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A Survey of Parental Knowledge of Asthma

by

Nancy Aldred O'Donnell

B.S.N., Old Dominion University, 1973

Thesis

submitted in partial fulfillment of the requirements for the
Degree of Master of Science in the Department of Nursing at the
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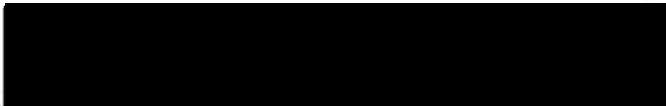
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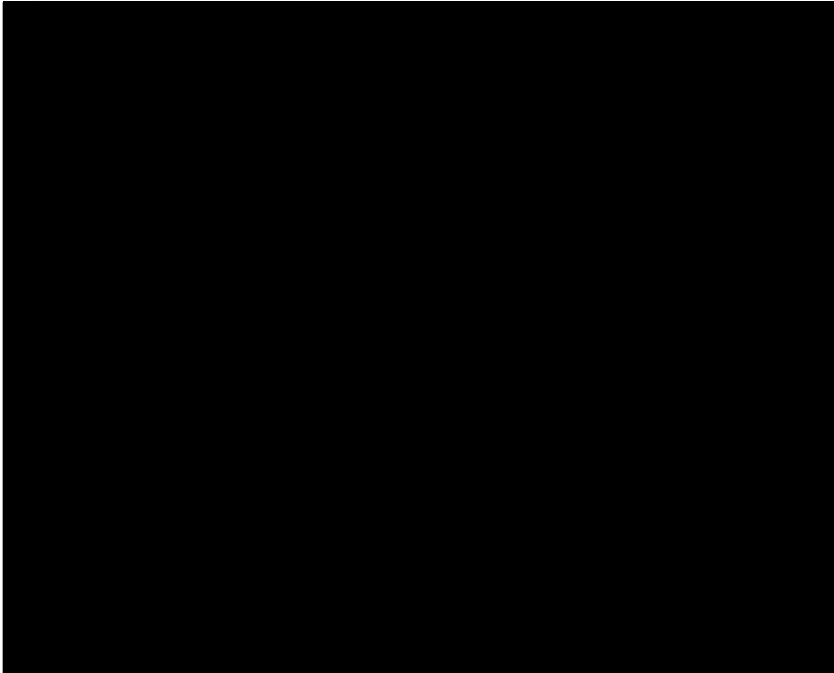


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CHAPTER I

Introduction

It has been estimated that approximately three million children are actively affected by asthma. Nearly 25% of the days lost from school because of chronic conditions are due to asthma.¹ Of all Emergency Room visits, approximately 10% involve asthma. The number of hospital admissions for children with asthma has continued to rise. The deathrate for children world wide has increased steadily over the past ten years. The use of corticosteroids, aerosols, intravenous fluids with medications and blood gas monitoring has not brought about a decrease in the mortality rate. New York City reported fifty-nine childhood asthmatic deaths between 1960 and 1964.² In Los Angeles the death rate increased from .4 per 100 asthma admissions to Children's Hospital of Los Angeles in the years from 1937-1941, to 1.7 per 100

¹U. S. , Department of Health, Education, and Welfare, Illness Among Children, by C. G. Schiffer and E. P. Hunt, Children's Bureau Publication 405 (Washington, D. C.: Government Printing Office, 1963), p. 14.

²Armond V. Mascia, "Delivery of Medical Care to Chronic Asthmatic Children," The Journal of Asthma Research 10 (March 1973): p. 171.

admissions for 1962 and the first six months of 1963.³

The investigator has cared for children with asthma in a private outpatient setting and in the hospital during the acute phase. Many of these children were seen repeatedly in status asthmaticus and are well known to both inpatient and outpatient staff. The following questions have occurred to this author while caring for these patients: What happens when these patients go home from the hospital? Is sufficient teaching done prior to discharge to help the patient until his return to the outpatient setting? Could the admission rate be decreased through a teaching program prior to discharge?

A review of the medical literature on asthma showed no in depth studies which attempted to determine the parents' level of knowledge about their asthmatic child or to define any problems parents might encounter due to their lack of knowledge. The nursing literature revealed a similar paucity of material on parental knowledge, although the need for teaching was stressed.

It was the purpose of this study to measure the level of parental knowledge about their asthmatic children in four broad areas: etiology, pathology, treatment, and prognosis.

The following chapter will review the medical and

³Warren Richards and James R. Patrick, "Death from Asthma in Children," American Journal of Diseases of Children, 110 (July 1965): p. 5.

nursing literature as it deals with patient communication, teaching, and compliance in long-term illness.

CHAPTER II

Review of Literature

Introduction

The term asthma has been in use only since the year 1906. However, allergic symptoms had been observed and recorded centuries before. Allergic symptoms were recognized in ancient Egypt by Galen and quite certainly by others before him. In the twelfth century, Maimonides, a widely known philosopher and physician undertook the care of the son of the Egyptian King Saladine. Early in the thirteenth century Maimonides wrote a treatise on allergic symptoms. This book indicates he was very well acquainted with allergic symptoms, their causes and treatment. In his book, Maimonides was also concerned with the influence of sleep and rest. He noted the effect of climate changes and was adamant in stressing the importance of emotional problems and the patient's total personality. Today little more is known about asthma that Maimonides did not at least make reference to.⁴

While much is still true that was known in the days of Maimonides about asthma, the medical management has

⁴Samuel Karelitz, "Impressions of the Present Management of Allergic Disease in Childhood," The Journal of Asthma Research 3 (March 1966); 165-166.

changed dramatically. Has this knowledge about treatment been imparted to the parents of asthmatic children? In reviewing the literature relevant to parental knowledge of asthma, nothing could be found which dealt with this specific aspect of patient care. Therefore, an attempt was made to discover if any literature was available dealing with other long-term conditions which might attempt to measure parental knowledge of their child's condition. Here the investigator was more successful in that several studies were found dealing with knowledge as it affected compliance. Several of these studies attempted to discover what other variables might affect compliance, so these were also included in the literature review. Patient-nurse communication and doctor-patient communication was thought to be especially pertinent to the parent's level of knowledge. Also, the literature which deals specifically with what basic information parents of asthmatic children should be familiar with is included. Communication patterns will be dealt with first, followed by factors affecting compliance, and lastly teaching implications will be discussed.

Doctor/Nurse-Patient Communication

Korsch developed a method of analyzing facilitations and blocks in doctor-patient communication. In their study over 800 patient visits were analyzed "to determine what in the verbal communication between

a doctor and a parent can be related to the outcome of a consultation." Mother-blocks were not tabulated, only doctor-blocks. There was an average of 13.5 percent doctor-blocks for each patient visit from the sample. A visit was considered "high-block" if the rating was above the median, conversely if the rating was below the median it was considered a "low-block visit." The blocking categories contained statements which did not logically follow the preceeding one, using jargon, interrupting the mother, continued talking without waiting for an answer, leaving the examining room without an explanation, or failure to respond to a question. Dissatisfaction was also much more apt to be expressed by the mother when there was a higher number of doctor-blocks. Also, for those patient visits rated high in both dissatisfaction and in doctor-blocks, noncompliance was 80 percent! High-blocking was also found to be more prevalent in visits by mothers from the lower socioeconomic strata. There was also a relationship between the mother's expectation and doctor-blocking. The more doctor-blocks which occurred, the less likely it was that the mother's expectations would be met. The use of jargon stood out as a particular area of difficulty. The quality of the blocking statements, rather than just numbers made for increased parental dissatisfaction. This was especially true when doctors interrupted mothers or changed the subject. The lesson for health workers is clear. Not only must they listen to the

patient, the patient must realize he has been heard. Since many of the thirty different doctors in the study blocked in some of the same ways, this study points out some common communication problems between doctors and patients.⁵

In this same study, Korsch, also noted that physicians often utilize their time poorly. The two main problems that she identified were arguing with the patient over the correct terminology to describe the symptom and repetition. Repetition occurs when the physician feels that the mother did not comprehend what was being said. The physicians repeated their own words "three or four times, apparently hoping that the mother will accept and understand them the next time even" if she has not done so before. Korsch believed that repetition is an indication that communication is not taking place and another approach must be taken.⁶

Dodge, attempted to correlate information nurses thought important for patients to know with information the patients themselves thought important. While there was marked agreement in many areas, for instance both

⁵Barbara M. Korsch, Marie J. Morris, and Ethel K. Gozzi, "Gaps in Doctor-Patient Communication: Implications for Nursing Practice," American Journal of Nursing 69 (March 1969): 529-533.

⁶Barbara M. Korsch, Ethel K. Gozzi, and Vida Francis, "Gaps in Doctor-Patient Communication," Pediatrics 42 (November 1968): 868-869.

nurses and patients though it "highly important that patients be informed about what is wrong with them, how long the illness is likely to involve them and how they can participate in their own care," they also disagreed in many areas. Patients were highly concerned about the gravity of their condition, the possibility of recovery or recurrence, results of x-rays and blood work, and "complexity of their case." Also, patients were desirous of knowing the etiology of their conditions and symptoms and the "names and effects of their medications." None of this information was rated highly by the nurses.⁷

Certainly this disparity would have serious implications in caring for the child with a chronic disease. Here there is a vital need for them to know their prognosis and especially information regarding their medical regimen.

Pratt, in her study, attempted to test the amount of knowledge 214 adult medical patients had about ten common diseases. Most of these patients could answer slightly over half of the rather elementary questions asked. The second phase monitored physician-patient relationships, and the third phase investigated the knowledge fifty new patients had about their diagnosis. Some of these patients had previously received care for this condition. No subjects were found to have a complete knowledge about all

⁷Joan S. Dodge, "What Patients Should Be Told: Patients' and Nurses' Beliefs," American Journal of Nursing 72 (October 1972): 1852-1854.

three areas about which they were questioned--etiology of the disease, usual treatment, and the prognosis." It was concluded that the patients studied were rather poorly informed about not only their own diagnosis, but also about ten common conditions. Because of the low level of knowledge on the part of the patient it was impossible to study the relationship between knowledge and patient-physician interaction or its effect on the quality of patient care. It is especially pertinent to the author's study to note that Pratt assumed that there was a relationship between the patient's level of information and understanding of the disease and low level participation by the patient with the physician, thus reducing the quality of care.⁸

A study by DeCastro on the effectiveness of care in a primary care clinic reinforces the idea that much of the teaching done is inadequate. "The sample consisted of 200 children chosen from 32,423 visits to a primary care clinic serving a low socio-economic population." In contrast to Korsch's study, DeCastro found that even where most of the parents seemed to be satisfied with the care they received, "their knowledge of the diagnosis, expected duration of illness, treatment prescribed

⁸Lois Pratt, Arthur Seligmann, and George Reader, Physicians' Views on the Level of Medical Information Among Patients," American Journal of Public Health 47 (October 1957): 1277-1278.

and importance of the return visit was inadequate."⁹

In a later study by Dodge, the question of who should tell what to the patient was considered. Her sample included patients, nurses, and physicians. It was particularly revealing that the only information the doctors believed at all important for the nurse to give the patient was "an explanation of what they were doing when caring for the patient." All other information such as teaching about medications or diagnosis was placed on a par with flower arranging. Conversely, patients and nurses agreed that it was important for nurses to give information concerning medications, diagnosis, and signs and symptoms to patients. Patients also thought it important for doctors and nurses to communicate errors to them while medical personal rated this as unimportant. Certainly, these results would suggest conflict between patients and those caring for them. This data strongly suggested that patients do not always receive the information that they want, for if the doctor judges the information as relatively unimportant it is not likely that he will communicate it. One of the interesting things shown by this study was the relationship between personal adequacy and a willingness to communicate information. Thus the older the physician and the higher his self-esteem, the

⁹Fernando J. DeCastro, "Doctor-Patient Communication," Clinical Pediatrics 11 (February 1972): 86-87.

greater his self-confidence and the more likely he will be to impart information about the patient's disease process and treatment. This is supported by the fact that interns and residents attributed less importance to staff-patient communication than the senior staff did.¹⁰ This is important in view of the fact that the preponderance of patient teaching both to hospitalized and outpatient asthmatic children in the present investigator's study was done by the interns and residents.

Linehan, in her study approached patient teaching from a different angle. Rather than researching what he should know, or did know, she attempted to discover what the patient wanted to know. A total of 450 adult patients were interviewed. The patients were especially interested in more information about their diagnosis, what physical or psychological changes they should expect, changes in activity levels, medications, laboratory reports, and most important, privacy for the physician to impart the information to them. The respondents also made numerous unsolicited comments about nurses and their hesitency to answer questions.¹¹

¹⁰Joan S. Dodge, "How Much Should the Patient Be Told and By Whom," Hospitals 37 (December 1963): 74-79.

¹¹Dorothy T. Linehan, "What Does the Patient Want to Know?" American Journal of Nursing 66 (May 1966): 1066-1068.

Anxiety has been implicated in many studies as having an adverse affect on the retention of information and the ability to benefit from teaching. Glaser studied anxiety as it related to the mothers' ability to handle the child's illness. Their sample included twenty-five mother-child groups from neurology, cardiology, allergy, and rheumatic fever clinics. It is of interest that they chose to report only their findings on rheumatic fever. The most anxiety producing areas included the physical illness and the implications of the illness. The adaptive mechanisms identified in the mothers included optimism, control, activity, denial, fatalism, and understanding. It is of interest that acquiring knowledge was not mentioned as a positive way of handling anxiety.¹²

Speer, on the basis of his own pediatric allergy practice, identified several attitudes which might interfere with treatment. They include resentment, hostility, shame, frustration, carelessness, discouragement, and overprotectiveness. His suggestions for the management of these problems included making the parents partners in their child's care. In order to make the parents feel as though they are partners, respect is necessary. Respect for their experience, their

¹²Helen H. Glaser, David B. Lynn, and Grace S. Harrison, "Comprehensive Medical Care for Handicapped Children," American Journal of Diseases of Children 102 (September 1961): 345, 350-353.

powers of observation, their privacy, their dignity and their other problems.¹³

Education and Compliance

In a study which compared physicians perceptions of compliance with findings about compliance in the literature, Davis found marked disparities between the two. The sample included 132 physicians on the faculty of a medical school and eighty-six fourth year medical students. Sixty-three and 61 percent respectively responded. In almost half of the studies review by Davis the rate of non-compliance fell within the range 30-35 percent. In contrast almost half the physicians in the sample claimed that all their patients adhered to the prescribed medical regimen. The doctor who fails to realize that only some patients will always follow advice and who fails to recognize his roll in motivating and educating his patients may also fail to achieve the desired results. In order to discover some of the steps taken with patients who fail to comply, doctors were asked what they do when a patient fails to follow their advice. There was agreement from all respondants that they would "give the patient a thorough explanation of the regimen and repeat it so that the patient" understood it. This was the primary step after discovering the

¹³Frederic Speer, "Allergic Children and Parental Attitudes," Clinical Pediatrics 9 (November 1970): 642-647.

patient had not complied. If explanations failed the physicians would then attempt persuasion, threat tactics, withdraw from the case or refer the patient elsewhere. Certainly this study would imply that many physicians do not consider patient education one of their primary tasks even though they do see it as a means of achieving compliance. Many of them are highly unrealistic in their perceptions of patient compliance.¹⁴

Wilson, in a study on compliance as it affects therapeutic efficacy, found that twenty-five percent of those being seen were not taking the drugs as directed. In chronic diseases there may be disastrous results if medication is withheld through improper administration. In attempting to identify those children who were at high-risk for non-compliance, Wilson identified several factors. None of these appeared to be instrumental in non-compliance. The one factor which appeared to be of any importance was the mothers' positive characteristics such as responsible, organized, efficient, and mature. Her concept of her own health, social role and severity of the child's illness was also thought to be a determining factor in compliance.

¹⁴Milton S. Davis, "Variations in Patients' Compliance with Doctors' Orders: Analysis of Congruence Between Survey Responses and Results of Empirical Investigations," Journal of Medical Education 41 (November 1966): 1037-1046.

He also found an inverse correlation between chronic non-painful disease and compliance. This compliance would be weakened further in direct proportion to the number of drugs consumed in a given day or perhaps to the complexity of the medical regimen. While education about the drug and the disease did not increase compliance, information about possible sequelae of streptococcal disease and having the patient return the empty penicillin bottle did.¹⁵

Arnhold carried out a study of 104 pediatric patients in which he attempted to evaluate comprehension and compliance. Most of the patients studied were on a ten day course of medication. An interviewer went to the home a few days before the end of the treatment period. Parents were asked questions about the drug and diagnosis. Understanding of instructions was "generally excellent." At least ninety-five percent of all mothers knew the name or type of drug, "the size of the dose and how often it was to be given." On the other hand compliance was good in 75 percent. There were no significant differences between the two groups. The factors which influence compliance and non-

¹⁵John T. Wilson, "Compliance with Instructions in the Evaluation of Therapeutic Efficacy," Clinical Pediatrics 12 (June 1973): 336-339.

compliance were not discovered by this study.¹⁶

In Charney's study, 459 children ranging in age from 1.5 to 14 years were followed to discover if a ten day course of penicillin was properly taken for the entire time. The rate of compliance was 56 percent. Four factors which influenced compliance were identified. They were: how the mother viewed the degree of illness, whether the child's usual doctor prescribed the medication, the mother's personality, and the number of years that practice had followed that particular family.¹⁷

From these studies it would seem that children from the clinic population with a chronic disease have a greater chance of not receiving their intended medication than private patients, since they are not followed for long periods by any one physician, and their mothers may have poor self-esteem.

Compliance with physicians' instructions was studied in 136 children and adolescents who met specific criteria regarding rheumatic fever by Gordis. The results showed that a "set of sociomedical risk factors for noncompliance can be formulated." There was a uniform trend which showed more compliers among males than females. Noncompliance became greater with age and was more frequent in

¹⁶R. L. Arnhold et al, "Patients and Prescriptions," Clinical Pediatrics 9 (November 1970): 648-649.

¹⁷Evan Charney et al, "How Well Do Patients Take Oral Penicillin? A Collaborative Study in Private Practice," Pediatrics 40 (August 1967): 190-194.

large families. There were no non-compliers in those children with rheumatic heart disease whose activity was restricted. Conversely non-compliance was highest in those children who had never been hospitalized. Knowledge was not a significant factor in compliance. Children who were accompanied by a parent at their clinic visits had a higher rate of compliance than those who came alone. The profile of the non-complier then would be a female adolescent with a large sibship who had never been hospitalized for an acute attack, had no activity restrictions, and was unaccompanied by the parent at the clinic visits.¹⁸

In summary, while there is disagreement about the relationship between education and compliance there does seem to be some agreement between the various studies that certain characteristics are identifiable in the high-risk family and intervention can be planned accordingly.

Teaching Implications

The patient and his family are supported and guided by competent nursing as they progress through the stage of adaptation. Properly timed teaching is a nursing skill that can be extremely helpful in

¹⁸Leon Gordis, Milton Markowitz, and Abraham M. Lilienfeld, "Why Patients Don't Follow Medical Advice: A Study of Children on Long-term Antistreptococcal Prophylaxis," The Journal of Pediatrics 75 (December 1969) : 960-964.

facilitating adaptation.¹⁹

In discussing health teaching, Deegan, differentiated between health education and merely giving out health information. Health education brings about a change in behavior as opposed to merely increasing the level of knowledge. She also pointed up the need for knowing something about the individual involved before attempting to stimulate a change in the patient's behavior.²⁰

Education of the patient's family must be included in the total care of the chronic asthmatic child. Literature, child group discussions, and parent group discussions are all part of optimal care. Mascia stated, "The nursing staff must be problem-oriented, taking an active part in giving instructions to patients and parents." A nurse should function in the clinic as a coordinator. She would work with both patients and parents, teaching them about medications, how to institute environmental controls, and how to minimize some of the emotional factors.²¹

¹⁹Barbara Klug Redman, The Process of Patient Teaching in Nursing, (Saint Louis: C. V. Mosby Co., 1972), p. 36.

²⁰Mary G. Deegan, "Health Information is Not Health Teaching," American Association of Industrial Nurses Journal, 15 (November 1967): p. 13.

²¹Armond V. Masica "Standards for Comprehensive Care of Chronic Asthmatic Children," The Journal of Asthma Research 11 (March 1974): 101, 106.

DeAngelis also stressed the need for parent teaching on the part of the nurse practitioner. She too saw the nurse as giving information on environmental control and medication administration.²²

In the second phase of Linehan's study, she sought to discover how patients could get answers to their questions. Several changes were made as a result of this study. The head nurse was given more time for teaching and a position of education coordinator was established. Several suggestions were made for improving patient teaching. These included a place within the hospital where patients could call for information; new methods of teaching using pictures, charts, pamphlets, teaching machines, television and even the computer; and increasing patient education within the medical and nursing schools.²³

Fontana considered education of the parents the most important aspect of allergic management. It should include an explanation of the physician's plan of management, a detailed description of asthma, the causes of wheezing and coughing, the effects of mucous accumulation, and bronchial spasm. The reasons for giving

²²Catherine DeAngelis, Basic Pediatrics for the Primary Health Care Provider, (Boston: Little, Brown and Company, 1973), p. 267.

²³Linehan, "What Does the Patient Want to Know?" p. 1069-1070.

specific medications should also be emphasized.²⁴

Sly sought to evaluate a sound-slide program in instructing mothers of asthmatic children. Two groups of sixteen mothers each received instruction concerning atopy, pathogenesis and treatment, and environmental control. One group received only oral instruction while the experimental group received oral and visual instruction. They were tested before and after instruction and again at six weeks. No significant differences were found between the two groups. This program would certainly be of value in a situation where physicians with various degrees of expertise may be responsible for teaching. In this way each patient or mother will receive the same basic information.²⁵

In summary, while the above studies corroborated the need for including the parents in planning the care for their child and the need for parental knowledge, little could be found in the literature which did, in fact, attempt to determine the parents level of knowledge about their asthmatic child.

Chapter 3 will present the methodology used in the author's study.

²⁴ Vincent J. Fontana, Practical Management of the Allergic Child, (New York: Appleton-Century-Crofts, 1969), p. 83.

²⁵ R. Michael Sly, "Evaluation of a Sound-Slide Program for Patient Education," Annals of Allergy 34 (February 1975): 95-97.

CHAPTER III

Methodology

The purpose of the exploratory study was to measure the level of parental knowledge about their asthmatic children in four broad areas: etiology, pathology, treatment and prognosis.

Problem Statement

What is the level of knowledge of parents of asthmatic children about their child's asthma?

Definition of Terms

For the purpose of this study, the following definitions are used:

Asthmatic children-Children between the ages of twelve months and twelve years with asthma which has been diagnosed for at least six months.

Parent-The person who fulfills the caretaker role.

Assumptions

The assumptions which underlie this study are:

1. Parents provide the basic care for their children, including the administration of drugs, performance of breathing exercises and decisions regarding activity.
2. Parental decisions are based on their knowledge of the disease process.
3. It is possible to measure parental knowledge

through the use of the data collection tool.

Setting

The study was conducted in a large teaching hospital located in a metropolitan area in the southeastern United States. The patients' rooms of the three pediatric units were chosen as the setting for this study. Most mothers chose to stay at their child's bedside as they completed the questionnaire, although one mother retreated to the coffee shop.

Subjects

All subjects who met the following criteria were included in the study:

1. Parents who had children hospitalized with asthma between April 1, 1975 and July 1, 1975.
2. Parents who consented to fill out the questionnaire.²⁶
3. Parents whose children were between twelve months and twelve year of age.
4. Parents whose children had been diagnosed as having asthma at least six months prior to the interview. Of the parents who were approached, two refused and stated that they did not think they knew enough about asthma to participate in the study.

²⁶Appendix A, p. 36.

Methods for Data Collection

The patients' charts were reviewed to determine which patients met the criteria for inclusion in the study. After establishing contact with the parent, an explanation of the study and assurances of confidentiality were given. If the parent consented to participate, she was provided with the informed consent form, the questionnaire, and a pencil. The parent was requested to sign the consent form²⁷ which was immediately separated from the questionnaire to maintain anonymity of the parent. The parent and the investigator then went over the directions together to be sure they were clear. The parent was told the investigator would return in approximately fifteen minutes to see if any questions had arisen. The parent was given as long as necessary to complete the questionnaire.

Instrument for Data Collection

The data collection instrument was a questionnaire designed by the investigator consisting of twenty-four open and closed questions. The closed questions were chosen for the ease with which they could be answered and the rapidity with which they could be completed, while the open questions were included to give the parents an opportunity to express themselves on subjects that did not lend themselves

²⁷Appendix B, p. 40

to closed questions.

Items in the questionnaire included the following categories: (1) etiology, (2) pathophysiology, (3) treatment, and (4) prognosis.

The content validity of the questionnaire was established by asking one pediatric allergist and two specialists in pediatric nursing to determine if the questions covered the appropriate material. Then, adjustments were made based upon the specialists' suggestions. The questionnaire was pretested on one patient. No additional modifications were deemed necessary.

Method of Analysis of Data

Upon completion of all the questionnaires, the data were tabulated and analyzed. Descriptive statistics were used due to the small sample and the type of data gathered.

The following chapter presents the analysis and interpretation of the data.

CHAPTER IV

Analysis of Data

Introduction

The purpose of the study was to measure the amount of parental knowledge about asthma. Questionnaires were distributed to a total of twenty-five mothers during a three month period of time. Correct responses to the items contained in the questionnaire were determined. Data gathered from these questionnaires were analyzed. Descriptive statistics were utilized because the analysis was dealing with predominantly nominal data and a nonprobability sample. Analysis of the first eleven questions follows.

Drug Information

The first question sought to determine how many children were routinely on medication. Twenty subjects answered yes, and these twenty were asked to complete the next four questions which referred to dose and action of each drug.

Of the twenty who stated their child was on routine medication, eighteen were able to name the medications. Two, in addition to the expected

antihistamines and bronchodilators, listed antibiotics (Ampicillin and Erythromycin) as routine antibiotics for their children. With the exception of one, every parent, including those two who were unable to name the drug, were able to state the dosage, time interval between doses and the number of doses in twenty-four hours. The only discrepancy noted was on a questionnaire where the time interval between doses was "q 4 h if necessary" and the number of doses the parents gave in twenty-four hours was "2."

Nineteen subjects stated they had been told what the medications were for, while the twentieth one failed to answer the question. Of those who stated they had been told, fourteen were able to state with a fair degree of accuracy what they gave the medication for. Of the remaining five, one did not complete the question, three stated Quibron was for a runny nose and the fifth stated Prednison was given for asthma with no further explanation. The subject may have possessed more knowledge, but due to the wording of the question did not give a more explicit answer. Of interest, is the fact that one mother changed her yes answer to no after looking at the following questions and stating she was unable to answer them.

Frequency of Wheezing

Wheezing occurred on a daily basis in three children, on a weekly basis in seven, on a monthly basis in four, on a seasonal basis in five, and

was apparently triggered by infection in one. The other three circled "other" with no explanation.

Home Treatment of Asthma

Asthma attacks were handled in a variety of ways. Fourteen parents stated they would give the asthma medication first; six would take the child to the Emergency Room or physicians office; and two would call the physician. The remaining two stated they would start the vaporizer, force fluids, have the child sit down, and "breath deeply." Of the fourteen who chose to give the medication first, six also wrote in answers such as: "force fluids," "start vaporizer," "try to keep as quiet as possible," and "if attack continues, take him to the clinic." Those who stated they would go to the physician or call him, listed no self-help measures. Perhaps those relying more heavily on the physician were unable to formulate a plan of action on their own.

Antihistamine versus Bronchodilator Knowledge

The next two questions referred to the functions of bronchodilators and antihistamines. Sixteen were able to identify a bronchodilator as useful in the treatment of wheezing, while five stated it was for a croupy cough, and one stated it was used to treat a runny nose. Three omitted these questions, two of

the three were among those who had omitted the questions on their children's medications. On the question referring to antihistamine usage, sixteen were able to identify it correctly as being used in the treatment of a runny nose. In addition, three did not answer the question, three stated they were used for wheezing, one stated it was used for a croupy cough, and one added an answer not given, hives.

Chicken Allergy

The tenth question dealt with allergies to eggs and related products and its effect on immunizations. Seven subjects stated that they had been told their child was allergic to eggs and they had all been told their child could not receive the measles shot.

Source of Information

The last of the multiple choice questions attempted to discover where patients received most of their information. Eight stated they had learned the most from the doctor, seven stated most of their information came from books and magazines, four stated the clinic or office nurse, and an additional four either had asthma themselves or some member of their family had asthma and they already felt they had a satisfactory knowledge base. One subject stated that no one had ever taught her anything and one

person failed to answer the question.

The true and false questions with number, percentage and type of response of the subjects is presented below. The correct response is underlined. Sudden temperature changes may cause an asthma attack.

	<u>T</u>	19=76%
	F	5=20%
No Response		1= 4%

Tropical fish make good pets for asthmatic children.

	<u>T</u>	12=48%
	F	12=48%
No Response		1=4%

Childhood asthma does not have to be treated, as it will be outgrown.

	<u>T</u>	0
	F	25=100%
No Response		0

Parents who have asthma are more apt to have children with asthma.

	<u>T</u>	18=72%
	F	6=24%
No Response		1= 4%

Children with asthma should be discouraged from having furry pets.

	<u>T</u>	23=92%
	F	2= 8%
No Response		0

Children whose parents have allergies are more apt to have asthma.

	<u>T</u>	25=100%
	F	0
No Response		0

Rugs and curtains are perfectly permissible in the asthmatic child's room.

	<u>T</u>	0=
	F	25=100%
No Response		0

Emotional changes have little effect on asthma.

	<u>T</u>	5=20%
	F	20=80%
No Response		0

The asthmatic child should have his room as empty of dust catchers as possible.

$\frac{T}{F}$ 25=100%
0

The asthmatic child should only play and sleep in a specially dust-controlled room.

$\frac{T}{F}$ 23=88%

F 2=8%

No Response 1= 4%

From the above information the majority of those filling out the questionnaire appeared well-versed in environmental control, the familial tendency towards asthma, and the emotional component.

Stopping Medication

The decision to stop medication was apparently made by one half of the subjects without any help from the physician. Twelve (50%) stated that when the child stopped wheezing and/or coughing they discontinued the medication. Ten (40%) discontinued the medication after conferring with the physician and two (10%) failed to answer the question.

Causes of Wheezing

In response to the question asking the cause of wheezing, ten or 40% stated that an accumulation of mucous in the lungs caused wheezing. Six, or 25% stated they did not know while another six omitted the question. One stated "the lung collapses," another simply "dust," and a third stated "air can't get out like it normally does." Apparently more teaching is necessary in this area.

The final question sought to discover if there was any information that these parents felt would be helpful to other parents of asthmatic children. This seemed also to be a way of discovering areas these parents might have needed special help with. Ten questionnaires were left blank. Another five misunderstood the question and stated they would like more teaching on the subject of asthma. The remaining ten subjects responded with very specific comments. For example: "Pay close attention to when an attack happen(sic) and take note of what cause(sic) it." "If they are smokers they should be told to stop." Another stated they should "be able to tell the difference between allergy and cold." Still another stated "Be careful of cooking smells. For example, frying greasy foods like sausage, bacon, cured ham or french fries." Several spoke of the importance of being calm and keeping the child calm. Four spoke of the importance of normal discipline but said they had been unable to attain this goal.

Interpretation of Data

The results of this investigator's study seem to concur with other researchers in the area of patient knowledge. The areas of medication and environmental control were evidently considered important by both learner and teacher. Parents were all aware of environmental control and how it should be insti-

tuted. This would be in agreement with Dodge's study since patients and nurses rated as important how patients can participate in their own care. When there is agreement as to the importance of the material, learning is more apt to take place. The high level of knowledge about medications was in agreement with Arnhold's study in which understanding about medications was generally excellent.

Conversly, the areas of pathophysiology and parent-child relations appeared to be areas in which more teaching is needed. The apparent lack of teaching could be attributed to many things. In Dodge's study physicians rated knowledge of the etiology of a disease as unimportant, perhaps those doing the teaching in this investigator's study rated information about pathophysiology as unimportant also, or perhaps they were unable to communicate at a level the parents were able to understand. This was one of the problem's Korsch identified; physicians were apt to repeat the same words over and over in hopes the patient would understand, rather than change their approach. Reasons for the difficulty in the area of discipline are probably many and varied. Physicians may hesitate to encroach in an area they consider to be the parents' responsibility alone. Parents may hesitate to ask questions in this area, feeling that only physical symptoms are of interest to the doctor. Parents

may have such feelings of guilt about their child's illness that they are unable to effectively discipline them. The parent may go to any lengths to prevent wheezing in the child who becomes symptomatic under stress. Parents may also feel very protective of these children and in efforts to protect the children may cause problems in the parent-child relationship.

In summary, while it appears that many parents have knowledge about etiology, drugs, and environmental control, there appears to be a need for further teaching in the areas of pathophysiology and parent-child relations.

The following chapter will include a discussion of the data, conclusions, and suggestions for further research.

CHAPTER V

Summary

Introduction

This chapter contains a summary of the purpose, review of the literature, research procedure, and findings of this study. Also included are an interpretation of the findings, recommendations for further research and implications for nursing practice.

Summary of the Study

The purpose of this study was to investigate the level of parents' knowledge regarding asthma.

Twenty-five parents of children who have asthma were interviewed during their child's hospitalization for status asthmaticus. Adequate knowledge about environmental control and medication was noted in the majority of the subjects but over half were unable to explain the pathological changes which caused wheezing. While most parents appear to have adequate knowledge of medications and environmental control on which to base their decisions about their child's care there appears to be a need for more information regarding the pathophysiology.

Summary of the Literature

In reviewing the literature many factors were identified which influenced compliance. One of the most important factors was the communication patterns of the physician or nurse with whom the patient was conversing. It was also found that there was disagreement between nurse, physician, and patient as to what the patient needed to know about his disease process. There was agreement within the literature as to the basic information needed by parents of asthmatic children.

Recommendations

Recommendations include:

1. Replication of the study using both in-patients and outpatients. This would result not only in a larger sample but would also include those patients who are not ill enough to need hospitalization.
2. Determine the length of time the child has been diagnosed as having asthma. This would allow for comparison of level of knowledge about asthma between patients who have been diagnosed for several years and those just beginning treatment for asthma.
3. Grade the child's disease according to its severity. According to the literature there should be a relationship between severity of disease and parental knowledge.

4. An attempt should be made to correlate knowledge and compliance.

5. It would be of interest to establish the relationship between socio-economic level, educational level and knowledge of asthma.

6. When using the questionnaire add another category to the T and F questions, i.e. don't know. This would eliminate guess work when questions were omitted as to whether it was by accident or because the answer was unknown.

Implications

From this author's study it appears that adequate teaching is being done in the areas of medication and environmental control. Parents need more knowledge in the areas of pathophysiology and parent-child relations. Other methods of teaching the mechanism behind wheezing need to be investigated and utilized if deemed appropriate.

Nurses should be able to offer positive methods of dealing with these children through their knowledge of behavior modification principles, general knowledge of growth and development, and the parenting process. There should be at least one nurse available during the child's hospitalization to answer questions and work with these families.

Because of the small numbers used in this study it is impossible to generalize to the general patient

population. However, it seems that we are not meeting the needs of some parents in helping them attain a level of knowledge that will allow them to make educated decisions about their child's care.

APPENDIX A

QUESTIONNAIRE

1. Does your child routinely take medicine at home for asthma? Yes() No()

If answer is yes, continue with questions 2-5. If no, go to question 6.

2. What are the names of the medicines your child presently takes at home?

3. Please answer the following questions about each medicine your child takes:

Name of medication:

How much you give:

Time interval between doses:

How many doses in 24 hours:

Do you wake your child up for medication:

4. Have you been told what each medicine is for?

Yes() No()

5. If yes, please list each medicine and what it does.

6. Does your child have wheezing(circle)

a. daily b. weekly c. monthly d. other--explain

7. What is the first thing you do when you realize your child is having an asthma attack?

a. Use a hand nebulizer

b. Give asthma medicine

c. Call doctor or clinic

d. Take child to Emergency Room or doctor's office

e. Other--please explain

8. When is a bronchodilator(some of the names for this kind of drug are Quibron, Tedral, Marax) given?

- a. For a croupy cough
 - b. For a runny nose
 - c. For wheezing
9. When is an antihistamine (some of the names of this kind of drug are Chlortrimeton, Pyrabenzamine, Dimetane, and Benadryl) given?
- a. For a croupy cough
 - b. For a runny nose
 - c. For wheezing
10. Have you ever been told that your child is allergic to eggs, feathers, or chickens? Yes() No()
- If yes, what precautions have you been told to take in having flu or measles shots for your child.
11. Where have you learned the most about asthma?
- a. From the clinic or office nurse
 - b. From the doctor
 - c. From magazines or books
 - d. Other (please specify)
12. T. F. Sudden temperature changes may cause an asthma attack.
13. T. F. Tropical fish make good pets for asthmatic children.
14. T. F. Childhood asthma does not have to be treated, as it will be outgrown.
15. T. F. Parents who have asthma are more apt to have children with asthma.
16. T. F. Children with asthma should be discouraged from having furry pets.

17. T. F. Children whose parents have allergies are more apt to have asthma.
18. T. F. Rugs and curtains are perfectly permissible in the asthmatic child's room.
19. T. F. Emotional changes have little effect on asthma.
20. T. F. The asthmatic child should have his room as empty of "dust catchers" as possible.
21. T. F. The asthmatic child should only play and sleep in a specially dust-controlled room.
22. How do you decide when to stop medication and how do you do it?
23. What do you think happens in your child's lungs that causes him to wheeze?
24. Is there any other information you feel would be helpful for the parents of asthmatic children to know?

APPENDIX B

WRITTEN INFORMED CONSENT

WRITTEN INFORMED CONSENT

I understand that I, along with other parents of asthmatic children, have been asked to complete a questionnaire, which will take approximately fifteen minutes. The purpose of the questionnaire is to determine parental knowledge of their children's asthmatic condition. The ultimate goal will be to provide data to those who seek to educate parents. I understand that my identity will remain anonymous and my answers will be confidential. I understand that I may withdraw my consent and discontinue participation at any time.

Signature _____

Date _____

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