auto-traitement et favoriser un comportement fidèle. Les étudiants de même que les malades qui ont participé à cette étude préliminaire ont déclaré, de part et d'autre, que l'expérience leur avait été précieuse.

The project was designed to explore the difference in effectiveness of group and individual teachings in self-medication. The preliminary results suggest that group teaching can increase patient's knowledge in self-medication and promote compliant behaviour. Students and patients who participated in this preliminary study both indicated that they have mutually benefited from this teaching-learning experience.

The question "How adequately are hospitalized patients prepared for self-medication upon discharge?" has long been the concern of all health professionals. Investigators, surveying medication errors made by patients at home with prescription drugs, have found that an alarming number of patients fail to take their medication as recommended. The complexity of the problem can be expected to grow, due mainly to the increase in the incidence of chronic illness, the advancement of highly effective drug therapy, and the growing emphasis on hospitals being episodic care centers. Today, there are more persons than ever before who are given the responsibility of self-care at home.

In reviewing the literature of self-medication compliant behaviour, it is noted that demographic variables have not been predictive of

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compliant behaviour (Marston, 1970). Patients with severe illness are found more likely to follow prescribed orders; however, it is unclear whether actual severity of illness is related to compliance (Donabedian and Rosenfeld 1964, Neely and Patrick 1968, Chaves 1960, MacDonald 1963, Parker and Bender 1957). The complexity of medical regimentation is believed to augment drug errors. With the increasing number of medical orders, there is a corresponding increase in non-compliance (Maddock 1967, Jenkins 1954). A number of studies are concerned with the relationship between social compliance and psychological variables, for example, attitudes towards illness, patients' perceptions of the severity of their illness, etc. The results are nevertheless not conclusive (Charney 1967, Neely and Patrick 1968, Williams 1967). Many investigators studied the patient's knowledge of illness in relation to compliance and found that with better knowledge there is a tendency towards increased compliance (Leary 1971, Marsh 1972, Hecht 1974). Others concluded that a positive patient-physician and patient-nurse relationship can be the determinant (Davis 1968, Hecht 1970). Decreased drug errors have also been related to a well-designed compliance system (Moulding 1961, Liberman 1972, Hecht 1970, McInnis 1970). Still others have suggested that the effectiveness of nurse-teaching can be a means towards promoting better performance of self-medication (Hecht 1974, Leary 1971).

A general trend has begun to develop in the current literature. It is indicated that patients who have a better knowledge of their illnesses, who are effectively taught the use of their drugs, and who have established a positive relationship with health professionals are more likely to be compliant.

From among the many factors which influence compliance, it is the author's wish to investigate the relationship between health teaching and self-medication.

PROBLEM

Prior to discharge, it is customary for patients to receive bedside teaching regarding medical recommendations. However, it is doubtful whether the effect of health teaching is fully obtained through such an individual approach, since group teaching is widely recognized as being more effective. The author is encouraged by other writers and her own experience to continue to experiment with the group method (Leary 1971, Choi-Lao 1975). A preliminary study was designed to investigate the difference in effectiveness of individual and group teachings in self-medication.

The purpose of this study was to examine the effectiveness of group teaching in terms of gaining knowledge of medication and in reducing drug errors.

OPERATIONAL DEFINITIONS

Self-medication: Those drugs ordered by the physician upon discharge from hospital to be administered to the patient at home by either the patient or a member of the family. The order can be either verbal or written.

Knowledge: Refers to the patient's understanding of the prescribed drug's name or classification, methods of administration, action, dosage, side effects and allergic reactions.

Drug error or error in self-medication: Refers to mistakes made in administering the prescribed drug in either amount, frequency or interval. Errors can be omissions or over-administrations.

HYPOTHESES

1. Those patients who were taught by group methods have more knowledge about self-medication than those who were taught individually.
2. Those patients who were taught by group methods make fewer drug errors in self-medication than those who were taught individually.

METHOD

Existing tools in the literature to measure patient's knowledge and compliance behaviour in self-medication were reviewed. Since no single tool met the objectives of this pilot study, a questionnaire modified from the guide listed in the article "Self-Administered Medications" (Leary 1971) was developed.

All patients who were receiving the same classification of medication by all routes while hospitalized were eligible to become subjects of the study. In this project, the medication chosen to be studied was antibiotics. Patients were randomly selected from four nursing units of two hospitals where second-year nursing students practiced. Those who received health teaching by group method prior to discharge were classified as the experimental group and those taught individually the control group. If a patient from either group was discharged with antibiotics, a home visit was then made to this selected subject. The patient's knowledge of medication and his drug errors were assessed by the designed tool. A total of nine patients were visited, four experimental and five control. To avoid bias, all nine subjects were visited by students other than those who conducted the group sessions. All patients were visited within one week of discharge and prior to official discontinuation of medication.

INSTRUMENT USED TO STUDY EFFECTIVENESS OF TEACHING IN SELF-MEDICATION

Hospital:

Ward:

Date of Home Visit:

Address:

Religion:

Race:

Patient cared for by you:

another student:

or staff:

I. Demographic Data:

Patient's Initials

Age:

Sex:

Marital Status:

Education:

Occupation:

II. Medical Data:

Date of Admission:

Diagnosis on Admission:

Date of Discharge:

Diagnosis on Discharge:

What were the written discharge orders for medication:

III. Information on self-medication:

Ask patient the following questions. When applicable, record precisely number of ERRORS made by patient in self-medication. If patient is taking more than one drug, student should obtain all possible information re questions 1, 2, 3 and 4, and concentrate ONLY on the drug being studied for the remaining questions.

1. Do you know the name of the medicine you are receiving? (If patient is taking more than one kind of medicine, student should ask for all the names and record answer in the space provided. Place a check mark next to the drug discussed in a group session).

2. How many and how many times a day do you take your medicine? (Record all answers if more than one. We are interested in amount, dosage and frequency, e.g. tab \div 30 mgm q.i.d.)

3. What time of the day do you take it (them)? (Once again, record all answers. We are interested in interval and time of administration, e.g. Q4H, P.C., etc.)

4. Have you missed out on any? (Record number of omissions and compensations for all medicines taken. Count pills to see if the reported amount left corresponds with the observed amount. Discrepancies indicate either omissions or over-administration).

For questions 5 to 12, record all information patient volunteered. But concentrate ONLY on the particular drug under study, if patient is taking more than one kind.

5. How do you remember to take the medicine? (We are interested in patient's system of compliance if he had one. Record patient's exact answer).

6. If applicable, ask: Do you know how to take your medicine? (We are interested in specific mechanics of administration, e.g. to take medication with orange juice, with a straw, etc.)

7. Do you know why the doctor wants you to take this medicine?

8. How does the drug work in your body?

9. Do you know of any symptoms that might occur while you are taking this medication? If yes, what are they?

10. Did any of these symptoms ever occur to you?

11. If yes, what did you do?

12. If no, what would you do if any of these symptoms happened?

13. With all the medications you are taking, are you sharing any of these other members of the family?

14. Are you taking any medication which belongs to other members of the family?

15. What do you do with the remaining unused portions of medicine?

16. Student is to note:

a) if medicine is out-dated

b) if appearance of medication is normal

c) when did patient stop taking his medication?

17. Additional information, if any.

LIMITATIONS

1. The sample is too small to be statistically significant.
2. Patients of both experimental and control groups were taught by different students; therefore, results of teaching may vary due mainly to differences in teaching methodology.
3. Different clinical settings may present different atmospheres for group teaching; some are more conducive to learning than others.
4. The date and time of health teaching prior to discharge were not controlled and the planning of instruction might influence patient's learning.
5. The study did not attempt to identify factors which could also influence compliance behaviour, e.g. emotional status of the patient at home.
6. It is highly possible that information obtained on the day of visit may not truly reflect the patient's compliant behaviour.

RESULTS AND DISCUSSION

KNOWLEDGE

In examining patients' knowledge of their medication, the following items were used as parameters:

1. Name of the Drug, or the Classification of the Drug

All four subjects of the experimental group were able to identify the classifications of their drugs. Three knew both the classification and trade names. One who could not remember the name was on Nitrofurantoin, a relatively new drug.

For the five control subjects, three knew the classifications and names, the fourth one was not certain if the drug was an antibiotic, the fifth one could only identify her pills by virtue of their colour, shape and trade marks inscribed on them.

2. Knowledge of Amount, Frequency and Interval as Prescribed

All subjects of both the experimental and control groups answered correctly.

3. Methods of Administration

Only one experimental subject complained of being uncertain of the mechanics of administration. The patient was on A.V.C. vaginal suppository and she received no instructions for insertion. In the control group, two patients who were receiving eye drops were unclear of the procedure. All patients welcomed the suggestions students offered during home visits. It was noted that all patients were taking currently prescribed medications and all drugs were not outdated and appeared normal.

4. Knowledge of Why Medication Was Prescribed

Out of four experimental subjects, three understood the reasons why they were on the medication. For the control group, only three comprehended the purposes of their medical regimen, and two of the three were taught by their physicians. The other two members were not aware of the cause of their medical modality.

5. Knowledge of the Action of Drug in the Human Body

There were three experimental subjects who conceived the action of drug in their bodies and could describe it in their own words. No one could answer the question correctly in the control groups.

6. Knowledge of Side Effects and Allergic Reactions

All patients of the experimental group were able to outline the common signs and symptoms of side effects and allergic reactions, but none of the control group understood clearly the subject matter.

No patient in both groups suffered any side effects or allergic reactions except one control member who had a rash from taking Gantanol. When the question "what to do if complications occur" was asked, all experimental members stated that their physicians would be contacted immediately, and two remarked that they would stop taking the medication while waiting for instructions. In the control group, four indicated that they would inform their doctors. But none considered that they would interrupt the regimen temporarily until further medical recommendation.

It is evident from the data above that the differences may be small in the knowledge of the drug classification and the prescribed methods of drug administration; the knowledge of the action of drug, however, differ significantly between two groups. In areas of side effects and allergic reactions, the differences are even more remarkable. The first hypothesis is thus verified.

COMPLIANCE BEHAVIOUR

In examining the patients' compliance behaviour, the following measures were used as parameters:

1. Amount, Frequency and Interval

The patient's actual time of administration and amount of medication were checked against physician's discharge orders to see if any discrepancies existed. Except for one control member who was not taking medication at the recommended intervals but with correct dosage and frequency, all other patients acted duly according to instructions. However, it was unexpected to learn that one member of the experimental group did not yet possess her medication, even though she had been home for two days.

2. Omissions and Compensations

The three experimental subjects who had started self-medication had no omissions and the information was confirmed by correct pill counts. In the control group, two patients had one omission and they both compensated by taking one extra pill the next time. One of these forgetful patients, stated that he could not finish all pills because they were too big and he had to take six of them a day.

From the data above, it is noted that all members of the experimental group made no drug errors except one patient who had not yet purchased the medication. Of the control group, however, taking prescribed drug on irregular intervals, omissions and compensations all occurred. The second hypothesis is, therefore, also verified.

GENERAL PRACTICE OF SELF-MEDICATION

In addition to the information on medication knowledge and compliance behaviour listed above, data on patient's general practice of self-medication were also collected. The following questions were asked during home visits:

1. Is the patient sharing any medication with other members of the family?

It was unanimously claimed by all patients that they were not sharing any medication with any other persons.

2. Is the patient taking any medication which belongs to others?

The same definite answer was obtained from all subjects.

3. What should the patient do with the unfinished portions of medication if any is left?

All experimental subjects stated that they would discard the unused portions of medication. In the control group, only two patients stated that they would throw away the left-overs.

The results indicate that patients in the experimental group had a sound practice in disposing left-over medication though there was no difference in both groups with regard to drug sharing.

CONCLUSION

Although the sample size was small, it is evident from the data that compared with those in the control group, members of the experimental group had more knowledge of their medications and demonstrated more compliant behaviour, and the two hypotheses were verified.

The opinions of students and patients participating in this preliminary study indicated that they benefited mutually from the project. Knowledge about self-medication was gained by patients; students, as health teachers, also profited from the experience of evaluating patient needs following discharge. From data obtained, there is reason to believe that group teaching can increase patient's knowledge in self-medication and promote compliance behaviour. It is hoped that in sharing her encouraging results with the readers, the author may be able to invite valuable comments and discussions from her colleagues. With further testing, refined tools and research designs can be developed to ensure greater effectiveness of health teaching and quality care.

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RESPONSE TO "A PRELIMINARY STUDY DESIGNED TO EXPLORE THE DIFFERENCE IN EFFECTIVENESS OF GROUP AND INDIVIDUAL TEACHINGS IN SELF-MEDICATION"

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It is encouraging to see a study conducted as part of student clinical experience. The area of medication administration is one with which nursing must be concerned. This is an interesting study, but with the sample size it is hard to determine the value and impossible to draw conclusions on the effects of individual and group teaching. The author is realistic in delineating the limitations of this study. Replication of the study would be interesting but one would need clarification on several points before this would be possible.

The purpose of the study was to examine the effectiveness of group teaching in terms of gaining knowledge of medication in reducing drug errors. Random selection of patients was carried out without any attempt to control the variables. As the literature indicates that certain factors, such as severity of illness, the complexity of the medical regimen and psychological status affect medication errors it would strengthen future studies if some attempt were made to match the experimental and control groups on these variables.