Physician Communication Behaviors that Predict Patient Trust in Outpatient Departments

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Abstract. This study aimed to provide a reliable instrument for evaluating the physicians' communication behaviors and to find out what communication behaviors could elicit patient trust. Questionnaires were distributed to patients and they were asked to evaluate the physician's communication behaviors he/she just visited and his/her level of trust in the physician. Through factor analysis, a three-factor physician communication behavior scale with good internal consistency was provided. The three factors were respect and caring, competence and thoroughness, patience and honesty. Through correlation analysis, all the behaviors identified in the scale were significantly associated with patient trust. Physicians' behaviors related to competence and thoroughness were regarded as most important to patient trust. Privacy, eye contact and necessary tests and procedures were not considered very important. Moreover, within different gender groups and age groups, patients' opinions about what behaviors had the strongest (least) association with patient trust were a little bit different.

Keywords: Physician-patient relationship · Physician communication behavior · Patient trust · Scale

1 Introduction

In recent years, the strained relationship between physicians and patients and the frequent medical disputes have become a common problem in Chinese society. With the reform of the health care system, the problem has not yet been well solved. Actually, the physician-patient relationship is probably one of the most complex interpersonal relationships (Ong et al., 1995). The physicians and patients are often in non-equal positions, deal with issues of vital importance, are therefore emotionally laden and in need for close cooperation (Chaitchik et al., 1992). Patient trust is a key feature in physician-patient relationship, with potential benefits such as increased satisfaction, adherence to treatment, and continuity of care (Thom et al., 1999). Communication is the tool by which physicians and patients exchange information in the health care process (Street, 1991). Good communication behaviors can increase the patient trust in the physician (Thom, 2001). Then here comes the question that what

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communication behaviors are "good" enough to elicit patient trust? Most previous studies focused on either communication behaviors or patient trust, which did not involve the association between them. Several studies did focus on the rapport between communication behaviors and patient trust. Take the Stanford Trust Study (Thom, 2001) as an example. It provided a physician behavior scale and assessed the relative strength of the associations between physician behaviors and patient trust. The reliability of the physician behavior scale, however, is unknown. What's more, the research subjects in Stanford Trust Study were American individuals, and the conclusions might not be fully applicable for Chinese due to the difference in population, medical policy, medical institution, medical insurance, etc.

The objective of this study was to provide a reliable physician communication behavior scale, and to find out what physician communication behaviors have an impact on patient trust.

2 Literature Review

2.1 Physician Communication Behavior

Communication was defined as "the transmission of information, thoughts, and feelings so that they are satisfactorily received and understood" (Gerteis et al., 1993). Effective communication is beneficial to enhance patient trust, establish positive relationship and improve the patient's health care (Fong Ha and Longnecker, 2010). The purposes of communication were creating a good interpersonal relationship, exchanging information and making treatment related decisions (Ong et al., 1995).

Physician communication behaviors can be categorized as *(a) instrumental (task focused) or affective (emotion focused)*, in which instrumental communication behaviors include asking questions, giving information, providing treatment, counselling, etc. and affective communication behaviors include showing concern, giving reassurance, encouraging, etc. (Buller et al., 1987) *(b) verbal or nonverbal*, in which nonverbal communication behaviors include tone of voice, gaze, posture, expressions, etc. (Ong et al., 1995) *(c) high controlling or low controlling*, in which high controlling communication behaviors include dominating conversations, being very argumentative, constantly making gestures when communicating, etc. (Ong et al., 1995) *(d) private or non-private*, indicating how private the conversation between the physician and the patient is. *(e) medical or everyday language vocabulary*, indicating the extent to which a physician switches between medical and everyday language to maximize the communicative effectiveness.

Using focus groups, Thom and Compbell (1997) identified seven categories of physician communication behaviors related to patient trust, which were thoroughness in evaluation, communicating clearly and completely, providing appropriate and effective treatment, understanding patient's experience, expressing caring, building partnership and demonstrating honesty and respect.

The American Board of International Medicine (ABIM) developed a 25-item Physician Humanistic Behaviors Questionnaire (PHBQ) as an instrument for patients to assess the humanistic behaviors of their physicians (Weaver et al., 1993). Most items in

PHBQ can be partitioned into the seven categories identified by Thom and Compbell (Thom and Campbell 1997). For example, the item “including me in decisions and choices about my care” in PHBQ belongs to the category of “building partnership”, and the item “asking me how I feel about my problem” belongs to the category of “expressing caring”. Although the ABIM provided a useful instrument to evaluate physician humanistic behavior, it didn’t build the rapport between physician behaviors and patient trust.

2.2 Patient Trust

Trust can be viewed as an expectation about the behavior of others in transactions (Lewicki and Bunker, 1995). Patient trust is the degree of confidence that his/her physician will work towards the best health outcome for him/her (Bambino, 2006). Leisen and Hyman (2004) pointed out that patient trust was essential to successful medical care. Several scholars have put forward instruments to evaluate patient trust in the physician (such as Anderson and Dedrick et al., 1990; Safran, 1998; Kao et al., 1998; Hall et al., 2002). These instruments were compared in terms of content, number of items, sample size, mean, standard deviation, reliability and Kurtosis/skewness in Hall’s study(Hall et al., 2002), which was not detailed in this paper.

Among these instruments, the 10-item Kao’s trust scale (Kao et al., 1998) and the 10-item Wake Forest trust scale (Hall et al., 2002) had good internal consistencies. Several items in Kao’s trust scale, however, were not applicable for Chinese individuals. Take the item “to keep your health and well-being above keeping down the health plan’s cost” for instance. With the health care reform in the United States, most Americans, including working families and small businesses, have health insurance or are eligible to have health insurance, meaning that they only afford a very small portion of medical cost. Thus, what they care about is whether the physician will put their medical needs above the consideration of health plan’s cost. In China, however, many people have to pay a relative large portion of their medical cost. They cares more about how much they should pay for the medical treatment instead of the concern on keeping down the health plan’s cost. Since the items in Wake Forest’s trust scale seem applicable for Chinese individual, it was used in this study.

2.3 The Relationship Between Communication and Trust

The Stanford Trust Study (Thom, 2001) is famous for its focusing on the association of physician communication behaviors and patient trust. Patients from 20 family physicians rated physician behaviors and their trust in physicians (Anderson and Dedrick et al., 1990) after their visits. The five physician communication behaviors most strongly associated with patient trust were being comforting and caring, demonstrating competency, encouraging and answering questions, explaining what they were doing and referring to a specialist if needed (Thom, 2001). Still, the conclusions in this study might not be suitable for Chinese patients. In the United States, the patient often first goes to the family physician for medical care who is capable of most common diseases. When needed, the patient will be recommended to a specialist. Whereas in China, most

patients go to the hospital directly for a specialist. Therefore, the physician behavior of referring to a specialist when needed might not be what Chinese individuals care about.

Other studies adopted various methods such as discourse analysis through the analysis of videotapes at the hospital (Manning and Ray, 2002) and trust survey with each item gauging patient's perception of a specific physician communication behavior (Bambino, 2006), but didn't measure the relationship between communication and trust.

3 Methodology

Questionnaires were distributed to obtain the patient's evaluation on the physician's behaviors and his/her trust in the physician he/she has just visited. To examine the structure of the physician communication behavior scale, the factor analysis was carried out. To find out what physician communication behaviors influence patient trust, correlation analyses were conducted.

3.1 Questionnaire Construction

The questionnaire was composed of three parts: demographic information, physician communication behavior scale and patient trust scale.

The demographic information included the subject's gender, age, education background, health status and whether living in Beijing. For the second part, 25 items indicating physician communication behaviors were adapted from existing studies—ten items adapted from the PHBQ, four from the Stanford Trust Study, three from Safran's, one from Anderson and Dedrick's, one from Kao's, and the other six from brainstorm with partners. The subjects were asked to rate each item on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). For the third part, the 10-item Wake Forest trust scale was adopted and the subjects rated each item on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The average score of the 10 items was computed as the measure of patient trust in the physician he/she just visited. The paper-based questionnaire was used in this survey.

3.2 Subject and Data Collection

For the sample size, since a factor analysis would be conducted for the 25-item physician communication behavior scale, a subject-to-item ratio larger than 5 would be acceptable (Gorsuch, 1983). In this study, 220 subjects were recruited from the waiting room of pharmacies in Peking Union Medical College Hospital and Peking University Third Hospital. Most patients in the waiting room of the pharmacy had just finished seeing a physician and were waiting to take medicine. The subject was firstly asked whether he/she had just visited a physician. The one whose answer was yes was given a questionnaire to evaluate the physician's communication behaviors and his/her trust in the physician he/she just visited.

207 of the 220 questionnaires were valid. The demographic information of the 207 subjects were summarized in Table 1. There were 93 male and 114 female subjects. Their mean age was 43.6 with the standard deviation (SD) 15.89. The youngest subject was 14 years old and the oldest one was 82 years old. 11.6% subjects had junior high school or below education, 18.0% had senior high school education, 55.3% had bachelor degrees and 15.0% had master or PhD degrees. 85.0% subjects thought his/her health status was not very good. 82.0% subjects lived in Beijing while the others didn't.

Table 1. Demographic information of subjects

Item	Level	Number	Percentage
Gender	Male	93	44.9%
	Female	114	55.1%
Age	Age<=45	119	57.5%
	Age>45	88	42.5%
Education level	Junior high school or below	24	11.6%
	Senior high school	37	18.0%
	Bachelor degree	114	55.3%
	Master or PhD degree	31	15.0%
Health status	Very good	31	15.0%
	Good	84	40.8%
	General	81	39.3%
	Poor	10	4.9%
	Very poor	0	0.0%
Whether living in Beijing	Yes	169	82.0%
	No	37	18.0%

4 Data Analysis

4.1 Descriptive Statistics

The average score for most physician communication behaviors was between 3.50 and 4.00, with the negative items reversely coded. Among all the physician communication behaviors, the item with highest mean score was "asking questions about my symptoms thoroughly" and the item with lowest mean score was "being in a hurry". The average score of patient trust was 3.76 with SD of 1.00.

4.2 Factor Analysis

Exploratory factor analysis was carried out to examine the structure of the physician communication behavior scale. The Kaiser-Meyer-Olkin (KMO) measure was 0.942 and the Bartlett's test had the p-value less than 0.001, both indicating that factor analysis was proper. The extraction method was principal component analysis and

factors with eigenvalue above 1.0 was extracted. The rotation method was Varimax rotation and a threshold of 0.50 loading was used when an item belonged to one factor. Item 13 (using terms I can understand, instead of many medical vocabularies) was excluded with a maximum loading of 0.305. A model with 24 items categorized into three factors was the best one. The loadings for each item to each factor were listed in Table 2. The three factors accounted for 62.4% of the total variance. The factors were named as respect and caring, competence and thoroughness, patience and honesty.

Table 2. Results of the factor analysis

No.	Item	Factors		
		Respect and caring	Competence and thoroughness	Patience and honesty
15	Comforting or reassure me and my family	0.820	0.284	0.145
14	Expressing concern for my feelings and needs, not just my physical status	0.793	0.321	0.233
16	Encouraging me (that everything will be fine)	0.754	0.357	0.112
21	Discussing options for my treatment	0.745	0.261	0.155
19	Encouraging me to ask questions	0.712	0.312	0.192
22	Asking for my opinions about which options to take	0.686	0.242	0.197
23	Explaining why he/she recommends one treatment over another	0.671	0.414	0.137
13	Greeting me warmly	0.636	0.361	0.260
27	Looking in eye when I talk	0.582	0.217	0.196
20	Answering my questions clearly	0.506	0.454	0.374
9	Telling the expected effects of my treatment	0.416	0.717	0.062
6	Asking questions about my symptoms thoroughly	0.307	0.703	0.333
7	Explaining my problems in detail	0.385	0.664	0.309
24	Telling me the truth about my health, even if there were bad news	0.323	0.656	0.178
8	Asking me to perform necessary tests and procedures	0.261	0.634	0.020
10	Explaining side-effects of my treatments	0.467	0.626	0.075
30	Arranging for adequate privacy when examining or talking to me	0.176	0.614	0.201
29	Putting my medical needs above all other considerations	0.325	0.604	0.372
11	Listening patiently to my problems, worries and concerns	0.420	0.550	0.459
28	Being short-tempered or abrupt with me or my family	0.088	0.206	0.810
26	Trying to hide the mistake he/she has made in my treatment from me	0.134	0.159	0.806
25	Pretending to know things when he/she is really not sure	0.096	0.253	0.749
12	Making uncaring remarks	0.243	0.033	0.699
17	Being in a hurry	0.256	0.125	0.666

The internal consistency (Cronbach's alpha) within each factor was listed in Table 3. The overall internal consistency was 0.950, indicating the physician communication behavior scale was reliable. Moreover, the Cronbach's alpha for the Wake Forest's trust scale was 0.908, also indicating good internal consistency.

Table 3. Factors with corresponding percentage of variance explained and internal consistency

Factors	Initial eigenvalue	% of variance after rotation	Cumulative % after rotation	Cronbach's alpha
Respect and caring	11.580	48.250	48.250	0.932
Competence and thoroughness	2.200	9.168	57.417	0.912
Patience and honesty	1.197	4.987	62.404	0.833

4.3 Correlation Analysis

In order to find out what physician behaviors had an impact on the patient trust, the correlation analysis using Pearson coefficient was conducted for each specific physician communication behavior and patient trust. The results were shown in Table 4. At the 95% confidence level, all the behaviors significantly influenced patient trust ($p<0.001$). The five behaviors most strongly associated with patient trust were listening patiently to my problems, worries and concerns, answering my questions clearly, explaining my problems in detail, asking questions about my symptoms thoroughly and greeting my warmly. According to the factor analysis results, three of the five behaviors belonged to the factor "competence and thoroughness" and the other two belonged to the factor "respect and caring". It seemed that patients attached the greatest importance to physician's competence and thoroughness in evaluation. Physician's respect and caring was also most important for patients to build trust. The five behaviors least strongly associated with patient trust were explaining side-effects of my treatments, looking in eye when I talk, making uncaring remarks, asking me to perform necessary tests and procedures, and arranging for adequate privacy when examining or talking to me. Patients did not seem to care about their privacy that much. It was a little bit surprising that eye contact and necessary tests and procedures weren't attached great importance to patient trust. Possible reasons would be discussed in the next part.

Did men and women take the same view about what behaviors elicit patient trust? The Pearson correlation was carried out for the male and female groups. The five communication behaviors that were most and least strongly associated with patient trust were listed in Tables 5 and 6. For the male group, physician's behavior of comforting or reassuring me and my family and encouraging me were among the top five behaviors associated with trust. For the female group, on the contrast, physician's behavior of discussing options for my treatment was regarded as important. Men seemed to need more caring, comfort and encouragement than women, while women seemed to be more rational than men. Possible explanations would be discussed in the next part.

Table 4. Pearson correlation between physician communication behavior and patient trust

Physician communication behavior	Pearson coefficient	P-value
Listening patiently to my problems, worries and concerns	0.746	<0.001
Answering my questions clearly	0.711	<0.001
Explaining my problems in detail	0.663	<0.001
Asking questions about my symptoms thoroughly	0.650	<0.001
Greeting me warmly	0.639	<0.001
Comforting or reassure me and my family	0.639	<0.001
Expressing concern for my feelings and needs, not just my physical status	0.637	<0.001
Discussing options for my treatment	0.619	<0.001
Explaining why he/she recommends one treatment over another	0.612	<0.001
Putting my medical needs above all other considerations	0.610	<0.001
Telling me the truth about my health, even if there were bad news	0.605	<0.001
Encouraging me (that everything will be fine)	0.602	<0.001
Telling the expected effects of my treatment	0.585	<0.001
Trying to hide the mistake he/she has made in my treatment from me[1]	0.584	<0.001
Encouraging me to ask questions	0.578	<0.001
Pretending to know things when he/she is really not sure	0.558	<0.001
Asking for my opinions about which options to take	0.555	<0.001
Being short-tempered or abrupt with me or my family	0.549	<0.001
Being in a hurry	0.528	<0.001
Explaining side-effects of my treatments	0.524	<0.001
Looking in eye when I talk	0.517	<0.001
Making uncaring remarks	0.508	<0.001
Asking me to perform necessary tests and procedures	0.429	<0.001
Arranging for adequate privacy when examining or talking to me	0.397	<0.001

[1]The negative item was coded reversely so that its Pearson coefficient was nonnegative.

Would patients with different ages take the same view about physician behaviors that elicit trust? The correlation analysis was conducted for younger (age<=45) and older (age>45) groups. The top and last five behaviors associated with patient trust were listed in Tables 5 and 6. Younger patients seemed to need more concerns about their feelings, not just their physical status. For older patients, telling them the truth about their health was important, even if there were bad news. Hiding the true health condition would make older people less likely to trust the physician. Another difference between younger and older groups was the behavior of putting medical needs above all other considerations. This behavior was in the top five for older group but in the last five for younger group. Older patients seemed to value their health very much and

Table 5. Five behaviors most strongly associated with patient trust for differenct subgroups

Subgroup	Physcian communication behaviors
Male	Listening patiently to my problems, worries and concerns
	Answering my questions clearly
	Comforting or reassuring me and my family
	Encouraging me (that everything will be fine)
	Explaining why he/she recommends one treatment over another
Female	Listening patiently to my problems, worries and concerns
	Answering my questions clearly
	Explaining my problems in detail
	Asking questions about my symptoms thoroughly
	Discussing options for my treatment
Younger (age<=45)	Listening patiently to my problems, worries and concerns
	Answering my questions clearly
	Explaining my problems in detail
	Comforting or reassure me and my family
	Expressing concern for my feelings and needs, not just my physical status
Older (age>45)	Listening patiently to my problems, worries and concerns
	Putting my medical needs above all other considerations
	Answering my questions clearly
	Telling me the truth about my health, even if there were bad news
	Asking questions about my symptoms thoroughly

extremely care about whether they can be cured, so they wanted their medical needs to be firstly considered. Younger patients did care about their medical needs since the behavior was significantly associated with patient trust. Besides the medical needs, in contrast with older ones, younger patients also had other concerns such as convenience, cost and side effects.

5 Discussion

Each specific behavior identified in the physician communication behavior scale was assessed to be significantly associated with patient trust. The behaviors indicating physician's competence and thoroughness were regarded as most important to enhance patient trust in the physician. The physician should listen to the patient's problems patiently, ask questions about symptoms and explain the problems in detail. Physician's caring and respect was also important for patients to build trust. A simple greeting would make the patient feel at ease and become more confident in his/her doctor.

According to the correlation analysis result, eye contact wasn't that important for trust, which was contrary to some previous studies on nonverbal behaviors (such as Griffith et al., 2003). In China, hospitals are often crowded with people. The outpatient

Table 6. Five behaviors least strongly associated with patient trust for differenct subgroups

Subgroup	Physcian communication behaviors
Male	Making uncaring remarks.
	Being in a hurry.
	Looking in eye when I talk.
	Asking me to perform necessary tests and procedures
	Arranging for adequate privacy when examining or talking to me.
Female	Pretending to know things when he/she is really not sure.
	Being short-tempered or abrupt with me or my family.
	Making uncaring remarks.
	Asking me to perform necessary tests and procedures
	Arranging for adequate privacy when examining or talking to me.
Younger (age<=45)	Putting my medical needs above all other considerations.
	Being in a hurry.
	Making uncaring remarks.
	Asking me to perform necessary tests and procedures
	Arranging for adequate privacy when examining or talking to me.
Older (age>45)	Telling the expected effects of my treatment.
	Explaining side-effects of my treatments
	Arranging for adequate privacy when examining or talking to me.
	Looking in eye when I talk.
	Asking me to perform necessary tests and procedures

amounts in both Peking Union Medical College Hospital and Peking University Third Hospital are over ten thousand a day. Often a physician has to finish seeing a patient within several minutes. This way, it may be acceptable for the patient if his/her doctor is busy inquiring symptoms and making prescriptions without much eye contact with him/her. Moreover, a previous study on nonverbal behavior and patient satisfaction showed that increased eye contact might lead to decreased satisfaction (Larsen and Smith, 1981), indicating eye contact might not be that necessary to build trust.

Another surprising result was that the physician behavior of asking me to perform necessary tests and procedures was not strongly associated with patient trust. During the interview, some patients said that his/her physician made prescriptions without asking them to perform any medical test and was perfunctory. Other patients said that his/her physician asked them to perform unnecessary tests just for his/her own benefit. It seems reasonable since in China many people have to pay a large portion of their medical costs and are not willing to waste money on those "unnecessary" tests. Whereas in the US in which most people owes high proportion of health insurances, what they care about is whether the physician asks them to perform necessary tests regardless of the health plan's cost.

As for the two gender groups, men seemed to need more comfort and encouragement than women. Men are always regarded as rational and strong, and how would they need more caring than women? A population-based study of spinal pain once found that when pain was at its worst, men took sick leave whereas women sought

health care (Linton, Hellsing and Halldén, 1998). Despite often acting as the breadwinner, men are likely to become fragile when sick and need to be reassured. One cannot be strong or fragile all the time, no matter men or women.

Older people seemed to value their health more than younger ones. They wanted their medical needs to be firstly considered and would like to know the truth about their health status, even if there were bad news. Older people in this study were defined as those with ages above 45, which was the same as in Stanford Trust Study (Thom et al., 2001). Due to the relative small sample size of elder patients who were 65 years old or above, how elder adults associate physician communication behaviors with trust cannot be specified, which is a limitation of this study.

Another limitation of the study is in the design of the physician communication scale. In factor analysis, those negative items in the scale, though reversely coded, all belonged to one single factor called patience and honesty. Possible reason may be that the subjects could not switch freely between positive and negative items and tended to be a little conservative while rating the negative items.

In future studies, the Kano model developed by Noriaki Kano (1984) may be applied in health care and physician communication behaviors could be categorized as must-be, one-dimensional or attractive for patients to build trust. The must-be behaviors are basic and acting these behaviors will only lead to "not distrustful". For one-dimensional behaviors, patients' level of trust is proportional to the level of the behavior fulfillment. The higher level of fulfillment, the higher level of trust. For attractive behaviors, if fulfilled, patients' trust will increased and if not, patients' level of trust will not be lowered. Future studies can be conducted on finding what communication behaviors are must-be, one-dimensional or attractive, which can be used in physician communication training process.

6 Conclusion

Firstly, this study provided a reliable physician communication behavior scale which can be adopted for patients to assess the physician's communication behaviors he/she visited. The behaviors were categorized into three factors—respect and caring, competence and thoroughness, patience and honesty. Secondly, this study found out what behaviors could elicit patient trust and analyzed the relative strength of the associations between each specific communication behavior and patient trust. Since all the behaviors identified in the scale were significantly associated with patient trust, it will be better for physicians to fulfill as many of them as possible to enhance patient trust. Specifically,

- Physicians' competence and thoroughness was regarded as most important for patients to build trust. Physicians should take time to listen to the patient's problems patiently, ask questions about symptoms and explain the problems in detail.
- Men seemed to need more caring than women when sick. Giving a male patient some encouragement and comfort does not seem like a bad idea. Women were likely to be more rational when discussing about her treatment. Providing some options and giving detailed explanations may be a good way for a female patient to establish trust.

- Older people valued their health very much. While seeing an older patient, it will be better for the physician to put the patient's medical needs above all other considerations.

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