BRIEF REPORT

Physician Disclosure of Healthy Personal Behaviors Improves Credibility and Ability to Motivate

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Context: While some studies have shown that physicians with healthy personal habits are especially likely to discuss prevention with their patients, to our knowledge no one has published information testing whether physician credibility and patient motivation to adopt healthier habits are enhanced by physicians' disclosures of their own healthy behaviors.

Design: Two brief health education videos about improving diet and exercise were produced and shown to subjects (n1 = 66, n2 = 65) in an Emory University general medical clinic waiting room in Atlanta, Ga. In one video, the physician revealed an additional half minute of information about her personal healthy dietary and exercise practices and had a bike helmet and an apple visible on her desk (physician-disclosure video). In the other video, discussion of personal practices and the apple and bike helmet were not included (control video).

Results: Viewers of the physician-disclosure video considered the physician to be generally healthier, somewhat more believable, and more motivating than did viewers of the control video. They also rated this physician to be specifically more believable and motivating regarding exercise and diet ($P \leq .001$).

Conclusion: Physicians' abilities to motivate patients to adopt healthy habits can be enhanced by conveying their own healthy habits. Educational institutions should consider encouraging health professionals–in-training to practice and demonstrate healthy personal lifestyles.

Arch Fam Med. 2000;9:287-290

IN THE EFFORT to identify and encourage physicians who are more likely to counsel their patients regarding prevention, it has become increasingly clear that physicians who themselves have healthy personal habits are especially likely to discuss prevention with their patients.[1-4] In spite of such evidence, however, no one has published information testing whether patient counseling is improved by physicians' revealing their own healthy behaviors. We sought to test this question in a general medical clinic in Atlanta, Ga.

RESULTS

As given in **Table 1**, viewers of the 2 videos had well-distributed and similar characteristics regarding age, sex, ethnicity, educational level, health habits, body mass index (calculated as weight in kilograms divided by the square of height in meters), and history of heart disease. The groups differed only in smoking status, with viewers of the physician-disclosure video being somewhat more likely to have ever smoked ($P = .03$). Viewers of the physician-disclosure video considered the physician to be healthier, somewhat more believable, and more motivating, both generally and specifically, regarding both exercise and diet (**Table 2**, $P \leq .001$).

To evaluate the internal consistency of our questions, Cronbach α was calculated. For the 3 (general, diet-related, and exercise-related) questions on belief, 3 on motivation, and all 6 as a group, the Cronbach α scores were .92, .93, and .94, respectively, indicating strong internal consistency and suggesting that even fewer questions could have been used to measure believability and motivation.

COMMENT

Prior studies have shown that counseling patients about healthy personal habits may positively influence patients' health practices. For example, the literature on physician counseling and smoking cessation suggests that even a brief message during the clinical interview on the health benefits of quitting can substantially in-

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PARTICIPANTS AND METHODS

Two brief health education videos about improving diet and exercise were produced. In one video, a physician briefly mentioned her personal healthy dietary and exercise practices and had a bike helmet and an apple visible on her desk (physician-disclosure video; total length, 112 seconds), and in the other, she did not discuss her personal practices and the apple and bike helmet were not included (control video; total length, 80 seconds). In both videos, the viewer was the fictional patient being addressed by the physician, and the narrator-physician was affiliated with and wearing a white coat from Emory Clinic, the clinic where the patients were seen (although the physician was not necessarily the patient's physician).

Between November 1997 and April 1998, on variable weekday afternoons, all individuals in the waiting room of an Emory University general medical clinic were invited to "participate in a questionnaire and video session that will last less than 10 minutes." The estimated participation rate was approximately 50%, and there were no common characteristics noted for the participants who refused or common reasons for refusal. Participants were randomly assigned to view 1 of 2 videos.

Before participants watched the videos, they were given the first part of a 2-part written questionnaire. Part 1 consisted of 14 questions regarding participants' age, sex, ethnicity, education, history of heart disease, typical number of meat-free meals per week (breakfast, lunch, and dinner), weight, height, cigarette-smoking status, and exercise habits. After participants viewed their randomly assigned video, they completed the second part of the questionnaire, in which they evaluated their attitudes regarding the depicted physician's healthfulness, believability, and ability to motivate in general, and diet and exercise practices specifically.

The scripts for the videos were as follows:

I'm really glad you came in to see us today. Before you go to see your doctor, though, there are 2 things I wanted tomention to you briefly. The first one is diet. You may know that the American Heart Association recommends that adults get less than 30% of their calories from fat, and many physicians, including myself, are concerned that with the meat most folks eat, they get a lot more fat than they should in their diets. So, if you're not doing this already, I'd really like to encourage you to consider usually not having meat for breakfast, and having no meats for lunch or dinner at least half the time. That's usually a good simple place to start and very much in line with national recommendations. (Physician-disclosure video addendum: You know, I've made changes like that in my diet, and, although it was tough at first to cut down on the meat I ate myself, I really feel so much better. I'm always happy to use some of my experiences in that way to help patients get over the barriers to improving their diet.) So, if you're willing, why don't you give it a try and then you can talk with your doctor about it and about how you're doing with it the next time you come in. The other thing I wanted to mention to you is exercise. Again, the recommendation is at least 20 minutes of fairly vigorous exercise at least 3 times a week, or longer exercise periods if you aren't ready to exercise vigorously. (Physician-disclosure video addendum: Again, as you can see from my bike helmet, I ride my bike to work, and I use the stairs and walk to the store whenever I can. Again, I like to use my personal experiences to help patients find ways to fit exercise in, because I know it can be tough to figure out how to incorporate exercise into your routine.) Anyway, I don't want to throw too much at you all at once, so why don't you think about what kinds of exercise you might want to try and you can discuss it with your physician next time. I think you'll find, though, that these kinds of changes in diet and exercise can help keep you really healthy.

The data were analyzed using SAS statistical software (SAS Institute Inc, Cary, NC). Means were compared using the *t* test, and categorical variables were tested for association with the video viewed using the χ^2 test.

crease patients' likelihood to quit[5]; there is similar information to support the effectiveness of brief counseling regarding alcohol abuse.[6] Importantly, however, it has also been shown in a variety of situations that it is not simply the primary message that is important, but the way in which these messages are delivered that affects the likelihood that a patient will comply.[5,7-10] Patient satisfaction, an important determinant of compliance,[11] has been shown to vary with factors such as amount of time spent on the clinical encounter, amount of information given, technical performance, interpersonal style, and professional dress and attire.[7-9,12,13] In fact, psychosocial variables may be even more important determinants of patient satisfaction than actual functional outcomes.[9] Clearly, physicians' attributes and behaviors, in addition to their technical skill and expertise, may profoundly affect patients' responses to them. In particular, we confirmed our hypothesis that physicians' disclosures of their own healthy personal habits might enhance counseling effectiveness by motivating patients to consider adopting healthy habits.

Several psychological studies examining self-disclosure in experimental settings found that subjects' performances are greatly affected by the experimenters' attributes and behaviors.[14] One study examined the ways and extent to which subjects would follow experimenters' examples of self-disclosure. They found that after the experimenter disclosed information about herself, subjects disclosed more about themselves than they initially anticipated, and that the length of time subjects spent on self-disclosure varied directly with the time spent by the investigator on self-disclosure.[15] Additional research has found that disclosure by one partner in a dyadic relationship increases the likelihood that the other partner will also disclose information.[14] In addition, another study has shown that mutual self-disclosure between experimenter and subject prior to a learning task results in substantially increased task performance.[14] Such studies demonstrate a modeling effect that may also exist between physicians and patients, which may be particularly valuable when physicians disclose information about their personal health habits.

We have shown that physicians' disclosures of their own healthy habits can enhance more traditional counseling and, to our knowledge no other published studies have tested whether physicians with overtly

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Table 1. Characteristics of Participants

Characteristic	Control Video (N = 66)	Physician-Disclosure Video (N = 65)	P
Age, mean (range), y	47 (22-98)	46 (19-90)	.67
Male sex, %	61	48	.14
Ethnicity, %*			
White	62	59	
African American	23	23	.96
Other	15	17	
Education level attained, %			
Less than high school	10	16	
High school graduate	16	21	
Some college	31	26	.40
College graduate	25	28	
Graduate or professional school	18	8	
History of heart disease, %	20	19	.89
No. of meat-free meals per week, mean†			
Breakfast	4.9	5.0	.89
Lunch	3.5	3.2	.45
Supper	2.9	2.5	.17
Total	**11.3**	**10.8**	.50
Body mass index, mean (25th percentile, 75th percentile)	23.4 (21.7, 25.1)	23.8 (20.9, 26.1)	.41
Smoking status, %			
Never	52	29	
Not currently	35	49	.03
Currently	14	22	
Exercises, %	72	72	.96

*Numbers may not add up to 100% because of rounding.
†Totals may not be exact because of rounding.

healthy personal practices are better advocates for patients adopting such habits than are physicians who do not demonstrate healthy personal practices. Viewers found that a physician revealing her personal healthy choices was more believable and more motivating. Limitations of this study include (1) having only 1 nonblinded, female physician who the patient may not have known perform both roles, and (2) using a videotape rather than having the patient's actual physician do the counseling. Furthermore, this physician was actually able to cite surmounted barriers and current healthy practices; this will not be true for all physicians in all situations. However, physicians do tend to have many behaviors that are healthier than those of the general population,[16-20] and certainly many physicians could select at least some behaviors (eg, tobacco use, with smoking rates at less than 4% of the general population for male[17] and female[16,17] physicians) for which they could discuss how they made healthy choices. Such an approach, coupled with the finding that physicians with healthy personal practices are more likely to discuss prevention with their patients,[1-4] suggests that educational institutions might encourage health professionals–in-training to practice and demonstrate healthy personal lifestyles.

Accepted for publication June 2, 1999.

We thank Loren Friedman for data collection, Dorothy Fitzmaurice for guidance, and Rebekah Johnson for help with preparation of the manuscript.

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Table 2. Participants' Ratings of Physician Based on Video Watched

Question	Likert Scale Rating,* % 1-2	3-4	5-6	7-8	9-10	P†
How healthy did you think the doctor in the video seemed?						
Control	3	21	42	32	2	.001
Physician-disclosure	0	5	30	55	11	
How much did you believe what the doctor in the video told you?						
Control	0	8	32	52	9	.11
Physician-disclosure	0	2	26	51	22	
How much did the doctor in the video motivate or encourage you to have healthy habits?						
Control	0	6	52	41	2	.001
Physician-disclosure	0	3	26	49	22	
How much did you believe what the doctor told you about diet in the video?						
Control	2	8	41	45	5	.006
Physician-disclosure	0	2	25	54	20	
How much did the doctor in the video motivate or encourage you to have a healthy diet?						
Control	0	6	47	42	5	.006
Physician-disclosure	2	6	25	46	22	
How much did you believe what the doctor told you about exercise in the video?						
Control	0	8	39	45	8	.002
Physician-disclosure	0	0	22	54	25	
How much did the doctor in the video motivate or encourage you to exercise?						
Control	0	8	44	47	2	.001
Physician-disclosure	0	6	25	46	23	

*On the Likert scale, 1 to 2 indicates not very healthy or not at all; 3 to 4, somewhat healthy or not very much; 5 to 6, healthy or somewhat; 7 to 8, very healthy or very much; and 9 to 10, extremely healthy or extremely.
†Fisher exact test.

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Author's Comment

This article helps to complete a puzzle. In a previous study, we showed that physicians who themselves have healthy personal habits are more likely to counsel their patients about prevention. But the question remained, "What does this mean for the patient?" Might it be the case that physicians who exercise and have healthy eating habits not only counsel more about diet and exercise, but also appear more credible or motivating when they do so, because of their personal experiences? This was indeed the case, as the article shows. This makes an even more powerful argument for physicians to practice healthy personal habits.

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