Health Education in the Ambulatory Setting: The Potential for Family Practice

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DR. KENT JOHNSON (*First year family practice resident*): The following Grand Rounds presentation is an attempt to introduce a broad overview of health education concepts to family practice residents. While time constraints prevent in-depth coverage, Ms. Kluemper will define health education, discuss four major goals, address some barriers in achieving those goals, review several approaches to changing behavior, and provide some principles of learning geared towards health education. A role playing session will follow in which Ms. Kluemper and I will provide an example of patient education for the family physician. Finally, a general discussion will consider difficulties expected in implementing health education in a private practice setting.

Definition

MS. MARY ANN KLUEMPER (*Instructor, Department of Family Practice*): Health education is defined by Dr. Larry Green of Johns Hopkins University as "any *combination* of learning experiences *designed* to facilitate voluntary changes or adaptations in behavior."[1] This definition includes three important aspects of health education which should be considered. First is the *combination* of experiences. The public is already learning about health—from women's magazines, "ask-the-doctor" newspaper columns, self-help books, "Sixty Minutes," and the soap operas, to name a few sources. It is, therefore, essential that the health care professions contribute to that combination of experiences. Secondly, the learning must be *designed* or planned, rather than coincidental or haphazard occurrences. The area of planning is easily ignored or overlooked in the urgency to get things accomplished, and unfortunately this oversight becomes apparent in the end result. Lastly, health education facilitates *voluntary* changes in behavior. Behavior changes cannot be forced or mandated, but rather life-style changes, compliance, exercise routines, and other recommendations must be encouraged and supported.

Some documented studies of community health education and patient education have shown considerable success and might act as a motivating factor toward incorporating health education into primary care. Reduced use of narcotics for postsurgical pain, shorter hospital stays, fewer

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visits to the Emergency Room, better adherence to medical regimens, decreased medical costs, and improved cost effectiveness[2] have all resulted from planned health education programs. Community successes have included, for example, decreased accidental death from window falls for inner city children,[3] and the well-publicized cardiopulmonary resuscitation improvement in Seattle.[4] With these illustrations in mind, the potential for health education in family medicine seems endless.

Goals

Several goals of health education in primary care become apparent:

1. *To help people better use health care resources.* Patients and the public at large have access to numerous health care resources, yet have very little knowledge of how to make the best use of these facilities. Unnecessary Emergency Room visits and office calls, conflicting medications, doctor shopping, self-diagnosis, and the use of home remedies are well-known examples of poor utilization caused by lack of information. Yet people can certainly learn to correct these problems given proper knowledge regarding the care of common illnesses, access to the system, recognition of symptoms, and so forth. Obviously, family medicine has the potential for providing the most comprehensive education due to the continuity of care for individuals as well as the focus on whole families.

2. *To encourage the public to take personal responsibility for their health status.* While seemingly an obvious assumption, the public has not been encouraged, unfortunately, to take an active part in health care. The physician has assumed a paternalistic role in deciding what is best for the patient, providing very little information about how and why the decision is reached and yet expecting the patient to heed his advice. The average person was encouraged to put his/her health status in the hands of the physician and play a very passive role in his own health care. In clear-cut issues such as infectious diseases, childhood immunizations, and diagnostic procedures, this approach may not present problems; however, in the current self-imposed risk-related diseases and conditions, the means of treatment can only be recommended by the physician. The individual must take the responsibility for his own smoking cessation, weight loss, exercise program, careful driving, and so forth.

3. *To enable people to make knowledgeable decisions regarding their health care behavior.* In order to truly take responsibility for his or her own health, a person must have the right to make health care-related decisions. Yet, to enable someone to make such decisions, a considerable amount of information is required. The goal to provide the information necessary to make these assessments seems essential and requires explanation of the various options available, the positive and negative aspects of those options, and their consequences. The process of decision making also assumes that the individual has the right to choose a direction different from the one recommended—as long as the responsibility for that choice is also accepted. The patient has the right to refuse surgery, neglect diet, and forget medications, but must understand and accept the consequences of those actions. This process is directly opposite to the current tendency for patients to ignore medical advice and then to show up at some later time, expecting miracles to restore the damage done.

4. *To stimulate and encourage people to change their health care behaviors and to assist them in this change.* Health care professionals will readily accept helping a patient who wants to make changes and who asks the physician how to do it. Obviously, this motivated individual has optimal receptivity and potential for health education. However, the responsibility also extends to challenging people to change their health care behavior, encouraging and supporting even minimal attempts, and assisting in the difficult process of changing habits. The subtleties of such stimulation are difficult to achieve, and yet physicians all have much experience demonstrating that simply telling people what to do has extremely limited success. This may be the most difficult goal to achieve and yet perhaps one of the most important to attempt. While referrals to weight groups, smoking clinics, exercise programs, etc, can easily be made for those patients already concerned, encouragement and prompting should be provided to those not yet so motivated.

Barriers

Obviously, there are a number of barriers to achieving these goals and they must be realistically recognized. Getting people involved in their own health care is not easy. The medical professions have done an excellent job of convincing the public that they are "magic men" who can work miracles—and in many cases, with modern medications, fantastic surgery, and incredible technology, they seem to. However, it is now difficult to convince the general population that magic tricks cannot be pulled out of the hat for *all* diseases. In an age of life-style related disease, believing in miracles is easier than painfully changing lifelong habits. Another problem is that knowledge alone does not assure practice of that knowledge. Obvious examples include the need for the yearly Pap smear, breast self-examinations, seat belt usage, and dental check-ups. While people are currently aware and knowledgeable about these health care issues, they find it difficult to follow that knowledge with the appropriate action. In areas that are not as well publicized, or are subject to conflicting information, even greater obstacles to action exist.

The current focus on health care issues is often an additional barrier to achieving the described goals. While definitely a beneficial trend in the long run, this focus may cause difficulty because of the magnitude of health care information now being provided. Behavior is a combination of a multitude of experiences, and physicians' input is just one small part of the total information being received. When a person's mother is saying one thing, the next door neighbor something else, Dr. Art Ulene from the "Today" show differs, and *Redbook* magazine presents an opposing point of view, it is easy to see why the physician's word is not viewed as gospel truth and the patient becomes confused. Bits and pieces of information are extracted from all the sources, combined with some preconceived ideas and behavior patterns, and a combination behavior emerges. These issues must be taken into consideration when making recommendations to patients. Lastly, there are many gray areas of content and physicians cannot provide concrete right and wrong polarizations in health care behavior. Questions about controversial health issues such as cholesterol, saccharin, oral contraceptives, dietary fiber, and hair dyes evoke ambivalent answers. The public still expects the medical profession to be able to provide clear-cut information when in many instances that is no longer possible. These expectations again focus on the need for personal responsibility. Health care professionals can furnish the pros and cons, plus their personal recommendations, yet the patient makes the ultimate choice and then must live with that decision.

Methods

Several approaches have been used in attempting to direct health care behavior. Most easily recognizable are the scare tactics that threaten people into health care behavior. In the obvious example of smoking, health care educators roamed the country with cross-sections of diseased lungs, films of emphysema patients, and horror stories of cancer deaths. The problem with this approach is that people find it amazingly easy to deny such consequences in themselves.

Another approach is the Health Belief[5] or "Three S" model. The basic theory behind this model is that people will not change their health care behavior unless they feel that they themselves are susceptible to a specific health problem, that is a serious condition or threat, and that a viable solution exists. Generally, almost any health care-related issue where behavior change is required will fall into one or more weakness areas. For example, a woman who finds a lump in her breast is convinced that she has cancer because she has found the lump, that it is serious, but she does not believe there is a viable solution or cure. The idea of a mastectomy is abhorrent, especially when there is so much confusion over the effectiveness for cure. Thus, she delays seeing a physician. In areas of prevention such as heart disease, the seriousness of the situation is readily apparent, but the susceptibility and solution areas are weak. Denial makes it easy to believe "it won't happen to me," and the prevention aspects of the solution require considerable effort. This model also applies on a community level. In a small community with a high incidence of venereal disease, the serious nature of the problem may be recognized and perhaps the steps for a solution determined. Yet, if

the people refuse to see that there truly is an epidemic, success will be limited. Educational efforts would necessarily be geared towards improving recognition in that one area.

The most recent approaches have been social pressure and self-care, both of which have promoted healthful living and activated patient behavior as esthetic goals. Social pressure has been apparent in anti-smoking slogans such as "smoking stinks" and "Kiss me—I don't smoke," as well as nonsmokers rights group activities prompting nonsmoking sections in airplanes and restaurants, and legislation restricting smoking in public places. The current focus on jogging and exercise, health foods, and self-improvement have stemmed from social awareness of the benefits of keeping healthy and physically fit—and the pressure to do so. This concern for personal responsibility in health care has spilled over into actual participation in health care delivery and self-care. Publications such as *Our Bodies, Ourselves,*[6] *How to Be Your Own Doctor—Sometimes,*[7] and *Take Care of Yourself*[8] advocate knowing what to look for in areas of health and disease, knowing one's own body well enough to recognize signs and symptoms, and knowledgeably deciding upon self-care or traditional treatment from a physician. Clearly, a trend toward more active participation in health care is emerging and physicians may tap into this movement, use some of the previously mentioned approaches, or incorporate other psychosocial theories in developing a personal style for educating their patients in areas of health maintenance and disease management.

Principles

In attempting to list some basic learning principles for health education, the importance of the individual is apparent.

1. "Put the sidewalks where the people walk."[9] Gear any educational efforts towards the felt need of the population. It would be senseless to plan a target program on heart disease where people are most interested in accident prevention for their children. This interest will also aid in stimulating motivation.

2. Individuals have a right to be included in decisions regarding their own health maintenance. Again, this differs from the paternalism generally shown in medicine. Yet, when the physician is sitting at home, it will be the patient who is miserable from the surgical incision, sore from exercise, grouchy from dieting, or suffering medication side effects. To be expected to participate in health care and treatment, it is essential to participate in the decision regarding that course of action.

3. New shoes take time to break in and feel comfortable. Therefore, it will take time for individuals to believe they actually do have something to say about health care decisions—and that they must also take responsibility for acting upon those decisions. However, once that realization comes, people participate much more actively in their health care.

4. No two people think alike or have the same experiences. Thus, it is essential to assess the needs of each person and each community. There will never be one magic plan or strategy of health education which can be used for everyone. Such thinking can easily be a trap, and constant effort must be made to avoid it.

5. "It is difficult to collect hard data on soft people."[9] People and communities often have varying characteristics which will not respond to a medical approach of symptom+symptom=disease = treatment. Therefore, rigid statements such as "because this person has only a third grade education we can provide only this much information" can not be formalized. The best example might be that of health care professionals themselves. Traditionally, nurses or physicians receive very little individual health education when they are ill because the assumption is made that they already possess that knowledge. Yet it is quite apparent how easily their objectivity and knowledge are lost when personally ill, and professionals need educational efforts as much as anyone else—merely the method of presentation should be different. People cannot be pigeonholed, computerized, or categorized into tables when it comes to education.

6. Minor changes in health care behavior are more easily accepted than major changes. An example here might be dental health. Getting people to switch from hard to soft bristled toothbrushes may not be extremely difficult because that is a minor change in an already existent habit.

However, attempting to start patients on a flossing regimen is much more difficult because it introduces an entirely new behavior. Therefore, when possible, link any behavior suggestions to already existent habits or customs. Again, this emphasizes the need to find out individual information about each patient or community so that such links can be established.

7. Any learning or behavior change must be reinforced and supported. Thus it is important for the health care team to praise even small achievements made toward a behavior goal. A patient with heart disease may have had little success in weight loss or smoking cessation, but if he has taken his medications according to schedule, this is no small accomplishment and should be recognized and supported. Such recognition should also be made by family members, and family physicians should encourage spouses and families to assist in this reinforcing process. Once again, the importance of including family members in treatment is significant. All too often health care professionals and families provide only negative feedback for failures and fail to recognize and encourage the successes and achievements.

This has been a brief introduction to the basics of health education. We hope it will stimulate some thought regarding the integration of health education into family medicine and that some of the issues involved can be dealt with in greater detail at later presentations.

Role Playing

MS. KLUEMPER: We are now going to attempt a role playing session, first presenting what we see as perhaps the current method of patient education used by physicians and then improving the educational session by attempting to elicit past experiences and feelings from the patient, and involving him or her in the process. This is not meant to be a perfect or model patient education encounter, but an example of what can be achieved with just a little more effort. The encounters are not entirely rehearsed, so we may come up with some surprises.

Following the role playing we will conduct a general discussion. Additional participants will be Dr. Ruth Demmel, third year resident; Dr. Gary Ensz, second year resident; Dr. John Graves, first year resident; Dr. Troy Morgan, Assistant Professor; Dr. Kashinath Patil, Associate Professor; Dr. George Prica, second year resident; Dr. Greg Starr, Assistant Professor, all from the Department of Family Practice.

Case Example: A Typical Session

MS. KLUEMPER: Dr. Kent Johnson will play the physician. I will be the patient, a 40-year-old married woman with three children, a high school education, and 50 pounds of excess weight. This is the third consecutive visit with blood pressure readings in the hypertensive range. The physical examination is already completed and Dr. Johnson enters the room to talk with the patient.

DR. JOHNSON: Well, Mary Ann, today your blood pressure was 165 over 105, and as I mentioned on previous visits, that's a very high reading. I think we can safely say you have hypertension, or high blood pressure. What that means is that your heart is having to work extra hard to push the blood through your arteries. If we don't lower that pressure, long-term complications may arise such as heart attacks, kidney damage, stroke, and possibly blindness. Therefore, it is important that we treat you for hypertension to try to get that blood pressure back to the normal range. If we can do that, we may be able to prevent some of those long-range complications. Today we will start you on some medication that has very few side effects. It is a water pill and may cause you to go to the bathroom more frequently. It also may cause your blood sugar to rise, you may become a little less peppy, and if you are prone to it, you may develop gout. Usually people have none of these problems. Another thing I want you to do is remove salt from your diet and lose those extra 50 pounds we've talked about. I'm going to give you a prescription for the water pills and I want you to take them once a day. In a week or so we'll take your blood pressure again to see how you're doing. You can talk to my nurse about your diet. Do you have any questions?

MS. KLUEMPER: I don't think so.

DR. JOHNSON: Then I'll see you next time.

Case Example: An Improved Session

DR. JOHNSON: Okay, Mary Ann, your blood pressure today is 165 over 105. As I mentioned to you earlier, that is high enough that we can safely say you have high blood pressure or hypertension. Can you tell me what you know about high blood pressure?

MS. KLUEMPER: Well, I read one article about it in a magazine.

DR. JOHNSON: What did the article say?

MS. KLUEMPER: I think it said it causes heart attacks.

DR. JOHNSON: Can you remember anything else the article said?

MS. KLUEMPER: It said you have to take medicine for it.

DR. JOHNSON: Has anyone in your family had high blood pressure?

MS. KLUEMPER: I have an uncle who has high blood pressure.

DR. JOHNSON: Has he told you anything about it, or what he has to do?

MS. KLUEMPER: Well, he says he takes his medication when he feels bad. But sometimes he feels okay and doesn't take it.

DR. JOHNSON: How does he feel bad from his high blood pressure?

MS. KLUEMPER: I'm not sure. I think he said he can just tell when his blood pressure is up, so he takes his pills.

DR. JOHNSON: How is your uncle doing right now?

MS. KLUEMPER: Not too good—he had a stroke last year.

DR. JOHNSON: I'm sorry to hear that. Do you know anyone else who has had experience with high blood pressure?

MS. KLUEMPER: No, not that I know of.

DR. JOHNSON: Do you have any questions about high blood pressure?

MS. KLUEMPER: Yeah—how come I don't feel sick?

DR. JOHNSON: To answer that we need to talk a little bit about what hypertension or high blood pressure is. Your blood pressure is the pressure pushing against your arteries when the heart pushes the blood to the parts of the body, similar to water pushing through pipes. When it gets too high, it means that the heart has to work extra hard to push that blood. If it stays high too long, it can lead to heart attacks, like the article said, strokes, like the one your uncle had, and kidney damage. It is a very slow process and often people don't feel bad because the complication may happen down the road in five or ten years. Also, the signs or symptoms of high blood pressure are not unusual things so that people do not associate them with hypertension. Headaches, blurred vision, weakness, feeling worn out a lot, and nosebleeds may be related to high blood pressure.

MS. KLUEMPER: Yeah—I've had some headaches lately.

DR. JOHNSON: Where are the headaches?

MS. KLUEMPER: In the front on my forehead.

DR. JOHNSON: They may be related. Do you have any other questions?

MS. KLUEMPER: What do I have to do to get better?

DR. JOHNSON: There are several ways to help lower your blood pressure although there really is no cure. Two things associated with high blood pressure are being overweight and using a lot of salt in your diet. We usually ask people to eliminate as much salt as possible from their diet and also we start them on some medication known as diuretics or water pills. These pills help eliminate the extra water in your body, get rid of some of the salt, and may even help in weight loss. They also have very few side effects. We try to get people down to an ideal weight. In fact, some people lower their blood pressure to normal just by losing weight. How do you feel about trying to lose some weight?

MS. KLUEMPER: I know I should lose weight—and I've tried a couple of times, but it's hard!

DR. JOHNSON: Yes, it is hard. What I'm trying to say is that we can do some things by medication, but not everything, so we are also asking that you make some changes in your life, and we will be working with you to make these changes. But when it actually gets down to it, you are the one who has to make the changes necessary to improve your health. Take your uncle, for example, he probably didn't take very good care of himself and make those necessary changes. He also didn't even take his medicine all the time. Unfortunately, he suffered the consequences. I'd like us to work together to try to avoid some of the complications by making the necessary changes. It won't be easy, but I think you'll find it worthwhile. What do you think about cutting down on

salt and taking water pills?

MS. KLUEMPER: Well. . .My aunt says that when my uncle took his medicine, he couldn't have sex.

DR. JOHNSON: There are many different medicines that can be prescribed for high blood pressure—and some of them are very strong, causing lots of side effects. That particular side effect is a problem more for men. However, as I mentioned earlier, water pills have very few side effects other than going to the bathroom more often—and they do not interfere with sex. Any other questions or problems?

MS. KLUEMPER: I don't know what my husband will say about not eating salt.

DR. JOHNSON: I would suggest that you use a salt substitute. It can be found in supermarkets and most people can't tell the difference between regular salt and the substitute—especially when it's used in cooking. Also, your husband can salt his food at the table.

MS. KLUEMPER: Would you talk to my husband about my high blood pressure?

DR. JOHNSON: I'd be glad to talk with your husband. When can he come in?

MS. KLUEMPER: Next time I have an appointment—is that okay?

DR. JOHNSON: Sure. Do you have any other questions—or is anything else bothering you?

MS. KLUEMPER: No, not right now, but I'm sure I'll think of things when I get home.

DR. JOHNSON: Fine. If you think of some questions, be sure to write them down and bring the list with you. In the meantime, I'll write you a prescription for a water pill called Dyazide. You will need to take one every day, preferably in the morning. When do you think would be a good time for you to take your medication?

MS. KLUEMPER: Well, I could take it when I eat breakfast—if I remember.

DR. JOHNSON: That sounds fine. The important thing is trying to make taking your pill part of a habit you already have—such as eating breakfast or brushing your teeth because that will help you to remember every morning. For this first week, would a chart help you to check off every morning that you take your pill?

MS. KLUEMPER: Probably, if it's small. I could tape it on the inside of my kitchen cabinet door.

DR. JOHNSON: Good, we can try that. Then I want you to come back in one week so I can see how you're doing and check your blood pressure. You can bring your husband, and any questions you may have thought of. If you have any big problems before then, just call. Next time we can also talk a bit more about weight loss. Okay?

MS. KLUEMPER: Okay!

DR. JOHNSON: See you next week.

Discussion

DR. GARY ENSZ (*Second year family practice resident*): The obvious difference in the two examples is time. The second took longer—and that's important in an office.

MS. KLUEMPER: That's definitely true. However, one thing to consider is the investment in time over the long haul. If it avoids unnecessary office appointments, increases compliance, elicits better understanding and cooperation from the patient, and achieves better control, the time invested would be well worth it.

DR. TROY MORGAN (*Assistant Professor, Department of Family Practice*): Also, the physician isn't the only one who can do education. The nurse, lab assistant, perhaps a physician's assistant, can all help, thereby relieving some of the time constraints.

DR. JOHN GRAVES (*First year family practice resident*): I also think you must remember that you don't have to give all the information in one visit. It can be done over several visits by different people.

DR. GREG STARR (*Assistant Professor, Department of Family Practice*): I'd just like to emphasize the time issue. Although the second example did take longer, it actually only lasted about 11 or 12 minutes. We need to get comfortable with talking with patients more and grabbing the stethoscope less.

MS. KLUEMPER: That talking is especially important. Patients have a wealth of information that can be either used to help in treatment, or to interfere with therapy, especially if ignored. Unless that information is identified and discussed, you are dealing with unknowns, which can be disastrous. On the other hand, you can reinforce good information, deal with misconceptions, and channel prior knowledge.

DR. KASHINATH PATIL (*Associate Profes-*

sor, Department of Family Practice): What about the problems when the patient says, "All he did was talk, he didn't *do* anything to me." It is possible that he will go to some other physician.

DR. STARR: You've got to do both: apply the technical with the educational aspects. The other side of that concern is, "he looked at my ears and throat and listened to my heart, but he never talked to me or told me what I have," which is a more common complaint.

DR. PATIL: Yes, but couldn't it be true that unless a physician *does* something, either by a procedure or touching in some manner, the patient will not be happy and may look for another physician.

MS. KLUEMPER: I'm not suggesting that education replace examination. However, malpractice studies have shown that physicians who spend time with their patients and develop rapport have fewer suits, regardless of the outcome of the procedure or treatment.

DR. MORGAN: Patients will make up their minds as to what they want and try to find a physician to provide it.

DR. PATIL: Yes, but they are human beings and there is the consideration of money. How much will this cost the patient—and how much will it cost the physician?

DR. MORGAN: In private practice I saw 30 to 40 patients a day, provided education, and still made twice as much money as I wanted.

DR. GRAVES: The question is, were your patients happy?

DR. STARR: And were they healthy?

DR. GEORGE PRICA (*Second year family practice resident*): I think you can handle both issues by use of paraprofessionals such as nurse practitioners and physician's assistants to take care of some routine medical care as well as to provide education.

DR. RUTH DEMMEL (*Third year family practice resident*): I agree that there are time constraints, but I don't think that necessitates that physicians *not* educate. Physicians need to get into education and motivation instead of the purely clinical things they are taught now. We need paraprofessionals but I also think that if, as a physician, I want to do patient education like they did today, I should have the option—especially if I don't care about making $100,000 a year.

DR. PATIL: I agree, but there is a segment of the medical field concerned about that income, and when it comes down to it, they won't want to educate when they can see more patients in that time.

DR. GRAVES: It may not be income alone—but just concern to see as many patients as need to be seen. You may not be able to provide the best services possible, but still feel the need to see many people.

STUDENT: Yes, but there are also physicians who have the time but don't use it, and either assume the patient already knows or presume the information is too difficult for the patient to understand.

MS. KLUEMPER: True, time is always used as an excuse, yet no more patient education gets done on slow days than on busy days. It's a habit that is either developed and considered a priority—or it isn't. The aim is to get organized well enough to make health education part of the routine procedure of the office.

References

1. Green LS: Purpose of educational diagnosis and evaluation. Presented at the Evaluation in Health Education Workshop, Department of Health Education, University of Nebraska/Lincoln, February 6-7, 1978

2. Roccella CN: Potential for reducing health care costs by public and patient education. Public Health Rep 91:223, 1976

3. Spiegel CN, Laundman FC: Children can't fly: A program to prevent childhood morbidity and mortality from window falls. Am J Public Health 67:1143, 1977

4. Cobb LS, Baum RS, Alvarez H, et al: Resuscitation from out-of-hospital ventricular fibrillation: Four years to follow-up. Circulation 51, 52 (suppl 3): 223, 1971

5. Becker MH, Hoefner DP, Kasl SV, et al: Selected psychosocial models and correlates of individual health-related behaviors. Med Care 15 (suppl 5): 27, 1977

6. The Boston Women's Health Collective: Our Bodies, Ourselves. New York, Simon and Schuster, 1976

7. Sehnert KW: How to Be Your Own Doctor—Sometimes. New York, Grosset and Dunlap, 1975

8. Vickery DM, Fries JF: Take Care of Yourself: A Consumer's Guide to Medical Care. Reading, Mass, Addison-Wesley, 1976

9. Hosokawa MC: A proposed operational model for comprehensive health education in a community. Presented at the Nebraska Conference on Comprehensive Health Education, Lincoln, Nebr, October 18-20, 1977