An audio-visual aid for teaching modified diet instruction
by Jeanne Ethel Kilpatrick

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE in Home Economics
Montana State University

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Often however, the patient does not receive adequate instruction due to the shortage of professional personnel and their time. The patient must therefore assume the major responsibility of proper meal selection within the limits of his dietary guide. A problem sometimes arises when the patient does not fully understand the literature he received for instructional purposes.

Very little work has been done to develop self-help diet instruction aids. Tape recordings have recently become available to instruct patients on modified diets. This study outlines the development of commentaries to be placed on thin vinyl recordings for the calorie-controlled diet, the bland diet and the sodium-restricted diet. Each recording is designed to expand upon information that is found in free commercial literature.

Physicians from one community were asked to evaluate the proposed commentaries for recording by checking a mailed questionnaire. Data were collected in a follow-up interview. Acceptance of the proposed self instruction aid was good. Particularly favorable ratings were received from general practitioners.

AN AUDIO-VISUAL AID FOR TEACHING MODIFIED DIET INSTRUCTION

by 1141

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A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree

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ABSTRACT

Therapeutic diet instructions are a necessary part of the care given to a patient for prophylactic purposes and treatment. Often however, the patient does not receive adequate instruction due to the shortage of professional personnel and their time. The patient must therefore assume the major responsibility of proper meal selection within the limits of his dietary guide. A problem sometimes arises when the patient does not fully understand the literature he received for instructional purposes.

Very little work has been done to develop self-help diet instruction aids. Tape recordings have recently become available to instruct patients on modified diets. This study outlines the development of commentaries to be placed on thin vinyl recordings for the calorie-controlled diet, the bland diet and the sodium-restricted diet. Each recording is designed to expand upon information that is found in free commercial literature.

Physicians from one community were asked to evaluate the proposed commentaries for recording by checking a mailed questionnaire. Data were collected in a follow-up interview. Acceptance of the proposed self instruction aid was good. Particularly favorable ratings were received from general practitioners.

CHAPTER I

Importance of the Study

Modifications of the normal diet are a necessary part of the therapy for a large number of abnormal conditions. Many people will find their patterns of eating altered for a short period of time, as in the case of a burn patient. Others, as typified by the ulcer patient, experience an extended period of diet alteration. Still others may have their food patterns changed by a disease such as diabetes for a lifetime, although diet is not the only controlling factor. Diabetics usually must use diet in combination with drugs. Often, however it is difficult for patients to accept new meal patterns. The patient must understand the value of diet change and strive to follow the regimen. His future well being partially depends upon adhering to the regulations. A need exists, therefore, to inform large segments of the population about diet modification.

One method used for helping people with diet modification is through distribution of printed materials by the doctor or dietitian. These may be published by industries whose product is related in some way to the diet problem and are usually given to physicians, dietitians and hospitals without charge. Pamphlets often list those foods which are permitted and prohibited, but

fail to provide much explanation. Instructions may be ignored because the patient does not understand the reason foods are not permitted. In addition, much of the diet literature produced by commercial sources is intended for patients and their families who have achieved a moderately high reading level.[1] This results in a middle class frame of reference. It is not unusual for a dietitian to encounter a patient who has received diet instruction but who seems to lack the motivation for incorporating new eating patterns into his daily routine. Experiences of this kind indicate a need for a new approach to diet instruction.

Purpose of this Study

Development of a new concept for presenting diet instructions would be helpful to make diet literature more serviceable to many users. It should appeal to a wide age-range of people, especially those with limited reading skills.

Many times, more than one learning medium will enhance specific learning goals. When both audio and visual materials are used, instruction can be especially effective since it frequently demands and receives the participant's immediate attention and interest. It may be that a recording used to explain the printed material

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[1] J. D. Watkins and F. T. Moss, "Confusion in the Management of Diabetics," Am. J. Nursing, 69 (Mar., 1969), 524.

will motivate an individual to learn more about his diet and thus make a greater effort to follow printed instructions.

The purpose of this study was to develop commentaries appropriate for recording to teach three commonly prescribed diets: calorie-controlled, bland and sodium-restricted. A secondary goal was to determine the acceptability of this instructional tool by physicians.

Hypothesis

In this study it was assumed that individuals learn at different rates and in different ways, each person developing the modes which are best suited to him. The multi-media approach coordinates the use of more than one medium toward specific learning goals and permits the fullest utilization of individual learning patterns. In this study model commentaries have been produced. If such audio-visual materials were available, it is hypothesized that doctors will use them.

CHAPTER II

REVIEW OF LITERATURE

Importance of Nutrition

The concern for foods and nutrition in today's world has intensified as population continues to mushroom and research produces more knowledge. Lack of adequate nutrition for many people in all parts of the world is a situation of grave concern even in the United States. It was one of the main reasons for the convening of the 1969 White House Conference on Food, Nutrition and Health.[1] The amount of space devoted to nutrition in books, newspapers and magazines for the layman is ever increasing. One problem is that not all the material disseminated is reliable.[2]

Nutrition has been defined as the "sum of the processes concerned with growth, maintenance and repair of the living body as a whole or of its constituent organs."[3] The definition is still

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[1] Jean Mayer, "A Report on the White House Conference on Food, Nutrition and Health," Nutrition Reviews, 27 (Sept., 1969), 247.

[2] Ibid., 249.

[3] Graham Lusk, Science of Nutrition, 3rd ed. (Philadelphia: W. B. Saunders, 1917), p. 69.

valid, but a simpler way of defining nutrition is the study of foods and how the body uses these foods for energy, to live, to grow and to stay healthy.[4]

A person's nutritional state can affect his entire approach to life. Adequate nourishment of the body must begin in the prenatal state and continue through old age if the body is to function and perform properly. Poor nutrition of the fetus may affect future mental development and may result in later retardation of normal growth and development.[5 & 6] There is no doubt that what a person eats affects how he feels physically, mentally and emotionally.[7]

At times the normal diet is altered for therapeutic purposes. This is particularly true in the hospital situation. In the Veterans Administration hospitals, of which there are 166 located throughout the United States, approximately half of the meals served

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[4]Ruth Leverton, "Basic Nutrition Concepts," J. Home Econ., 59 (May, 1967), 346.

[5]R. H. Barnes, "Learning Behavior Following Nutritional Deprivations in Early Life," J. Am. Dietet. Assoc., 51 (July, 1967), 34-9.

[6]G. G. Graham, "Effect of Infantile Malnutrition on Growth," Fed. Proc., 26 (Jan.-Feb., 1967), 139-43.

[7]Nevin Scrimshaw and John Gordon, ed., Malnutrition, Learning and Behavior, (Cambridge, Mass.: M.I.T. Press), 1968.

are modifications of the normal diet. The most frequently requested diets in these hospitals are "diabetic, sodium-restricted, calorie-restricted, bland and protein-restricted."[8]

Common Therapeutic Diets

A therapeutic diet is a regimen of eating developed to aid recovery from or prevention of a disease state. It is

> ...based on the normal diet and designed to meet the requirements of a given situation. It may be modified in individual nutritive constituents, caloric value, consistency, flavor, technics of service and preparation, content of specific foods, or a combination of these factors.[9]

Commonly employed therapeutic diets include the bland, the diabetic, the low-calorie, the low-fat and the sodium-restricted. Frequently other names are applied to describe these diets because of slight modifications. In the past it was common to name a therapeutic diet after the person who developed it. Dietitians however have tried to avoid this by naming the diet after its characteristics. In this way, the diet can be used for several

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[8]Helen R. Cahill, Dir. of Veterans Administration Dietetic Service, Personal Correspondence (Aug., 1969).

[9]Dorothea Turner, Handbook of Diet Therapy, 3rd ed., (Chicago: Univ. of Chicago Press, 1959), p. 203.

conditions and confusion does not arise over other similar diets developed by different individuals.

Bland Diet

The bland diet is frequently ordered for such conditions as ill-defined gastrointestinal symptoms, gastritis, hiatus hernia, mild diarrhea and convalescing ulcers. Most frequently physicians order a bland diet for ulcer patients to reduce gastric acidity. The diet is characterized by foods that tend to reduce excess stimulation of gastric secretions. They are soft, smooth and lacking rough fibers and chemicals which might cause irritation.

The bland diet is an excellent example of how professional people differ in guidelines. As Rynbergen pointed out:

> Today, many questions are being raised regarding the rationale and validity of the restrictions imposed on the diets of patients with diseases of the gastrointestinal tract. Such dietary treatment generally follows long-established patterns for, with the exception of sprue, they are based on empirical experience rather than biochemical or physical facts.[10]

In a study of duodenal ulcer patients, alternately placed on a regular hospital diet and a bland diet, no significant

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[10]Henderika J. Rynbergen, "In Gastrointestinal Disease Fewer Diet Restrictions," Am. J. Nursing, 63 (Jan., 1963), 86.

differences in healing, clinical response or radiographs were noted.[11] Since the fundamental cause for ulcers is not clear[12] it is difficult to say what dietary restrictions must be employed.

Diabetic Diet

The diabetic diet is designed to control caloric intake of fat, carbohydrate and protein. It can be used for many conditions including diabetes, overweight or underweight. It is carefully calculated, with the physician often ordering specific gram weights of protein, carbohydrate and fat when placing a patient on the diet. Carbohydrate is the most easily and rapidly digested of these three nutrients.[13] Because the diabetic can only utilize a restricted amount of carbohydrate due to an insufficient supply of insulin, it is most important to limit food sources of carbohydrate. An alternate to dietary restriction is to adjust the insulin or hypoglycemic agent to the normal predicted consumption of carbohydrate for the individual. In some mild cases a mere

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[11] E. Buchman, D. T. Kaung, K. Dolan and R. N. Knapp, "Unrestricted Diet in the Treatment of Duodenal Ulcer," Gastroenterology, 56 (June, 1969), 1016.

[12] Sue R. Williams, Nutrition and Diet Therapy, (St. Louis: Mosby, 1969), p. 499.

[13] H. S. Mitchell, J. J. Rynbergen, L. Anderson and M. V. Dibble, Cooper's Nutrition in Health and Disease, 15th ed., (Philadelphia: J. B. Lippincott, 1968), p. 15.

weight reduction will relieve the adult patient of his diabetic symptoms.[14] For others a controlled diet plus a hypoglycemic agent is sufficient to regulate the diabetic condition since these individuals produce a fraction of the required insulin. For the least fortunate, diet and insulin injections are the only means of control.[15]

In recent years the diabetic diet has been altered, making the diet easier to follow and accept. No longer does the diabetic have to weigh all his food portions to be sure that the exact number of grams of fat, carbohydrate and protein are consumed as directed by the physician. In the past, if for some reason the food was not eaten, determinations of the amount of carbohydrate not ingested had to be made. An amount of available glucose was then ingested by the patient to increase his intake to the proper level, in the form of orange juice. Usually this substitution, called weigh-back, is no longer necessary for just one meal.

Weight Control

Perhaps the most common, certainly the most talked about modified diet is one controlled in calories. Many individuals

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[14] Ibid., p. 297.

[15] Lilly Research Laboratories, Diabetes Mellitus, 7th ed., (Indiana: Eli Lilly and Co., 1967), pp. 123-38.

pay to belong to clubs such as Weight Watchers, Inc. and TOPS (Take Off Pounds Sensibly) for the purpose of learning how to lose weight. Through association, people comfort and support one another by sharing their common problems.

In the United States the problem of overweight is of great concern. Heart disease is the leading cause of death in the United States[16] and the number of known diabetics is increasing yearly.[17] Excess weight tends to place added stress on the body of people affected by a great variety of disease conditions. "The obese individual finds himself at a physical, psychological, social and economic disadvantage."[18] Therefore, there is good reason to be concerned with the matter of how to prevent obesity.

A person who weighs approximately ten to twenty percent more than his "ideal" weight is defined as overweight. If he weighs over twenty percent more than his ideal weight he is described as obese.[19] Data show that weight generally must exceed

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[16] H. S. Mitchell, et al., op. cit., p. 327.

[17] Ibid., p. 297.

[18] Corinne Robinson, Proudfit-Robinson's Normal and Therapeutic Nutrition, 13th ed., (N.Y.: Macmillan, 1967), p. 393.

[19] Ibid., p. 483.

twenty-five percent above the average ideal weight before appreciable increases in mortality occur.[20]

> Overweight has become a serious problem in the United States. Conservative estimates indicate that about 20 million persons in this country are 10 per cent or more overweight and some 5 million are at least 20 per cent overweight.[21]

Insurance companies will often increase the rates for the overweight person due to the higher risk factors involved.[22] The rate increase is based on both excess weight and elevated blood pressure which can result in greater surgical risk, complications of pregnancy and the possible occurrence of degenerative diseases such as heart and circulatory conditions, diabetes, gout and nephritis.[23]

"Ideal" weight is not easy to define. Two people of the same height and age can have different ideal weights if their body

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[20] S. H. Waxler and M. F. Leef, "Obesity - Doctors' Dilemma," Geriatrics, 24 (July, 1969), 101.

[21] Michael Irwin, Overweight - A Problem for Millions, Public Affair Pamphlet No. 364, 381 Park Ave. South, N.Y., (June, 1967), p. 1.

[22] Gerald Lundberg, Chief Underwriter for Gallatin National Life Ins. Co., Personal Interview (Dec., 1969).

[23] H. S. Mitchell, et al., op. cit., p. 280.

builds differ. This might be illustrated by using the dog as an example. A boxer dog is heavy and muscular; a greyhound is slender and lean. Because their body builds are different, a greyhound will never have the silhouette of a boxer, but both of them can become overweight.

Countless regimens for weight reduction have made their appearance. Many of them are extreme and either do not provide a balanced diet or bring only temporary loss.

> There is at present no evidence that some of the more extreme diets recently popularized have any advantage over a calorically restricted, balanced "normal" diet. A balanced diet containing no less than 12 to 14 per cent of protein, no more than 35 per cent of fat (with saturated fats cut down) and the rest carbohydrates (with sucrose reduced to a very low level), provided by food of sufficient variety is infinitely preferable to the fad diets.[24]

To discuss at length the many extreme diet regimes is not within the scope of this paper.

Even the healthy individual may have to be concerned with weight control for as the body ages, caloric requirements lessen. A person's ideal weight in his early twenties is the weight that the individual should usually strive to maintain throughout his

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[24]Jean Mayer, "Some Aspects of the Problem of Regulation of Food Intake and Obesity," New Eng. J. Med., 275 (Mar. 31, 1966), 725.

adult life.[25] Unfortunately this is too often not the case as indicated by insurance company tables.[26]

Patterns of eating must be altered as body processes slow down, or a continual weight gain will gradually occur with each passing year. In order to form a pound of body fat, 3500 calories must be provided in excess of need. An excess of even 100 calories per day above the requirement will amount to 3000 calories per month or almost a pound of body weight.[27] Over a year this could result in a weight gain of ten pounds. Too many people at forty-five years of age eat as they did in their twenties and either do not realize or ignore the fact that caloric requirements decrease with age due to decreased physical activity.

Low-Fat Diet

The low-fat diet continues to create differences of opinion when used for cardiac conditions. According to the American Heart Association, an increase of polyunsaturated fats and a decrease in saturated fats is preferred to the highly saturated fat diets consumed

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[25] H. S. Mitchell, et al., op. cit., p. 278.

[26] Society of Actuaries, Build and Blood Pressure Study, 1959.

[27] H. S. Mitchell, et al., op. cit., p. 281.

by so many Americans. At the same time a diet low in cholesterol is suggested to ward off heart and circulatory problems.[28] Further study in this area will continue since the role of diet in relation to cardiac conditions appears quite complex with diet being only one of the factors to be considered.

A low-fat diet may be used for gallbladder problems due to infection or the presence of gallstones. In either situation there is pain when fat is ingested. Homogenized fats such as the fat in whole milk is tolerated better than visible fats that need to be omitted from the diet. Following surgery, a moderate fat restriction from three to six months is customary until healing is complete.[29]

Sodium-Restricted Diet

The sodium-restricted diet is used by patients who have a problem with excess fluid retention. Heart disease and pregnancy are examples.

People become accustomed to salt in the diet and find it extremely difficult to omit. It is estimated that the average person consumes from two to three teaspoons of salt per day which is

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[28]Roslyn Alfin-Slater, "Diet and Heart Disease," J. Am. Dietet. Assoc., 54 (June, 1969), 487.

[29]H. S. Mitchell, et al., op. cit., p. 406.

equivalent to 3000 to 6000 mg. of sodium.[30] Only a small amount of sodium is required to replace that lost in the urine and/or through perspiration.[31] If all salty foods such as bacon, salted crackers and salted butter are omitted in addition to table salt, the diet will contain from 2000 to 3000 mg. of sodium. A restricted sodium intake of 1000 to 1500 mg. per day is considered to be realistic outside the hospital environment. A more limited restriction becomes increasingly difficult to attain with appealing menus.

There are many sodium compounds other than salt which may be found in food. Disodium phosphate is used to produce quick cooking cereals; monosodium glutamate is a flavor enhancer; sodium alginate produces a smooth texture in chocolate milk and ice creams; sodium benzoate is used as a preservative in jams, jellies, relishes, sauces and salad dressing; sodium hydroxide softens skins of certain fruits before coloring, such as maraschino cherries. Because of these extra sources of sodium, people who must follow a sodium-restricted diet are warned to read labels. Unfortunately this may not be as helpful as it sounds.

The Food and Drug Administration allows many processed foods such as mayonnaise and ketchup to be sold without

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[30] Ibid., p. 328.

[31] Ibid., p. 328.

> listing the ingredients on the label. These and other foods are prepared under a standard of identity which specifies the kind and the minimum content of each ingredient. Therefore, in such cases the listing of sodium on the label is not required.[32]

Drugs can also be a source of sodium. For this reason no medications should be taken without a physician's approval. Even water in some areas of the country must be considered as a significant contributor. When water contains more than 20 mg. of sodium per quart, it affects the sodium content of the diet.[33] State and local health departments will supply information concerning the sodium content of the public water supply and will test water from private sources.

Teaching Patients Diet Modifications

Existing guides for instructing patients are primarily produced by pharmaceutical companies, food manufacturers and diet services for general distribution by professional personnel. The diet guides are frequently printed on one or two eight-by-ten inch sheets of paper. Sometimes they are fold-out leaflets; pamphlets are also produced. A guide of one or two pages can do little more than list the foods that are permitted and prohibited. A booklet

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[32] Ibid., p. 332.

[33] Ibid., p. 333.

affords greater opportunity for providing reasons and understanding of the diet. The major advantage of printed diet literature is that it helps the professional to present guide lines in an expedient manner. The major problem that arises is that the guides may be confusing and uninteresting.

Diet literature is usually available to professional personnel including doctors, nurses and dietitians for use as needed. Some concerns will only distribute information to physicians. This is apparently true of physicians' diet services.

Three diet services are known to provide mimeographed forms with the physician's name and address heading the diet. Depending on the quantity ordered and the company, each diet sheet will cost five or six cents for an assortment of 100 to three or four cents for an assortment of 500.[34, 35 & 36] The unfortunate feature of these diets is that they simply list foods to be eaten and avoided with no explanation. The form is coded with a number, so unless the physician tells the patient the name of the diet he has prescribed, the patient may never know. A master sheet is provided, naming the

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[34] Personal Diet Service, 145 W. 45th St., N.Y., N.Y. 10036.

[35] Physicians Diet Service, Station C, Box 1143, Evansville, Ind. 47713.

[36] Prescription Diet Service, Box 195, Algonquin, Ill. 60102.

diets according to the disease condition, although consistency or composition of the food and the name of the physician who originated the diet are also used to identify diets. Letters were written to these diet services requesting further information. Only one unsigned reply was received and it follows:

> Our service is ordinarily used only by physicians. We have a list of 48 diets, as you will see from the enclosed order blank. The diets were made up from various books on dietetics, with the help of our consulting physician, and were then checked by a dietitian at Englewood Hospital in Chicago. This is about all the information I can give you, as this was all done a number of years ago. We have enclosed a few sample diets for your information.[37]

Exchange lists are commonly used for teaching the patient who is diabetic, must control his caloric intake and/or must restrict sodium. The exchange lists are groups of foods divided into categories with approximately the same number of grams of fat, carbohydrate and protein per serving. Foods from each group must be consumed daily as noted in the individual food guide. It is not possible to exchange foods from one group for foods in another. It is also important that the foods be eaten in the quantities noted.

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[37]Physicians Diet Service, Personal Correspondence (Dec., 1969).

For some people, exchange lists are very difficult to understand. In some instances a person may receive instructions from both his doctor and the dietitian. It is quite possible therefore, that the patient could be given two different sets of instructions. This might cause confusion and result in his not heeding either form. The exchange lists, as set up by the American Dietetic Association in conjunction with the American Diabetic Association and the U.S. Public Health Service, are suggested by most dietitians for instructional purposes (Appendix A).

Multi-Media Instruction Aids

Multi-media is the "coordinated use of more than one medium toward specific learning goals" which teachers have used for as long as they have had materials with which to work.[38] There are many types, movies being one of the most commonly used audio-visual aids included under this classification.

"Talking Books" are examples of multi-media for sighted individuals. They are the printed page recorded on a standard long-playing vinyl disc or tape. It was Robert B. Irwin who in 1931 originated the term "Talking Book" to be used by blind people. The idea however, is as old as the phonograph itself. In 1878

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[38] Teaching Technology Corp., Multi-Media, Multi-Modal, North Hollywood, Calif., [NC], 1969.

Thomas Edison predicted that phonograph records would speak to blind people. Unfortunately, Edison's notion remained unworkable even after phonograph records were mass produced. A book that necessitated twelve hours to read aloud required approximately seventy-two records.[39] Development of a long playing, 33 1/3 rpm record made it possible for American blind, who had difficulty reading Braille, to find reading a pleasure.[40] Fortunately for the blind, long playing records became available almost fifteen years before appearing commercially. Further refinements early in the 1960's reduced speed to 16 2/3 rpm.[41] Current experiments are being conducted with still slower speeds.[42] Slower speeds mean fewer records and lower cost. The low frequency modulation of these records makes them appropriate for speaking voices only and not for music that might be used in conjunction with the spoken word. Eventually a hand size computer that can

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[39] Kevin Wallace, "A Reporter at Large, the Recorded Companions," New Yorker, Nov. 3, 1962, p. 210.

[40] Ibid., 211.

[41] Max Bildersee, "Audio," Ed. Screen and Audiovisual Guide, 43 (Nov., 1964), 659.

[42] Max Bildersee, "Audio," Ed. Screen and Audiovisual Guide, 43 (Dec., 1964), 711.

scan the printed page and read aloud may be developed and produced.[43 & 44]

The "Talking Book" in disc form enjoyed wide use and success until the tape recorder came into popular usage. The longer life of a tape makes it preferable to a standard long playing disc.

The "Talking Book" is no longer limited to the blind. In 1966 the Library of Congress extended its program to serve people with physical limitations aside from visual impairment.[45] These include paralysis, muscle or nerve deterioration affecting coordination and control, and confinement in an iron lung or other mechanical device. A small segment of the general public not afflicted with any infirmity have also found appeal in listening to the "Talking Book." Teaching Technology Corporation produces "Talking Books" for purchase by the layman in the form of both discs and tapes.[46]

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[43] Ibid., 711.

[44] John Tebbel, "Rise of the Talking Book," Sat. Review, Aug. 12, 1961, p. 43.

[45] E. Hamer and A. McCormick, "Library Service to the Handicapped," Am. Library Assoc. Bulletin, 61 (Mar., 1967), 250.

[46] Teaching Technology, Audio Book Records and Tape Catalogue, North Hollywood, Calif., [NC], 1969.

A variation of the typical long-playing record was a picture page laminated with a clear recording.[47] The entire booklet was placed on a turntable and played at 33 1/3 rpm. This type of recording was short lived since it was not possible to achieve uniform high quality and fidelity, the number of plays was limited, and warping was sometimes a problem. Improvement of these recordings resulted in thin vinyl recordings.

Nutritional Multi-Media Material

Presently a vinyl record is being utilized by many companies concerned with the field of foods and nutrition. These include Abbott Laboratories, Aloe Medical, H. J. Heinz, Kraft Foods, Eli Lilly and Company, Mead Johnson, Oscar Mayer and Pillsbury.[48 & 49] Drug companies use these records to communicate new ideas to medical personnel; Pillsbury has used them to give information on a new product.

Much of the current work using recorded techniques is concentrated in the area of the calorie-controlled diet. This diet is

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[47] "Close Your Eyes and Read," Newsweek, Aug. 3, 1959, p. 51.

[48] Americom Corp., Ameridisc, N.Y., N.Y., [NC], 1969.

[49] EVA-TONE, Soundsheet Idea Kit, Deerfield, Ill., [NC], 1969.

easily adaptable to the diabetic condition as well as overweight and underweight problems.

A tape recording of approximately one-half hour in length was developed to clarify the diabetic's understanding of his diet.[50] Used in the hospital together with a booklet approved and written by the American Dietetic Association in conjunction with the American Diabetic Association,[51] it was found to be more effective than conventional methods. The same author also prepared tape recordings for a low-calorie diet and a low-sodium diet, which were revised in September of 1969 and include workbooks.[52]

Currently in the developmental stage, is an audio-based instruction program for diabetics with limited reading ability.[53] Results are not yet available. In it an attempt has been made to simplify the exchange system using a tape recording in conjunction with a workbook.

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[50]Virginia T. Stucky, "Tape Recording Booklet Teach Diets," J. Am. Hosp. Assoc., 42 (Dec. 16, 1968), 80.

[51]American Diabetes Association, American Dietetic Association and U.S. Public Health Service, Meal Planning with Exchange Lists, Chicago, Ill., 1950.

[52]Virginia T. Stucky, Dir. of Diet Teaching Programs, Personal Correspondence (July, 1969).

[53]Mary Mohammed, Co-Project Dir. of Diab. Teaching Program, Personal Correspondence (April, 1969).

> Actually, relatively few basic studies have been made of the effectiveness of . . . recordings in teaching factual information and in changing attitudes and interests. In general, . . . recordings were found to be liked by students.[54]

Other multi-media for teaching foods and nutrition include a movie for the layman entitled "Eat to Your Heart's Content." It is produced by the American Heart Association and is intended to be viewed together with two leaflets, "The Way to a Man's Heart" and "Recipes for Fat Controlled, Low Cholesterol Meals," to insure accurate interpretation of the film. Single concept films for employee training in kitchen skills together with self-test and printed study guides have recently become available.[55] Slides for teaching general and modified diets at in-service training programs are available from the American Dietetic Association. At the professional level, two way radio Dietetic Conferences with program outlines and bibliography are being offered.[56]

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[54] W. H. Allen, "Audio-Visual Communication," Encyclopedia of Educational Research, 2nd ed., (N.Y.: Macmillan, 1960), p. 119.

[55] J. Heartman, "Films Show Employees How to Do It Right," Mod. Hosp., 113 (Aug., 1969), 138.

[56] Intermountain Regional Medical Program, "Two-Way Radio Dietetic Conferences," Salt Lake City, Utah 84112, 1969-70.

CHAPTER III

DEVELOPMENT OF A MULTI-MEDIA DIET GUIDE

Definition

Multi-media is the "coordinated use of more than one medium toward specific learning goals."[1] Little material of this type is available for teaching diet alterations to patients. For this reason the development of a multi-media diet guide that would meet certain criteria was proposed.

Criteria

General standards must be established as a guide for evaluation. The following criteria are considered important.

Improves Instruction

The best qualified person to help with modified diet instruction is the hospital dietitian or public health nutritionist. Presenting diet instruction, however, is only a minor part of a dietitian's job description. Often it is impossible for a dietitian to provide the various services requested. Many hospitals have only one dietitian who must assume the major responsibility for food selection

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[1] Teaching Technology Corp., Multi-Media, Multi-Modal, North Hollywood, Calif., [NC], 1969.

and preparation as well as management of the kitchen. Her time for patient contact is limited and she may never have time to participate in ward rounds with the doctors. The patient, therefore, often looks to his nurse for guidance concerning his diet. Knowledge in diet therapy is frequently an area of weakness among nurses.[2]

A chronic need for dietitians exists and the shortage is expected to continue for the next ten years. The American Dietetic Association reports that 700 new memberships are received yearly but 915 are needed annually until 1972 and 1200 per year from 1972 to 1977.[3] A study in 1960 indicated there were 26,110 dietitians and nutritionists in the United States. Montana employed 62 with an average of 9.2 per 100,000 while the national average was 14.6 per 100,000 population.[4] This would indicate that in Montana, instruction in many instances is being given by people other than dietitians or not at all.

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[2]M. E. Newton, M. E. Beal and A. L. Strauss, "Nutritional Aspects of Nursing Care," Nursing Research, 16 (Winter, 1967), 48.

[3]R. Hubbard and B. Donaldson, "Estimating Professional Man-Power Needs for Hospital Dietary Departments," J. Am. Dietet. Assoc., 53 (Sept., 1968), 211.

[4]U.S. Dept. of Health, Education and Welfare-Publ. Health Service, Health Resources Statistics, Wash., D. C., 1968, p. 73.

Ideally the hospitalized patient should be counseled in an on-going process from the time he begins a modified diet until he is discharged. In reality there is seldom enough time to teach each patient everything he needs to know about his diet. Follow-up consultation may be necessary but almost never takes place. Frequently the dietary prescription for home use is not determined until the day of departure. The diet instruction is often hurriedly made, shortly before the patient's discharge from the hospital, allowing for discussion of only the bare essentials of the diet. In addition, there is no way to establish whether the patient really understands the process as the dietitian may never see the patient again. The physician usually sees the patient again in his office, but he is not often likely to spend much time reinstructing. In fact most physicians do not have time to give initial detailed information needed by patients on restricted diet therapy. They may also find themselves poorly prepared to answer questions regarding food preparation, marketing, integrating the diet into family and cultural food patterns or even elaborating on the details of using exchange lists.

Reduces Cost

Because free and inexpensive aids are available for diet instruction purposes, it is necessary that cost of an audio-visual

aid be kept to a minimum. Tape recordings for teaching modified diets are available but must be purchased in kits that range in price from $210.00 to $525.00.[5] This could be more money than many physicians would care to invest.

Aids in Clarity of Diet Instruction

Diet instruction is frequently misunderstood. A classic example is that of a child diabetic who had been told by a doctor about the need for a special diet and insulin. The diabetic condition continued uncontrolled and the patient was referred to a dietitian to ascertain what she had been eating and if she had been taking her insulin. The child reported, "I've been doing just what I was told. I put the insulin in the orange and then I eat the orange."[6] Obviously the child's interpretation of the diet instruction was not "clear." This also illustrates why follow-up instruction is often so important.

A teaching aid needs to be "clear." Dietitians are familiar with the subject matter as well as the type of audience they instruct.

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[5] Diet Teaching Programs, 6520 East Elm, Wichita, Kansas 67206, Price List (Jan., 1970).

[6] "What Doctors Say About Dietary: Part II," Hosp. and Nursing Home Food Management, 5 (Oct., 1969), 52.

Experience in giving diet instructions can help the dietitian choose those points which are most important. False notions are held by many people and some instructions and guides are frequently misunderstood. Language needs to be kept at a level of cognition understood by a grade school pupil if the material is to serve more than the middle class. This means, short sentences and short words with few syllables. Flowery and literary metaphors are not necessary. Excess use of prepositions needs to be avoided.[7] Pictures are particularly desirable.

Stimulates Interest

Listeners' understanding is profoundly influenced by the extent to which they are interested in the subject or have their interest aroused. "Intelligibility was found to depend much more upon 'interestingness' than upon any factor of style or language, particularly among the less-educated and intelligent listeners."[8]

Greater interest may be held for a recording as compared to the use of programmed instruction. Moore stated:

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[7]W. H. Allen, "Audio-Visual Communication," Encyclopedia of Educational Research, 2nd ed., (N.Y.: Macmillan, 1960), p. 120.

[8]Robert Silvey, "The Intelligibility of Broadcast Talks," Publ. Opin. Quart., 15 (Summer, 1951), 301.

> Although it has not been ascertained by research, it seems logical that semi-literate adults with little formal education who seldom read or write, would feel more comfortable if they did not have to record their answers . . . [9]

Evaluation of Current Diet Aids

Many diet aids are available for use but often fall short of meeting desirable criteria. Table I lists some objectionable features of the three most frequently used sources of diet instruction by physicians in Bozeman, Montana.

TABLE I

SOME MAJOR OBJECTIONS TO THE THREE MOST FREQUENTLY USED SOURCES OF DIET INSTRUCTION IN BOZEMAN, MONTANA

Objections	Producers of Diet Literature		
	Upjohn	Eli Lilly	Diet Services
Terminology hinders clarity	x	x	
Noncurrent information			x
Acts as a means of advertising	x		
Insufficient explanation		x	x
Lack of pictures and/or illustrations		x	x
Deviates from American Dietetic Association Exchange Lists	x	x	x

[9] A. N. Moore and H. W. Klochko, "Problems in Producing Programs for Auto-Instruction," J. Am. Dietet. Assoc., 51 (Nov., 1967), 420.

Proposed Multi-Media Diet Guide

The proposed diet guide would be a clear seven inch vinyl recording attached to the inside of a carefully selected commercial diet booklet. A clear disc permits visibility of the printed matter shown in the booklet. Attractive pictures are particularly desirable in this case. The recording could be removed or the entire booklet could be placed on a phonograph. The proposed self-help diet instructions were prepared with the above criteria in mind. It is thus believed to be an improvement over the existing diet aids.

Uses of Proposed Self-Help Diet Aids

An important objective of the multi-media diet guide is to make it as self-explanatory as possible. Information that applies to all individuals following a particular modified diet could readily be recorded. This could permit the professional more time to discuss the specifics of the diet that make it tailor-made to the individual. Included in the list of professionals are the physician, dietitian and nurse. Uses for recorded instruction of modified diets by these individuals might be widespread. Many patients are not hospitalized but require diet instruction. Physicians in private practice do not have the services of a dietitian available. By using a recording to instruct, the patient could listen as he waits to see the doctor in the examining room or at home. Physicians working in hospitals

in isolated locations may or may not be fortunate enough to have regular consultant services from a dietitian. Recorded instruction could be valuable, particularly if the physician were unfamiliar with diet instruction techniques.

Recordings would enable the public health nurse to provide follow-up instruction during home visits. In this way the person who actually prepares the food could be instructed.

An audio-visual aid could be effective in some nursing homes. Often, however, the aged individual is senile and/or unable to care for himself.[10] In this case, it is the personnel caring for the patient that needs help and a recording might prove helpful.

For the dietitian, a recording could allow for more patient exposures to the diet than she has time to deliver.

Low Monetary Cost

Recordings are relatively inexpensive. Cost of an individual thin vinyl disc is less than a tape of equal playing time. Playback equipment is also inexpensive. This is probably one of the reasons that ninety percent of the American households are reported to have

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[10] A. N. Moore and H. W. Klochko, op. cit., 424.

phonographs.[11] Those who do not have access to a phonograph might be able to use a neighbor's or one at the public library.

The price per record could range between twenty cents ($0.20) per 500, to five and a half cents ($0.055) per 10,000 for 6½ minutes of recording time. Cost factors for production include such items as editing, art layout and/or camera work. Given a large quantity, costs can average about the same regardless of the company producing the materials (Table II).

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[11] Americom Corp., Ameridisc, N.Y., N.Y., [NC], 1969.

TABLE II

COMPARATIVE COST OF VINYL RECORDINGS
6 MIN./ONE SIDE/6 MILS

Quantity	EVA-TONE[a] (Unit Cost in dollars)	Ameridisc[b] (Unit Cost in dollars)
500	.20	--
1,000	.15	--
2,000	.10	.12
3,000	.08	.09
4,000	.07	.08
5,000	.06	.07
10,000	.05	.07

[a]EVA-TONE Soundsheet Specifications and Price List, 720 Central Ave., Deerfield, Ill. 60015.

[b]Americom Corp. Price List, 12 East 41 St., N.Y., N.Y. 10017.

If the recording time is increased to 13 minutes the cost is increased by approximately one cent per recording.

A recording to be used with a diet instruction booklet could contain the same information as printed in the commercial booklet, doing away with the need for having to read. In this study, expanding upon the material presented in the booklet seems to be of more value for instruction of the sighted person with at least a limited ability to read. The novel physical appearance should arouse interest.

Content

One of the major problems in developing materials for handout purposes is that all doctors are not in uniform agreement concerning the type of diet their patient should have.[12] Some will be very strict about diet; others will prefer leniency and greater use of drugs. Among dietitians there is also some variation as to what is considered permissible. Obviously, when and where the individual received his professional training will have a great influence on his beliefs regarding the value of diet therapy. For this reason no printed material will meet with everyone's satisfaction and approval. Rules are not absolute and many exceptions for any special diet exist. Knowledge in the field of nutrition is too meager to permit authoritative or final conclusions.[13]

Proposed Commentaries

The proposed commentaries for disc production of three frequently prescribed diets by physicians give facts plus some reasons for the restrictions. Clarity for the patient was considered most important. Only actual patient testing would tell if this was

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[12] R. H. Barnes, "Doctors' Dietary Antics," Nutr. Today, 3 (Sept., 1968), 23-4.

[13] L. Weinstein and others, "Diet as Related to Gastrointestinal Function," J. Am. Med. Assoc., 176 (June 17, 1961), 935.

accomplished. This however was not within the limits of this study. Brevity was considered important. At the same time, all the basic facts were presented. In the actual recording, speed of delivery would affect patient understanding.

Calorie Controlled Diet

Your doctor has asked you to follow a special diet. You may want to follow this diet to improve your appearance, but your doctor is concerned because he knows the problems that excess weight can lead to, including an increase in degenerative diseases and a decrease in life expectancy. Therefore it is most important that you follow his diet instructions to improve your health and to enjoy life.

The purpose of your diet is to correct faulty eating habits. You need to develop new eating patterns. Don't expect crash diets to produce lasting results. They will only bring temporary weight loss. You need a diet that will provide adequate fat, carbohydrate and protein. To consume a diet high in protein is expensive and a waste of both protein and money. The body's first need is energy and if carbohydrate and fat are not provided the protein will be used for energy.

Most people think that if they're on a diet, they won't be able to enjoy eating any more. This does not have to be true. Of course there will be some restrictions, but even if you have been invited for dinner or go to a picnic, you should be able to select

the foods you will need in order to follow your diet without making any special request or appearing different from other people. In order to do this you must be thoroughly familiar with your diet.

In your diet pamphlet the foods you should eat at each meal have been listed. This diet has been made especially for you to fit your needs. If you have an allergy or dislike a certain food, you don't have to eat that food. For most food groups there are other foods that will substitute within the group.

You will see that the foods in your pamphlet have been divided into groups. This includes meat and milk for building body protein, fruits and vegetables for vitamins and minerals, and starchy foods like bread and potatoes for energy. A limited amount of fat is usually permitted because fat also provides energy and contains important vitamins. The foods have been divided into seven food exchanges or groups. The first we shall discuss is the fruit group. Look at the fruit exchange list in your pamphlet. When we talk of a fruit exchange, we are speaking about most types of fruit and fruit juices. If your diet indicates you are to have 1 fruit exchange for lunch, you don't have to eat an apple every day. You can exchange 1 small apple for 1 small orange or 2 tablespoons of raisins or 1/2 cup unsweetened orange juice or whatever else you might like from the exchange list. The important thing is that you exchange one fruit of a particular portion size for another fruit of a

particular portion size. The exchange list tells you how big the portion can be in household measure.

If your diet indicates you should have 1 fruit exchange for lunch you cannot exchange the fruit for a vegetable or any other food group. You must eat only the foods which are outlined for you at each meal and no more.

Canned fruit has sugar added unless it is water packed or specially prepared with an artificial sweetener. If the canned fruit is packed in a heavy syrup it can have twice the number of calories as fresh fruit, water packed or artificially sweetened fruit. For this reason, it is desirable to eat fresh fruit in season, if the price is equal or less than the canned product. If you must use regular canned fruits choose those packed in a light syrup rather than a heavy syrup or rinse the syrup from the fruit under cold water.

Look at the bread exchanges. Perhaps you will be permitted to have two bread exchanges at each meal. If this is true, you could have 1/2 cup of cooked cereal and 1 slice of toast for breakfast. You might like a sandwich for lunch with 2 slices of bread and for evening you might have 1/2 cup mashed potato and 1/3 cup of corn.

Portion sizes are extremely important. At first you will want to measure your serving sizes, but in no time at all you will be able to look at a serving and know that it is the proper size.

The important thing about your diet is to avoid foods that provide a great amount of sugar. Sugar supplies calories for energy but is low in vitamins, minerals and other important nutrients. Foods such as candy, honey, jelly, cake, pie and cookies are digested quickly, leaving the stomach empty. Therefore, you feel hungry again in a short time.

There are many so called diet foods like diet bread, diet margarine, diet ice cream and diet cookies that you can buy, but usually there is no reason why you should have to use most of these foods. Often they are more expensive than the product they are replacing and not much lower in calories.

Fried foods in general should be omitted for it is difficult to determine how many calories the food contains when fried. If your diet contained 1 meat exchange and 1 fat exchange for breakfast, you could fry or scramble 1 egg with 1 teaspoon of butter, margarine or oil, but when you French fry potatoes, how much fat have the potatoes absorbed? It depends on the person doing the cooking, how finely the potatoes were cut and the method used to absorb the excess fat. For this reason, bake, boil or broil your foods and use a variety of spices for flavor.

Have you ever tried a little fresh lemon or lime juice to season your steak instead of steak sauce or ketchup which should be avoided? Instead of plain oil and vinegar on your salad, add some celery seeds

to the mixture for a change. But don't forget to include the salad oil as part of your fat exchange.

Notice that bacon is not in the meat list. Bacon is considered to be a fat exchange because it has very little lean meat.

There are a few foods that have very few calories and can be used with the meal or as a snack item any time of day. In your pamphlet you will see a list of foods that need not be measured. Black coffee and tea are examples. A cup of clear broth or bouillon might be just the thing you'd like to have for a mid-afternoon break, or you might enjoy munching on a stalk of celery, a dill pickle or even a tomato.

If you look at the vegetable list you will see that it has been divided into two groups. The vegetables from group A usually grow above ground, are watery and have few calories. That is why they can be eaten in any quantity desired. The vegetables from group B, which usually grow below ground, are another story. They have more carbohydrate and thus provide more calories. Their intake must be limited to one half cup per serving.

As a rule gravy and creamed foods should be avoided because they do little more than add extra calories. Alcoholic beverages are not recommended as they also provide many calories but do not supply the important vitamins, minerals and protein the body needs.

Be realistic. Don't expect to lose weight overnight. Besides, it is not healthful to lose weight too rapidly. A loss of 1 or 2

pounds a week is good. Check for a weight loss weekly. Weighing should be done on the same scale, with the same amount of clothing and at the same time of day for an accurate reading.

Don't skip meals. You'll only be hungrier at the next meal and likely to eat more than necessary. Try to eat each meal about the same time every day. If you must snack at mid-morning, mid-afternoon or before going to bed, you can save some of the food from the meal before to eat later. Milk and fruit are good foods to save for snacks.

There may be times when no weight loss can be seen. This is to be expected. As body fat is lost, water accumulation sometimes occurs. Don't worry about it. Keep with your diet and exercise moderately every day to maintain and improve your muscle tone and strength.

By using the exchange system, you don't have to be obsessed with calorie counting. If you've ever tried to follow a diet by counting calories for each food, you know how complicated it becomes and you soon give up the diet. For perhaps the first time, try to enjoy this diet. You won't be sorry you did.

If you have any questions or problems, be sure to tell your doctor.

Moderate Sodium Restricted Diet

You have been told that you will need to limit the sodium in your diet. Sodium is a mineral essential to the life of man, animals and plants. Everyone needs a certain amount of sodium daily for good health. Ordinarily we get more sodium than we need from the food we eat. If a person is in good health, this is no problem because the kidneys merely excrete the sodium that is not needed.

There are many diseases and conditions that may require a restricted sodium diet but one reason the diet is prescribed is to reduce excess body fluids. In certain illnesses the sodium is not excreted and the body holds the water which causes swelling.

Food is the main source of sodium and the quantity is greatly increased with the addition of salt for seasoning. Very often sodium cannot be seen, felt or even tasted. For this reason you must read labels carefully. Sodium may appear in the list of ingredients on the label as Na which is the chemical symbol for sodium. The chemical name for salt is sodium chloride. Almost half of salt is sodium. For this reason salt is generally omitted from a low sodium diet and a salt substitute is used in its place. Ask your doctor to recommend a salt substitute. He knows that some substitutes actually contain sodium. For this reason you cannot use just any type. Remember, salt is not the only seasoning. Experiment with some of the countless herbs and spices that exist.

A sodium restricted diet does more than restrict salt and salty foods. It also provides all the nutrients that the body needs with the right number of calories for each day. Therefore, your diet will be balanced to give the proper quantities of protein, fat and carbohydrate in addition to minerals and vitamins.

Different foods provide different nutrients. Each nutrient has a special job to do. Proteins are needed to build tissue. Fats and carbohydrates are needed for energy. Because no nutrient can work alone, your diet should contain a variety of foods. Every day you should include foods from all of the food groups listed in your diet pamphlet.

Fruits are very low in sodium and will be used in your diet mainly as dessert, but they can also add variety to the main meal as an accompaniment such as pork with applesauce. You may also want to use fruit juice as a beverage. Most dried fruits have sodium added, so fruit in this form should usually be avoided.

Many vegetables including artichokes, beet greens, beets, carrots, celery, mustard greens, spinach and white turnips are naturally high in sodium and should be omitted. Many frozen vegetables have sodium added and most canned vegetables are made with the addition of salt or sodium, unless you purchase special canned vegetables. Sauerkraut cannot be prepared without salt and for this reason should never be used.

Fortunately there are still many vegetables that are low in sodium. Since salt cannot be used in cooking, care must be taken to keep the natural flavors by cooking vegetables in as small an amount of water as possible. This will also help preserve the vitamins and minerals. A little sugar or a dash of nutmeg can lend variety or try using unsalted butter or unsalted margarine and a little lemon juice on some of your vegetables. Salt-free mayonnaise is available and you might like to use it sometimes for salad dressing.

You may eat cooked cereals but the quick cooking type should be avoided. To make a cereal of the quick cooking variety, salt or sodium must be added by the manufacturer. Most dry cereals have salt added to the product. The few exceptions are puffed wheat, puffed rice and shredded wheat.

Most bread has both salt and sodium preservatives added to insure freshness. The person on a restricted sodium diet may have a little difficulty finding low sodium bread in the supermarket but usually your local bakery will be willing to make salt free bread for you if they do not already make it. Or you can make your own salt free bread at home by omitting the salt and using unsalted fat. For an interesting change in flavor substitute grated lemon or orange rind.

Bread without salt and sodium preservatives will dry out and mold quickly. Because you may be the only person in the family eating this bread, you might want to freeze part of the loaf.

You may eat cakes, cookies, pies and pastries if prepared with sodium free baking powder. The salt must be omitted also. Hydrogenated fat from a can is usually unsalted but if butter or margarine is used, be sure that it is unsalted. If you do not wish to go to the trouble of preparing salt free baked products you should then limit your desserts to canned or fresh fruit.

Cellu is the name of a company that produces a low sodium baking powder or you can ask your druggist to make some for you.

Protein foods include milk, meat and eggs. Ordinarily you may drink one or two glasses of milk a day or use it in baking. If sodium must be severely restricted or if more than two glasses of milk must be taken daily, low sodium milk is available. Low sodium milk may be substituted for regular milk as a beverage and in recipes.

Most fresh and frozen meat and poultry in addition to dietetic low sodium canned tuna and salmon may be eaten. Fresh fish should be thoroughly rinsed in water for sometimes it is kept in a salt solution on the fishing boat. Frozen fish fillets are frozen in brine and should never be used. Some suggested meat seasonings are dill, garlic powder, lemon juice, parsley, pepper, and onion powder. Of course garlic salt and onion salt are not permitted. Processed

and cured meats must be omitted from the diet, for the only way these tasty foods can be produced is by means of sodium. This means that foods like ham, bacon, sausage and luncheon meat are not permitted. Eggs should be limited to no more than 2 a day. Don't forget to include egg used in baking as part of your daily limit.

Foods which are obviously salty such as nuts, potato chips and pretzels, where the salt is visible must be avoided. Foods that are prepared in a salt brine such as pickles and olives must also be avoided.

Many dietetic canned and prepared foods are available for the person who must follow a low salt diet including vegetables, desserts, crackers, salad dressing, peanut butter and even cheddar cheese, but they are more expensive than the regular product.

A good general principal to remember is that foods that come from an animal are usually high in sodium. Foods from plants are usually low in sodium. This means that meat, eggs, milk, cheese and butter, all derived from animal sources are high in sodium. Plant foods which include most fruits, vegetables and cereals contain little natural sodium. The problem is that many food companies add sodium when they process or package their product. Always read the label.

Keep in mind that salt is not the only seasoning and you will enjoy your diet more.

A final word of warning should be said about water and medicines. Check with your doctor to be sure the water in your city is not high in sodium. If it is, you will need to buy your water in bottled form. Never use any unprescribed medications without first asking your doctor. Many of them contain sodium. Even tooth paste, tooth powders and mouth washes may contain considerable sodium. Rinse the mouth well after brushing or using a mouth wash. All your efforts to follow your diet would be of little value if you were getting sodium by a means that your doctor did not realize.

Be sure to tell your doctor if you have any problems or questions concerning your diet.

Bland Diet

You have been told that you will need to follow a bland diet. For some people this is one of the easiest diets to follow. The foods you cannot eat often cause immediate pain in the stomach area although this is not always true.

In your stomach there are enzymes and acids that help to break down foods for growth and repair of your body cells and for energy. If too much acid is present, the acid can eat away at the lining of the stomach and cause a sore known as an ulcer. One purpose of a bland diet is to reduce the acidity so that the ulcer will have time to heal. There are also various other intestinal problems that

can be improved by the use of a bland diet. If you do not have an ulcer, your doctor will explain his reasons for prescribing a bland diet for you.

The important thing about a bland diet is to keep a small amount of easily digested food in the stomach most of the time. This allows the gastric juices to act on the food and not on your stomach. Meals should be small and frequent, not large and heavy.

There are certain foods that stimulate the flow of stomach acid and must be omitted from the diet. Coffee and tea are examples and for some people they are the most difficult items to give up on a bland diet. If your doctor does not want you to drink coffee, ask him if you can use decaffinated coffee in place of regular coffee. He may allow you to drink weak coffee or tea if not taken in excess or he may even permit you to have your usual cup of coffee for breakfast only. Carbonated drinks and alcohol are other beverages that stimulate the flow of stomach acid and must be omitted.

Whole milk or skim milk as a beverage is generally recommended. Cream is sometimes suggested. Milk and cream neutralize acidity and coat the lining of the stomach. This eliminates some of the discomfort you may have. If you don't like to drink much milk you can use some of it in cream soups, plain puddings and custards.

Bread should be toasted or a day old before eating, for easier digestion. The removal of moisture from the bread by storage or

toasting reduces the flow of stomach acid. Whole grain breads such as wheat and pumpernickle must be avoided as they are irritating. You may eat saltines and soda crackers.

Certain cereals should be avoided. This includes all whole grain cereals such as bran, Grape Nut Flakes, Grape-Nuts, Ralston, shredded wheat and Wheaties. But you still have a wide selection from which to choose. You can eat oatmeal, cornmeal, farina, corn-flakes, puffed rice and Rice Krispies. Other starchy foods that you can eat are noodles, spaghetti, macaroni, rice and potatoes, but do not eat the skin of the potato.

In addition to cream cheese and cottage cheese you may eat plain American or processed cheese.

You may eat eggs in any form except fried. Fried eggs are difficult to digest. Fried meat and fatty meats are also difficult to digest. For this reason, bake, broil, or boil your meat. Avoid spicy meats like sausage, luncheon meat and hot dogs.

No strong flavored vegetables such as onions, cabbage, turnips, cauliflower, brocoli, Brussels sprouts or rutabagas should be eaten as many people find that they tend to cause stomach distress.

In general fresh fruits and vegetables ought to be avoided. A few exceptions are ripe bananas, ripe peaches and ripe pears without the peel. Use canned fruits that are made non-irritating by cooking and by the removal of the peel. Fruits and vegetables with seeds

should be avoided such as raspberries, strawberries, cucumbers and tomatoes. Dried beans and corn should not be eaten because of the tough outer seed covering.

All rich desserts and desserts containing coconut, dates, nuts and raisins must be omitted. Desserts should be plain. This means you can have many types of fruit, custard, junket, plain ice cream, gelatin, plain pudding, plain cake and plain cookies.

With any diet it is most important that it be balanced to provide all of your nutritional requirements. That is why you need to eat a certain number of servings of food from each of the groups listed in your pamphlet. You should have 2 to 3 servings of fruit daily. Try to include tomato juice or orange juice for the vitamin C content. You should also have 2 servings of vegetables daily. Make one of them a dark green or yellow vegetable for vitamin A. Fruits and vegetables are very important for the vitamins and minerals they provide.

You should have 3 servings of bread daily and 1 serving of cereal. Eating cereal is another way to include milk or cream in your meals.

A serving of cream soup made with milk may be eaten daily, if desired. Meat broth should not be taken as it stimulates the flow of stomach acid.

Meat, fish and poultry provide you with protein that is so important for growth and repair of body tissue. You need at least 2 servings of meat or a minimum of four ounces of cooked meat daily. Be sure to try to include one egg a day in your diet if possible for the iron it supplies.

Three or more servings of fat are recommended. One teaspoonful is considered a serving.

Remember to avoid all fried foods, highly seasoned foods and condiments such as mustard, catsup, horseradish sauce, pepper, vinegar, relishes and gravies. These foods will only stimulate the flow of stomach acid and slow down your rate of recovery.

It is often very easy to gain weight on a bland diet because of the frequency with which you must eat and because you may consume more milk than you normally drink. If you find you do gain weight from this diet you should tell your doctor. He may tell you to discontinue the use of cream and use only milk or he may tell you to change from whole milk to skim milk or buttermilk.

If you follow your doctor's instructions concerning your diet, your recovery will be quicker.

CHAPTER IV

METHODOLOGY

The purpose of this study was to develop and determine acceptability of a multi-media approach to diet instruction that would make diet literature more serviceable to the users.

The Study Group

In order to determine the possibility of the use of a proposed self-help aid to diet instruction, physicians assumed to be concerned with diet instruction were contacted. The study was confined to one city so that follow-up interviews could be made after initial contact by mail. Originally only general practitioners and internal medicine specialists were to be included since they are the ones who recommend modified diets most frequently. The sampling proved to be too limited in number and so the group was extended to include doctors of surgery, obstetrics and gynecology, pediatrics and orthopedics as these physicians, too, may have occasions to recommend diet modifications.

Subject Matter

The three diet commentaries as developed in Chapter III were calorie-controlled, moderate sodium-restricted and bland. The Dietary Handbook for Small Hospitals and Extended Care Facilities in Montana

was used as a guide in writing the commentaries.[1] Due to the nature of the disc, recording time had to be limited to a maximum of thirteen minutes. Thus, only the basic reasons for the diet and a few cooking hints are given.

The proposed commentaries were read by three dietitians for accuracy and content before presenting them to the physicians for their approval. These included a practicing therapeutic dietitian, a university instructor in dietetics, and a public health nutritionist.

Final drafts of the commentaries were recorded on tape to ascertain the amount of material that could be included. The mechanics of producing the discs are beyond the scope of this paper.

Procedure

Each doctor practicing in Bozeman, Montana, was sent mimeographed sheets of paper containing the three proposed diet commentaries that might be placed on disc recordings. The doctors were asked to read and evaluate. A cover letter explaining the purpose of the study and a questionnaire was included (Appendix B and C). Basically the questionnaire was designed to determine:

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[1]Montana Dietetic Association, Dietary Handbook for Small Hospitals and Extended Care Facilities in Montana, Montana State Board of Health, 1966.

1. The three types of diets most frequently prescribed by physicians.

2. The types of form diets used to instruct patients.

3. The acceptance of a new teaching aid for instructing patients about diet.

4. The acceptability by physicians of information frequently disseminated by dietitians to patients.

A follow-up interview was requested of each recipient. This permitted discussion of the use of self-instructional materials. It also afforded the opportunity to gather actual materials that are presently being used for diet instruction.

CHAPTER V

RESULTS AND DISCUSSION

Study Sample

Twenty-five physicians were asked to participate in the study. Twenty of those contacted (80%) agreed to cooperate but three of the participants did not find time to read the material (Table III). It may be that the commentaries were too lengthy and required too much time to read and evaluate. On the other hand it is possible that the physician himself believed his background on the subject inadequate. Of those initially contacted, two doctors refused and extenuating circumstances, such as the death of one physician, prevented three doctors from taking part.

TABLE III

NUMBER AND SPECIALTIES OF PHYSICIANS ORIGINALLY CONTACTED AS OPPOSED TO THOSE WHO ACTUALLY PARTICIPATED

Specialty	Physicians Contacted		Replies Received	
			Complete	Partial
	Number	%	Number %	Number %
General Practice	14	(56%)	10 (50%)	1 (5%)
Internal Medicine	3	(12%)	3 (15%)	0 (0%)
Surgery	5	(20%)	3 (15%)	1 (5%)
Other	3	(12%)	1 (5%)	1 (5%)
Total	25	(100%)	17 (85%)	3 (15%)

It was extremely difficult to meet with many of the twenty participating physicians for even ten minutes. Three doctors (15%) who replied expressed a definite lack of interest in dietetics and showed little desire to discuss an audio-visual aid that could possibly make the subject of diet instruction easier to discuss with their patients. One doctor (5%) stated that he is continually bombarded with "new" ideas he is supposed to try to incorporate into his practice and this may account for his lack of interest in the aid. Another doctor (5%) who showed positive interest said he is continually receiving questionnaires that someone wants him to answer, particularly from pharmaceutical companies. Perhaps this is one reason that many

of the questionnaires had found their way to the waste basket by the time the writer arranged for an interview ten days to two weeks after mailing.

Current Practices Regarding Diet Instruction

In order to develop an audio-visual aid for teaching diet instruction that could be of value to physicians, it was necessary to know some of the current practices physicians use in their teaching of modified diets.

It was noted that many doctors seemed to have adopted a defeatist attitude from years of experience. Two doctors (10%) stated they will not even discuss a diet with the patient concerning weight reduction, but simply tell the patient to cut down on the calories. Lack of improvement in the disease condition due to the patient's ignoring the instruction is one problem that five physicians (25%) candidly mentioned and probably all experience to some degree.

Types of Diets Prescribed

Over a one month period, the twenty participating doctors reported that they give an average of more than 600 diets. This is approximately one diet instruction per physician per day. The most frequently prescribed diet was the calorie-controlled, totaling thirty-four percent (Figure 1). Data from the questionnaire revealed that the bland diet was the second most frequently prescribed diet,

Figure 1. Diets most frequently prescribed by twenty physicians in one Montana community.

but the low-fat diet was ordered more frequently than the sodium-restricted diet as can also be seen in Figure 1. These results compared favorably with the diet commentaries developed in Chapter III.

Means of Instruction

All twenty physicians indicated that they usually instructed the patient themselves. Four (20%) stated they sometimes delegate the task to their nurses. One (5%) said he will, at times, merely hand the diet instruction materials to the patient, as he feels they are self-explanatory. Another physician occasionally sends the patient to the local hospital to be instructed by the dietitian (Table IV).

TABLE IV

INDIVIDUAL OTHER THAN DOCTOR RESPONSIBLE FOR DIET INSTRUCTION IN FIVE PHYSICIANS' PRIVATE PRACTICE

Individual	Number
Nurse	4
Dietitian	1

Types of Diet Form Instructions Presently Employed

All participating physicians reported using some commercial diet forms or materials from a diet service. Commercial literature can be quite useful but one should also keep in mind that it is

frequently a means of advertising. Sources of instructional materials were found to vary widely (Table V). Appendix D lists the specific diet sources used by physicians in this study. Seven physicians (35%) reported that they have designed their own instruction forms to some degree. Sources used in development include diet manuals, particularly that from the Mayo Clinic in Rochester, Minnesota, various textbooks on diet therapy, accumulated knowledge and past experience.

TABLE V

SOURCES AND NUMBERS OF FORM DIETS
REPORTEDLY USED BY PHYSICIANS

Producers of Diet Literature	Number of Different Concerns
Pharmaceutical Companies	14
Diet Services	4
Food Manufacturers	3
Health Related Associations	1

Of all the literature available from the various pharmaceutical houses, Upjohn's diet pamphlets were found to be used to some degree by nine (45%) of the physicians. This may be due to the attractiveness of the leaflets plus a good calorie-control guide. Drug companies such as Upjohn send representatives to many of the physicians' offices

and are therefore in a good position to inform doctors of their free diet materials.

Acceptability of Proposed Multi-Media Materials

Thirteen (65%) of the twenty participating physicians stated they would consider using a vinyl record together with printed diet literature if they were available. Of these thirteen, three (15%) did not read the commentaries but still liked the idea. Only one physician (5%) had a totally negative view of the proposed audio-visual aid. Seven (35%) would not use the aid for various reasons including lack of interest in modified diets and the possible monetary costs involved. Three of the doctors (15%) who would not use the proposed teaching aid in their offices, believed the recorded instruction would be of greater value in the hospital where patients would be a captive audience. Seven doctors (35%) expressed no interest in going to the trouble of playing the recording for the patient in the examining room and felt that many patients might not listen to the recording at home. Because so many patients seem to misplace their diet instructions in the home, one physician (5%) routinely asks that it be returned to his office when the diet is terminated.

The relationship between the physician's medical specialty and acceptance can be seen in Figure 2. A negative response from specialists might be explained by the fact that they have less

occasion to prescribe diets. In addition, some negative response can be attributed to the fact that the actual materials were not immediately available for demonstration. It is believed that if a prototype had been available, some of the physicians who had misgivings as to the value of personally employing a recording would have registered a more favorable response.

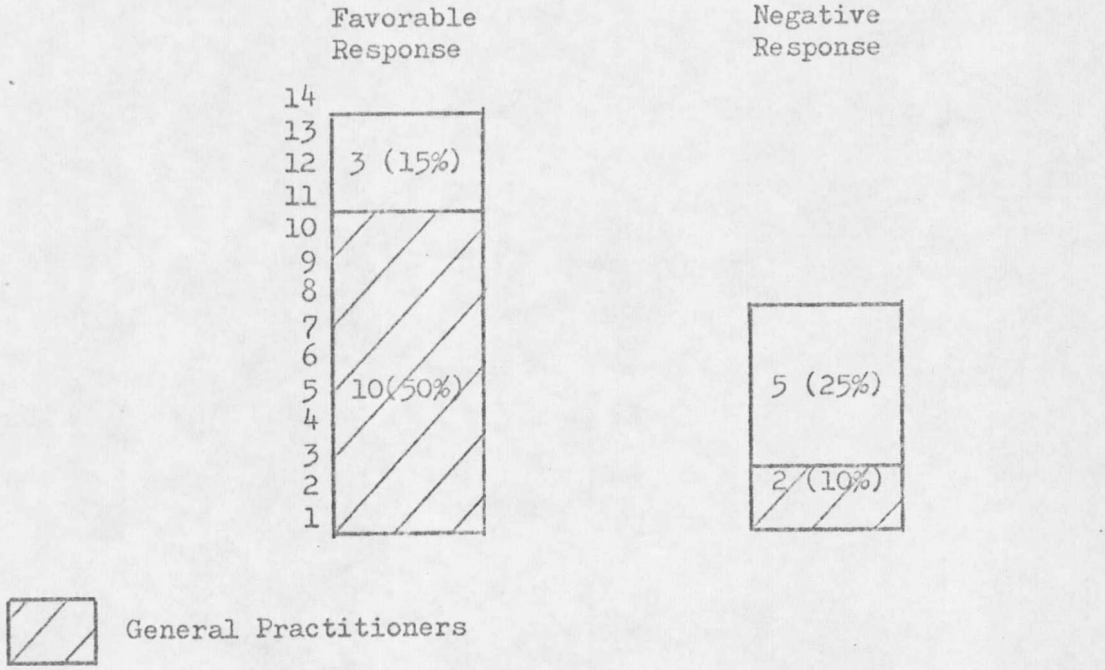

Figure 2. Acceptance by physicians of a new audio-visual method for diet instruction.

No relationship could be noted between acceptance of the proposed audio-visual aid and the age of the doctor. One might think that the younger physician would be more enlightened and interested in dietetics since he may have had more exposure to nutrition and more contact with dietitians in his recent training. This study does not support such a supposition. In a study at the University of Washington in Seattle it was indicated that a physician's attitude about the importance of diet seems to be the same regardless of age.[1]

Absorption of Cost by Patient or Physician

The cost of a seven inch vinyl recording would be approximately 5½ cents. Eleven (84%) of the thirteen physicians who would use an audio-visual method indicated they would be willing to bear the expense themselves. It is thought that the pamphlet would be free as in so many instances is the case. Two (16%) stated they would not pay for the disc, but one of these two individuals would be willing to charge the patient (Figure 3).

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[1] R. H. Barnes, "Doctors' Dietary Antics," Nutr. Today, 3 (Sept., 1968), 24.

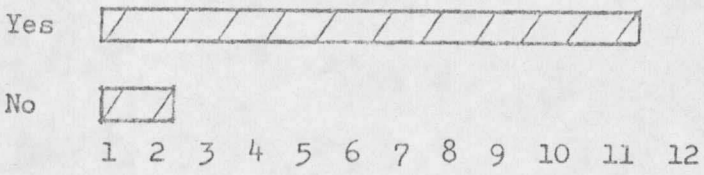

Figure 3. Number of physicians willing to bear cost of recording.

If there were a charge for the pamphlet with record, ten doctors (77%) would consider adding the cost to the bill of the patient while three (23%) would not. Two (16%) would not consider charging the patient but would pay for it themselves while the other physician (6%) would not pay for it at all (Figure 4).

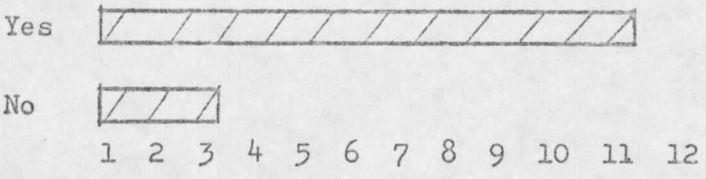

Figure 4. Number of physicians that would consider adding the cost of a recording to the patient's bill.

With all the free advertising materials that drug companies distribute from ash trays to pen sets, there is some question as to whether any charge to the physician or patient would be made if this audio-visual aid were available. Drug companies might find the production of recorded diet information for free distribution to doctors an additional improvement over their present practices.

Adequacy of Printed Commentaries to Physicians

The commentaries were skimmed through or read thoroughly by seventeen of the participating doctors, fourteen (82%) of whom thought the material complemented their instruction. Three doctors (18%) said the commentaries did not. The remaining three doctors who participated in this study stated they did not have time to read the material, and so despite their favorable attitude, they were not included in this discussion. It is believed that the physician's favorable attitude indicates a need for this type of information.

Of the seventeen doctors that read the commentaries, sixteen (94%) thought they were adequate, but one (6%) thought they were too specific (Table VI).

TABLE VI

ADEQUACY OF COMMENTARIES AS JUDGED BY PHYSICIANS

Remark	Number
Too specific	1 (6%)
Too general	0 (0%)
Adequate	16 (94%)

Fourteen of the doctors (82%) who read the commentaries had no suggestions for change. A suggested correction for change, made by one physician (6%), was that tea should be permitted for the bland diet. Two other physicians (12%) desired expansion of the proposed

commentaries to include a recording for allergy problems and to place greater stress on organized physical activity for the calorie-control program.

Sixteen (94%) of the seventeen doctors who read the commentaries felt that the copy was presented in a manner that the patient would be capable of understanding. Only one doctor (6%) said the commentaries were written in a manner that the patient would not understand (Table VII).

TABLE VII

INTELLIGIBILITY OF COMMENTARIES WRITTEN FOR THE PATIENT AS JUDGED BY PHYSICIANS

Remark	Number
Understandable	16 (94%)
Not understandable	1 (6%)

CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Modified diets can be of great value in the total care of a patient affected by many physical conditions. Teaching the patient, however, about his modified diet often poses a problem. With the shortage of professional personnel and their time at a premium, diet does not always receive sufficient attention.

Little work has been done in the developing of self-help aids for teaching diet information. For this reason, three of the most commonly prescribed diets ordered by physicians were written in proposed form for recording to present for physicians' approval. Criteria used in the development include that the aid should improve the quality of instruction by the professional, be of low cost, aid in clarity and stimulate interest.

An attempt was made to determine the reaction of physicians in one community to this new aid. In the final analysis, twenty physicians representing five specialties were contacted.

Conclusions

The commentaries as developed in this paper were acceptable to most of the doctors as being complementary to their own instructions.

In the doctors' opinions it would seem that their patients would have little difficulty in understanding them.

Most physicians perform the task of presenting modified diet instructions themselves, using a wide array of printed materials for their own personal information as well as for distribution to the patient. The majority of physicians who participated in this study were favorable to the idea of a self-instruction aid. If additional costs were necessary, over half the doctors stated they would either bear the cost themselves or include it in the patient's bill.

Recommendations

Improvement of this Study

The scope of the sample was small. Expansion of the study would allow for different points of view. It could have been extended to include nurses and dietitians who do a major part of hospital diet instruction.

Making the actual device would have aided with evaluation. Initially this would have to be accomplished by placing the information on tape for test purposes. Quality recordings could probably be produced with the aid of a college drama department or college radio station. As observed in interviews, many physicians did not have a

clear idea of the self-instruction device until they saw a prototype, and even then some explanation was required.

For Future Studies

Even though the device has been found to be acceptable to many physicians giving diet instruction, the true value of the device cannot be determined until used among in- and out-patients, nurses, dietitians and dietary aides. Further study might show where such an aid would be best suited.

A real need exists to determine the variety of literature that is available and which ones the majority of physicians are using. The American Dietetic Association does not maintain a file of all the various form diets physicians are using for instructional purposes.[1] If the Association and its members were more familiar with diet materials that doctors give to their patients, perhaps they could recommend and bring about improvements in the forms, changing the thinking and attitudes of some physicians.

A study to determine the criteria practitioners use to decide upon diet literature they will use could be of great value. Five

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[1]Ruth Yakel, Executive Dir. of Am. Dietet. Assoc., Personal Correspondence (Sept., 1969).

free diet instruction leaflets distributed by the National Live Stock and Meat Board seem quite good according to the criteria set forth in this study, yet none of the physicians interviewed were found to use them. A letter of inquiry sent to the National Live Stock and Meat Board brought this explanation:

> We exhibit at many national meetings of medical and health associations for the purpose of familiarizing medical people with these diets and other Meat Board nutrition materials. We also exhibit at the American Dietetic Association meetings in hopes that dietitians will avail themselves of these diets, and even more to call them to the attention of doctors with whom they have contacts. We also include a note in Food and Nutrition News occasionally informing our 40,000 readers of the availability of these special diets. Whenever this is done we are swamped with requests for several months. Even so, we are not getting the message across where it counts . . .[2]

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[2] W. C. Sherman, Dir., Nutr. Research, Personal Correspondence (Nov., 1969).

APPENDIX

APPENDIX A

The exchange lists that follow are taken from the Dietary Handbook for Small Hospitals and Extended Care Facilities in Montana.

MILK EXCHANGES - LIST 1

One exchange of milk contains 12 grams Carbohydrate, 8 grams Protein, 10 grams Fat and 170 Calories.

Milk is one of our most important foods. Use the milk on the meal plan to drink in coffee, on cereal, or with other foods.

This list shows the different types of milk to use for one exchange:

Type of Milk	Amount to Use
Whole milk (plain or homogenized)	1 cup
* Skim milk	1 cup
Evaporated milk	1/2 cup
Powdered whole milk	1/4 cup
* Powdered skim milk (Non-fat dried milk)	1/4 cup
Buttermilk (made from whole milk)	1 cup
* Buttermilk (made from skim milk)	1 cup

Use one type of milk instead of another. For example, use one-half cup evaporated milk in place of one cup of whole milk.

* Use skim milk or buttermilk made from skim milk instead of whole milk. Skim milk and buttermilk have the same food values as whole milk except they contain less fat. Add 2 fat exchanges to the meal when one cup of skim milk or buttermilk made from skim milk is used.

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[1]Montana Dietetic Association, Dietary Handbook for Small Hospitals and Extended Care Facilities in Montana, Montana State Board of Health, 1966.

Appendix A, continued

VEGETABLE EXCHANGES - LIST 2

All vegetables contain sugar but some have more sugar than others. The vegetables have been divided into three groups according to the amount of sugar they have:

List 2A vegetables have the smallest amount of sugar.
List 2B vegetables contain more sugar.
List 4 contains some vegetables which have a large amount of sugar.

VEGETABLE EXCHANGES A (Contain little Carbohydrate, Protein or Calories)

Asparagus
*Broccoli
Brussels Sprouts
Cabbage
Cauliflower
Greens
  Beet Greens
  Chard
  Collard
  Dandelion
Lettuce
Mushrooms
Okra
*Pepper
Radishes
Celery
*Chicory
Cucumbers
*Escarole
Eggplant
Kale
Mustard
Spinach
Turnip Greens
Sauerkraut
String Beans, young
Summer Squash
*Tomatoes
*Watercress

*These vegetables contain a lot of Vitamin A.

VEGETABLE EXCHANGES B (Contain 7 grams Carbohydrate, 2 grams Protein and 35 Calories)

One-half cup of vegetables equals one exchange.

These vegetables contain more sugar than the vegetables in List 2A. Use these vegetables raw or cooked.

Beets
*Carrots
Onions
Peas, green
Pumpkin
Rutabagas
*Squash, winter
Turnip

*These vegetables contain a lot of Vitamin A.

Appendix A, continued

FRUIT EXCHANGES - LIST 3

One exchange of fruit contains 10 grams Carbohydrate and 40 Calories.

This list shows the different amounts of fruits to use for one fruit exchange:

	Amount to Use
Apple (2" diameter)	1 small
Applesauce	1/2 cup
Apricots, fresh	2 medium
Apricots, dried	4 halves
Banana	1/2 small
Blackberries	1 cup
Raspberries	1 cup
*Strawberries	1 cup
Blueberries	2/3 cup
*Cantaloupe (6" diameter)	1/4
Cherries	10
Dates	2
Figs, fresh	2 large
Figs, dried	1 small
*Grapefruit	1/2 small
Grapefruit Juice	1/2 cup.
Grapes	12
Grape Juice	1/4 cup
Honeydew Melon	1/8 medium
Mango	1/2 small
*Orange	1 small
*Orange Juice	1/2 cup
Papaya	1/3 medium
Peach	1 medium
Pear	1 small
Pineapple	1/2 cup
Plums	2 medium
Prunes, dried	2 medium
Raisins	2 tablespoons
*Tangerine	1 large
Watermelon	1 cup

*These fruits are rich sources of Vitamin C. Try to use one of them each day.

Appendix A, continued

BREAD EXCHANGES - LIST 4

One bread exchange contains 15 grams Carbohydrate, 2 grams Protein and 70 Calories.

This list shows the different amounts of foods to use for one bread exchange:

	Amount to Use
Bread	1 slice
Biscuit, Roll (2" diameter)	1
Muffin (2" diameter)	1
Cornbread (1 1/2" cube)	1
Cereals, cooked	1/2 cup
Dry, flake and puff types	3/4 cup
Rice, Grits, cooked	1/2 cup
Spaghetti, Noodles, cooked	1/2 cup
Macaroni, etc., cooked	1/2 cup
Crackers, graham (2 1/2" sq.)	2
Oyster (1/2 cup)	20
Saltine (2" sq.)	5
Soda (2 1/2" sq.)	3
Round, thin (1 1/2")	6
Flour	2 1/2 tablespoons
Vegetables	
Beans and Peas, dried, cooked (lima, navy, split, pea, cowpeas, etc.)	1/2 cup
Baked beans, no pork	1/4 cup
Corn	1/3 cup
Popcorn	1 cup
Parsnips	2/3 cup
Potatoes, white	1 small
Potatoes, white, mashed	1/2 cup
Potatoes, sweet or Yams	1/4 cup
Sponge Cake, plain (1 1/2" cube)	1
Ice Cream (Omit 2 fat exchanges)	1/2 cup

Whole grain (dark) or enriched breads and cereals are good sources of iron and the B vitamins. Use them often in the meal plan. They are better than white crackers, rice or spaghetti that do not have the added vitamins.

Appendix A, continued

MEAT EXCHANGES - LIST 5

One meat exchange contains 7 grams Protein, 5 grams Fat and 75 Calories.

This list shows the different amounts of foods to use for one meat exchange:

	Amount to Use
Meat and Poultry (medium fat) (Beef, Lamb, Pork, Liver, Chicken, etc.)	1 ounce
Cold Cuts (4 1/2" x 1/8") (Salami, Minced Ham, Bologna, Liverwurst, Luncheon Loaf)	1 slice
Frankfurter (8-9 per pound)	1
Egg	1
Fish: Haddock, Perch, etc.	1 ounce
Salmon, Tuna, Crab, Lobster	1/4 cup
Shrimp, Clams, Oysters, etc.	5 small
Sardines	3 medium
Cheese, cheddar type	1 ounce
Cottage	1/4 cup
*Peanut Butter	2 tablespoons

*Limit peanut butter to one exchange a day unless the carbohydrate in it is allowed for in the meal plan.

Appendix A, continued

FAT EXCHANGES - LIST 6

One fat exchange contains 5 grams Fat and 45 Calories.

This list shows the different foods to use for one fat exchange:

	Amount to Use
Butter or Margarine	1 teaspoon
Bacon, crisp	1 slice
Cream, light	2 tablespoons
Half and Half	4 tablespoons
Cream, heavy	1 tablespoon
Cream Cheese	1 tablespoon
Olives	5 small
Avocado (4" diameter)	1/8
French Dressing	1 tablespoon
Oil or cooking fat	1 teaspoon
Nuts	6 small

Appendix A, continued

SPECIAL INFORMATION ABOUT DIABETIC DIETS

Some foods are not included in the Exchange Lists because they have a considerable amount of sugar. The following foods are high in sugar and should not be given: sugar, candy, syrup, molasses, honey, jelly, jam, marmalade, preserves, pies, pastries, cake, cookies, doughnuts, sweet desserts, condensed milk, chewing gum, soft drinks, wine, beer and alcoholic beverages. Foods may be sweetened with saccharine or Sucaryl.

Seasonings may include: salt, pepper, garlic, onion, celery salt, mint, nutmeg, mustard, cinnamon and other spices, lemon, vinegar, chopped parsley. Part of the fat allowed in the diet may be used as seasoning. Extra fat, flour, bread crumbs, etc., should not be added in the preparation of foods for the diabetic patient. Therefore, gravies, cream sauces and other sauces should be avoided unless made from foods allowed in the diet.

The following foods have no appreciable food value and may be used as desired, unless the physician finds a special reason to limit them:

Free Foods

Tea
Coffee
Clear Broth
Bouillon (fat free)
Gelatin, unsweetened
D'Zerta
Dill Pickle, unsweetened
Sour Pickles
Rennet Tablets
Cranberries (artificially sweetened)
Rhubarb (artificially sweetened)

APPENDIX B

501 South Grand Avenue
Bozeman, Montana 59715
September 10, 1969

Dr. _____
Address
Bozeman, Montana 59715

Dear Doctor _____,

No doubt you have many occasions to recommend diets for your patients. With your demanding patient load you probably cannot always take the necessary time to explain the modifications in a specific patient's diet.

In partial fulfillment of my Master's degree at Montana State University I have developed copy for three different special diet conditions that I would like to have produced into an inexpensive set of audio diet aids in the form of vinyl recordings. A recording together with a form diet would be given to the patient for use in his own home. An effort has been made to develop a dialogue that would be easily understood by the patient.

At this time no form diet has been fully endorsed. The dialogue is intended to be applicable to a variety of diets from a variety of sources. The basic information is drawn from the Dietary Handbook for Small Hospitals and Extended Care Facilities in Montana, prepared by the Montana Dietetic Association, endorsed by the Montana Medical Association and issued by the Montana State Board of Health in 1966. The dialogue is presented to you in written form for your previewing. Perhaps this proposed audio recording would supplement printed material you already may be using.

To determine whether or not you would use such an aid, if it were available, I should like you to take a few moments to check the enclosed survey. Within the next ten days I will call to make an appointment to pick up the questionnaire. Any additional comments at that time would be most appreciated.

Thank you for your help in this matter for without your cooperation this study would not be possible.

Yours very truly,

Jeanne Kilpatrick
Registered Dietitian

APPENDIX C

Questionnaire

1. Please check the diets and the approximate frequency with which you recommend special diets for use in the course of a month.

Type of Diet	Frequency of Recommendation (per month)
Bland	
Diabetic	
Low-Calorie	
Restricted Sodium	
Other types frequently used include:	
1.	
2.	
3.	

2. Who instructs your patients regarding the prescribed special diets?

_____Yourself
_____Your nurse
_____Other (_____Title)

3. Have you drawn up your own diet instruction forms for distribution to your patients?

_____Yes
_____No

Appendix C, continued

4. If so, what source or sources have you used to develop the forms?

   1.

   2.

   3.

5. If you use printed diet materials produced by any of the following companies, please check.

   _____Eli Lilly and Company
   _____Squibb
   _____Upjohn
   _____Other (_____Name)

6. If a vinyl record together with printed diet literature were available, would you favorably consider using such an aid?

   _____Yes
   _____No

7. Much of the diet literature is distributed free. If a cost of approximately 5½ cents for each pamphlet with record had to be charged by the company producing the recording, would you still be willing to use the aid by bearing the expense yourself?

   _____Yes
   _____No

8. If there was a charge for the pamphlet with record would you consider adding the cost to the bill of the patient?

   _____Yes
   _____No

Appendix C, continued

9. Does the enclosed material complement your instructions?

_____Yes
_____No

10. How would you rate the enclosed copy?

_____Too specific
_____Too general
_____Adequate

11. Is there any information you would like to see added or removed from the existing copy presented for your examination?

_____Yes (Please indicate what _____)
_____No

12. Do you feel that the existing copy is presented in a manner that the patient will be capable of understanding?

_____Yes
_____No

13. Please check your specialty.

_____General Practice
_____Internal Medicine
_____Surgery
_____O.B.-Gyn
_____Pediatrics
_____Other

APPENDIX D

Diet Guides Used by Bozeman, Montana Physicians

Patient diet guides are available from the following concerns and have been used by the physicians in this study:

Food Manufacturers

Carnation Company, Los Angeles, California 90036
Corn Products Company, N.Y., N.Y. 10022
Gerbers', Fremont, Michigan 49412

Pharmaceutical Companies

Abbott Laboratories, North Chicago, Illinois 60064
Carnrick Laboratories, Cedar Knolls, New Jersey 07927
Eli Lilly and Company, Indianapolis, Indiana 46206
Maltbie Laboratories, Belleville 9, New Jersey
S.E. Massengill, Bristol, Tennessee 37620
Mead Johnson, Evansville, Indiana 47721
Merrell Company, Cincinnati, Ohio 45215
J.B. Roerig and Pfizer, N.Y., N.Y. 10017
William H. Rorer, Inc., Ft. Washington, Pa. 19034
Smith Kline and French Laboratories, Philadelphia, Pa. 19101
Squibb and Son, New Brunswick, N.J. 08902
USV Pharmaceutical Corp., N.Y., N.Y.
Upjohn, Kalamazoo, Michigan 49001
Wyeth Laboratory, Philadelphia, Pa. 19101

Health Related Associations

American Heart Association, N.Y., N.Y. 10010

Diet Manuals

Univ. of Iowa Low-Cholesterol Diet Manual, Iowa City, Iowa
Mayo Clinic Diet Manual, Rochester, Minnesota
Minneapolis Veterans Administration Diet Manual, Mpls., Minn.
University of Wisconsin, Madison, Wisconsin

Diet Services

Personal Diet Service, N.Y., N.Y. 10036
Physicians Diet Service, Evansville, Indiana 47713
Prescription Diet Service, Algonquin, Illinois 60102
W.F. Prior Co., Inc., Hagerstown, Maryland

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