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Orhan ODABAŞI
Melih ELÇİN
N. Bilge BAŞUSTA

RESEARCH

THE EFFICACY OF TRAINING GENERAL PRACTITIONERS FOR THE MANAGEMENT OF HYPERTENSION IN GERIATRIC PATIENTS

ABSTRACT

Introduction: The leading problem with hypertension management is low rates of patient adherence. An ample communication with the patient could be the key to successful compliance for management of chronic diseases. The aim of this study was to evaluate the effectiveness of a training program for management of hypertension in geriatric patients designed for general practitioners.

Materials and Method: During the training program, standardized patients were interviewed and the interviews were recorded and evaluated. The Hypertension Management Forms, used during the training, were sent to the general practitioners via e-mail or were completed by telephone contact about two years following the training to evaluate changes in their practices of hypertension management.

Results: The general practitioners reported that the training program positively affected their skills and attitudes towards hypertension management.

Conclusion: The training program achieved its goals and it can be implemented into the curricula of medical schools.

Key Words: Hypertension; Case Management; Geriatrics; Primary Health Care; Communication.

ARAŞTIRMA

PRATİSYEN HEKİMLER İÇİN GERİATRİK HASTALARDA HİPERTANSİYON YÖNETİM EĞİTİMİNİN ETKİLİLİĞİ

ÖZ

Giriş: Hipertansiyon tedavisindeki en önemli sorunların başında tedaviye uyumun düşüklüğü gelmektedir. Hasta ile kurulan başarılı bir iletişim, kronik hastalıkların tedavisine uyumda bir yöntem olarak kullanılabilir. Bu çalışmada pratisyen hekimler için geriatrik hastalarda hipertansiyon yönetimi konusunda düzenlenen bir kursun etkinliğinin değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntem: Kursta standart hasta ile görüşme yapmanın ve kaydedilen görüşmelerin değerlendirilmesi yapılmıştır. Kursta kullanılan Hipertansiyon Yönetimi Puanlama Yönergesi ile hekimlerin kronik hastalık tedavi süreçlerindeki değişim yaklaşık iki yıl sonra hekimlere e-posta ve telefon yoluyla sorulmuştur.

Bulgular: Kursta kazandırılması hedeflenen beceri ve tutuma ilişkin eğitim sonrası değişim yaşandığı pratisyen hekimler tarafından bildirilmiştir.

Sonuç: Kurs, eğitim ve değerlendirme açısından amaçlarına ulaşmıştır. Pratisyen hekimler için geriatrik hastalarda hipertansiyon yönetimi eğitim programları içerisine yerleştirilebilir.

Anahtar Sözcükler: Hipertansiyon; Yönetim; Geriatri; Birinci Basamak Sağlık Hizmetleri; İletişim.

İletişim *(Correspondance)*

Orhan ODABAŞI
Hacettepe Üniversitesi Tıp Fakültesi
Tıp Eğitimi ve Bilişimi Anabilim Dalı

Tlf: 0312 305 26 17
e-posta: odabasi@hacettepe.edu.tr

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Hacettepe Üniversitesi Tıp Fakültesi
Tıp Eğitimi ve Bilişimi Anabilim Dalı

INTRODUCTION

Aging, an inevitable stage of life, is accompanied by two inconvenient conditions: physiological decline and disease states. Age related anatomical and physiological changes are independent of diseases, but predispose to them (1).

It is estimated that 82 million people in the USA will be over sixty five (20% of the total population) and 19 million people will be over 85 (24% of the population over 65 years) by 2050 This is not only due to population growth but also to decreases in the causes of mortality (2).

Approximately 25% of the population in the USA has hypertension. Blood pressure is kept under control only in 27% of the hypertension patients (3,4). In Turkey, the prevalence of hypertension is 31,8% in the general population and 75,1% in the geriatric population (≥ 65 years) (67,2% of the males and 81,7% of the females) (5,6). Hypertension is directly responsible for 50-190 of every 100.000 elderly deaths in the USA. Hypertension related diseases such as stroke and ischemic heart disease cause 1,500 deaths in every 100.000 (7).

The key component for management of chronic diseases is prescribed medications. Effectiveness of medication and their long term benefits are associated with adherence to the treatment. Thirteen different prescriptions have been found to be prescribed for the elderly every year in the USA. An average American takes a mean of 2.87 different drugs a day and an elderly person takes 7-10 drugs a day (8).

Among the reasons for low adherence to the treatment are the fact that chronic diseases are lifelong and asymptomatic, patients are confused with doses and forms of drugs and not informed sufficiently, simply forget to take the drugs, do not believe in benefits of the drugs and take multiple medications, which may have toxic interactions, and that medications have high costs and that there is insufficient communication between the patients and health professionals (8-10).

In order to play effective roles in the management of chronic diseases, health professionals should be aware of the fact that hypertensive patients have low adherence to treatment. The physicians should receive appropriate training in providing counseling without any prejudices to enable them in improving patient adherence to treatment schedules (10).

Talking about life style changes with patients increases the satisfaction with the interviews of both patients and health professionals. However, it has been reported that patient satisfaction decreases in two weeks due to difficulties of changing life styles (4).

The aim of this study was to evaluate the effectiveness of a training program for physicians about hypertension management in geriatric patients. The program was directed towards improvement of attitudes and skills necessary to reveal conditions which disrupt patient compliance and to make recommendations to increase patient adherence.

MATERIALS AND METHOD

The physicians (general practitioners) conducted interviews with standardized patients, and these were recorded. The scenarios were created according to the patient behaviors mentioned in the literature for nonadherence. Table 1 show the scenarios used in the education program and their aims.

Table 1— Scenarios Used in Interviews with Standardized Patients and their Aims

Scenario I	**Using multiple drugs and forgetfulness**
Aim	To increase awareness in the fact that using multiple drugs decreases patient compliance in an elderly patient with hypertension, type 2 diabetes mellitus and dyslipidemia and to create solutions.
Scenario III	**Changes in life styles for the success of the treatment**
Aim	Convincing a noncompliant patient with uncontrolled type 2 diabetes and hypertension of both taking medication and changing his/her life-style.
Scenario III	**Giving up medication due to side-effects**
Aim	Interviewing a patient who has discontinued his antihypertensive treatment due to its side-effects, detecting the problem and informing the patient about a more appropriate medication.
Scenario IV	**Missing information in history**
Aim	To question risk factors related to coronary artery disease accompanying hypertension and administering appropriate treatment.
Scenario V	**Not accepting the diagnosis**
Aim	Informing the patient diagnosed as hypertension but not accepting the diagnosis and considering the treatment unnecessary about the disease and starting an appropriate treatment.

Five physicians from General Practitioners Association Ankara Office took the role of standardized patients. A rubric was used to guide patient-physician interviews for hypertension management and to evaluate these interviews (11). The standardized patients were trained according to the scenarios and the rubric.

The physicians were offered two training programs. The first one was held in the Training and Assessment Center in the Department of Medical Education and Informatics at Hacettepe University, Ankara, on 2 July, 2009 and the second one at the Fourteenth General Practitioners Congress in Antalya on 28 October, 2009. Thirteen and four physicians attended the first and the second training programs respectively.

Each physician conducted an interview. They were asked to take history, perform physical examinations, request laboratory investigations and plan the treatment. They were informed that the interviews would be recorded.

On the day when the interviews were completed, the recordings of the interviews based on five scenarios were watched together. The physicians working with the same scenario were asked to evaluate the interviews and provide feedback.

To reveal the effectiveness of the training program for hypertension management, the physicians were sent the questionnaire presented in Table 2 and Table 3 via e-mail and asked whether there were any changes after the training on these topics. The physicians not responding via e-mail were

Table 2— Changes in the Behaviors and Attitudes of the Physicians in Relation to Communication Skills Following the Training Program

Question	Propositions	Lack of a Change	Presence of a Change	Presence of a Considerable Change
Beginning the interview		**n**	**n**	**n**
1	Welcome the patient and ask him to sit down.	5	2	8
2	Introduce oneself and initiate the interview.	7	5	3
Gathering information		**n**	**n**	**n**
3	Summarize the history in the end, and ask if he has anything to add or correct.	7	1	7
4	Use nonmedical terms, explain the results and check whether the patient has understood it.	2	3	10
5	Listen to the patient attentively, take notes without interrupting the interview, avoid medical jargon, stop the conversation skillfully when needed.	3	2	10
Understanding the patient's perspective		**n**	**n**	**n**
6	Find out the old patient's perception of what is wrong, establish his attitudes to the problem, determine what effect the problem has on day-to-day life and relationships.	6	4	5
Explanation and planning		**n**	**n**	**n**
7	Inform the elder about the examination, perform the examination and explain the results.	5	3	7
8	Explain the reasons for the tests and how they are done, and evaluate their results.	6	3	6
9	Discuss the choices for treatment, reasons, outcomes, interactions with other treatments, side effects, and make a decision together.	4	1	10
10	Explain the expected blood pressure at the end of treatment, and probable results of neglecting treatment.	0	4	11
Ending the interview		**n**	**n**	**n**
11	Plan the following visit, provide guidance for counseling and support services that the geriatric patient is likely to receive.	2	4	9

Table 3— Changes in the Behaviors and Attitudes of the Physicians in Relation to Their Skills in Taking History Following the Training Program.

Question	Propositions	Lack of a Change	Presence of a Change	Presence of a Considerable Change
	History	**n**	**n**	**n**
12	Inquire about demographic characteristics of patients.	4	4	7
13	Ask questions about smoking, alcohol and drugs.	2	5	8
14	Inquire about eating and exercising habits.	4	5	6
15	Inquire about the current medications.	4	5	6
16	Inquire the side effects of the current medications and the time of the last doses.	4	5	6
17	Ask detailed questions about accompanying diseases, accidents, surgical interventions, allergic conditions and medications used for accompanying conditions.	2	4	9
18	Determine whether first and second degree relatives have hypertension, dyslipidemia, heart disease, diabetes mellitus or renal disease.	4	4	7
19	Reveal symptoms of systemic conditions such as snoring, sleep apnea syndrome, possible damage to the brain, eyes, heart, kidneys and peripheral arteries.	6	6	3
20	Explain the need for life style changes.	1	2	12
21	Inquire about forgetfulness, especially in elderly patients.	7	7	1

phoned and asked to provide their evaluations. Out of 17 physicians attending the training programs, 15 (88%) participated in the study.

Board of Ankara Office of General Practitioners' Association approved the study.

RESULTS

The results were presented under the headings of interview skills, taking history in hypertension patients and the physicians' opinions about the training method used.

Interviewing with the Patient

Interview skills included beginning the interview, gathering information, understanding the patient's perspective and planning, and ending the interview. **Table 2** shows the evaluations of the physicians of their communication skills.

Ten physicians mentioned changes in their attitudes towards avoiding medical terms, explaining the results of the physical examination and laboratory tests and making sure that the elder has understood it.

- *"Yes, I explain the results of laboratory investigations one by one." "I was already attentive about it; however, the training program increased my sensitivity."*

Ten physicians noted that there was a change in their attitudes towards the elders' needs to express themselves.

- *"I try to listen to them more carefully and I do my best not to direct them. However, if I don't ask questions, they don't tell anything."*

Seven physicians mentioned considerable changes in their practices of giving information about the procedure of physical examinations.

- *"I explain how I will perform the examination. I say I will touch them."*
- *"I frequently wash my hands, but I don't do it before each examination. I ask them to proceed to the examination table."*

Ten physicians reported changes in their attitudes towards explaining possible treatment options and making the most appropriate decision together with the patient.

- *"I tell the elders about possible effects and side effects of the medication I will prescribe for them, their interactions with their current treatment and decide on the most appropriate one with them."*
- *"I was already attentive about it; however, the training increased my awareness."*

Eleven physicians changed their attitudes towards explaining the expected treatment outcomes and probable consequences when the condition is not treated.

- *"I explain treatment outcomes when asked, but the explanations should not cause fear from the treatment."*
- *"It seems that explaining the outcomes may lead to fear. I tell them to take their medication regularly, and otherwise there may be undesirable outcomes."*
- *"I usually give explanations and sometimes I exaggerate it."*

Nine physicians changed their attitudes towards planning the following visits, guiding in counseling and support for geriatric patients.

- *"I tell them to see me if their symptoms do not relieve."*
- *"I usually tell them to visit me before their medication is finished if no problem arises."*
- *"After I plan their treatment, I give an appointment to the patients at my work days."*

Taking History

History taking included *inquiring about demographic characteristics; habits like smoking and alcohol, nutrition, exercising, medications, accompanying diseases, family history, forgetfulness; and lifestyle change recommendations* (Table 3).

Eight physicians mentioned a considerable change in their attitudes towards learning about elders' habits.

- *"Depending on their disease, I ask questions about their habits. I am a bit more sensitive about smoking after attending to courses for aiding in quitting smoking."*
- *"I ask how many cigarettes and how long they smoke regardless of their diseases, but my questions about drinking tea, coffee and alcohol depends on their diseases. I should admit that I don't ask whether they take drugs or not."*

Six physicians changed their attitudes towards learning geriatric patients' habits of eating and exercising.

- *"Depending on their diseases, I ask their habits of eating and exercising."*
- *"I particularly ask what they eat and warn them about salty dishes, tomato paste and olives. I recommend walking if they are overweight."*
- *"Before planning treatment, I ask questions about eating habits and whether they do exercise regularly."*

Six physicians mentioned a considerable change in their attitudes towards questioning the names of the current medications and their doses.

- *"I was already attentive about it. The training program increased my awareness."*
- *"In the emergency clinic, I ask how they used their medications if they claim that they have not benefited from the prescription."*

Six physicians experienced a considerable change in their attitudes towards inquiring about the side effects of medications and the time of the last dose.

- *"I ask whether medications have side effects when they are not used regularly."*
- *"Patients are also careful about side effects of medications. I ask about the time and amount of the last dose."*
- *"If an elder complains about a medication, we should ask about its side effects."*

Twelve physicians had a considerable change in their attitudes towards the need for a recommendation of life style change in addition to the medications.

- *"I make recommendations, which might have increased after the training program."*
- *"I recommend that they should get rid of their habits likely to affect their health, decrease calories, follow a diet, increase exercising, stop smoking and decrease consumption of tea and coffee."*
- *"My awareness in this issue increased after the program."*

Eight physicians changed their attitudes towards inquiring about forgetfulness especially in elderly patients.

- *"I particularly ask questions about it."*
- *"I check for dementia if the patient is old."*

Opinions About The Training Program

When the physicians were asked what they thought about the scenarios used in the program, their responses were as follows:

- *"Several scenarios did not seem to be real during the training program, but then I recognized that they were real life events. Actually, I was a little surprised."*
- *"One of my patients avoided using antidepressants. When I asked for the reason, I learned that her husband, a police officer, received treatment for depression and his treatment was discontinued since the treatment was considered sufficient. However, the patient didn't agree with it. She thought that the treatment failed and the drugs were of no use."*
- *"The training program helped me to allocate more time for the patient, be more careful with personal and familial history and systemic examinations."*
- *"I never thought that introducing oneself was so important and I even found it a little pretentious until I visited a gynecologist for my problem. The gynecologist didn't introduce himself and he even didn't ask my name. Then I decided not to treat patients that way."*
- *"I was an occupational physician while I attended the program and I didn't encounter elderly patients. I have been working in a neuro-geriatric hospital for the past year. Now I am happy that I attended the training program."*

Thirteen physicians agreed that the education program was useful.

- *"When I think about each item, it seems there is no change, but actually there might have been changes in my attitudes. I already realized during the course that my awareness increased."*

Thirteen physicians said that they could attend another training program on a different subject using similar methods.

- *"The methods used were effective and enjoyable. I think I will attend another program using similar methods."*
- *"I want to join new training programs."*

Discussion

All the physicians participating in the study noted that their attitudes towards explaining the targeted blood pressure values with treatment and probable consequences in the absence of treatment. In one study, it turned out that physicians mentioned about the risks of diseases in only 22.3% of the examinations. Again, they explained to the patients that hypertension caused stroke in 7.5%, cardiovascular conditions in 12.5%, heart failure in 6.7%, peripheral vessel diseases in 0.8%, kidney problems 6.7% and miscellaneous conditions in 21.7% of the examinations (4). In our study, the practitioners emphasized that the patients should not be discouraged while describing the possible risks. One practitioner said, *"It seems that talking about risks may cause fear among the elders. I recommend that they should use their medications regularly, otherwise some undesirable conditions may appear."* Another practitioner said, *"I explain the risks without discouraging the patients."*

In our study, 14 of the physicians admitted that their attitudes towards recommendation of a number of changes in life–style as well as medication changed after the training program. It has been reported in the literature that physicians mentioned at least one life-style change in 76.7% of the visits. They recommended exercise (54.2%), healthy eating (38.3%), weight loss / control (30.8%), smoking avoidance / cessation (19.2%), alcohol avoidance (15.0%), stress management (14.2%) sodium restriction (14.2%) (4).

Physicians should be able to question whether patients take the medications as they are prescribed and emphasize the use of medications regularly at each visit (4). In a study, the patients noted that their most important expectation from the physicians was to receive guidance in adherence to the treatment and that this guidance should be personalized (12). In our study, 11 of the physicians commented that their attitudes towards follow-up treatment changed.

It has been reported that frequency of doses, side effects, duration of treatment, asymptomatic nature of the disease, the high number of drugs given, cost of treatment, gender and age are the factors affecting compliance with treatment of chronic diseases (3,13-15). In addition, failure to realize changes in life-style, inability to benefit from health care services and inability to understand the severity of the disease have been defined as factors causing poor treatment outcomes (3,4,13,14,16). These factors affecting management of chronic diseases have been incorporated into case discussions and standard patient scenarios of the training programs. In our study, eleven of the physicians mentioned changes in their attitudes towards inquiring about demographic characteristics of the elders. Also, eleven of the physicians changed their attitudes towards questioning the side effects of the medications that the elderly patients used.

In a study on 33.900 outpatient clinic visits in the USA between 1997 and 2004, the quality of outpatient clinic care was investigated. The indicators for the quality were categorized into five: 1) medical management of chronic diseases 2) appropriate antibiotic use 3) preventive counseling (exercise, smoking, obesity etc.) 4) screening tests (e.g. routine blood pressure measurement) 5) inappropriate prescriptions for elderly patients (17). The same categories overlap with the aim and content of our training program. Training programs fulfilling the criteria for the quality will improve the health care services in general and for specific groups.

In our study, the training program comprised of standardized patient interviews and evaluations of these interviews. While most of the physicians participating in the study found the program useful, some of them were not comfortable with recording of the interviews. Although it has been emphasized in the literature that physicians should receive education directed towards management of chronic diseases, there have been few studies on this issue. In a study in Georgia, the education program included small group discussions and clinical practice (18). In a study in the USA, the education program directed towards a Korean Group involved role playing in addition to presentations (19). In another study in the USA including 32 internal physicians, family physicians and surgical specialist candidates and 574 patients, the role of physicians in adherence to treatment and distance and face-to-face learning methods were used to enhance knowledge and skills of treatment implementation. The content of the training program material included guidelines and life-style changes (20).

We can conclude that the training program utilized in this study can be incorporated into undergraduate curricula of

medical schools or into in-service training programs directed for physicians to improve health care services for geriatric patients. Another approach recommended for the improvement of geriatric health care services is to encourage team work and offer education to all members of the health staff including nurses, pharmacists, dieticians and social workers (2). It can be recommended that the aim, content and methods of the program used in this study should be modified for education of other members of the health team apart from physicians to improve the quality of management of chronic diseases in geriatric patients.

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