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## Gender Differences in Gynecologist Communication

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### ABSTRACT.

The intimate nature of gynecological health problems requires the physician's specific attention. On the basis of previous findings in primary care, female gynecologists are expected to communicate more affectively than men. This study addressed gender differences in gynecologist communication behavior by comparing videotapes of real-life outpatient encounters with female (N = 107) and male (N = 196) gynecologists by means of bivariate and multilevel analysis. Only a few gender differences were found: female gynecologists performed longer physical examinations, showed more global attentiveness, and asked fewer medical questions. Either the duration of the medical education or the type of statistical analysis may account for this lack of gender differences. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: [getinfo@haworthpressinc.com](mailto:getinfo@haworthpressinc.com) Website: <http://www.haworthpressinc.com> ]*

### INTRODUCTION

Patients are known to value the quality of physicians' communication behavior--more specifically, their level of empathy and support (Bensing, 1991; Bertakis et al., 1991; Delgado et al., 1993). Gynecological encounters are especially relevant here because of the topic of conversation (i.e., female reproduction and sexuality) and the nature of the physical examination (usually pelvic). As most patients feel uncomfortable and embarrassed during a gynecological examination (Pettravage et al., 1979; Salter, 1985; Wijma & Areskog-Wijma, 1987), the way in which the examination is performed requires specific attention. Perhaps, female gynecologists' familiarity with the female body facilitates talking about such delicate issues. Indeed, 20-56% of women patients report an explicit preference for a female physician for women's health problems (Haar et al., 1975; Pettravage et al., 1979; Nichols, 1987; van den Brink-Muinen, 1997; Kerssens et al., 1997). In addition, at least in primary care, female physicians are more frequently confronted with gynecological problems than their male colleagues (Bensing et al., 1993).

Patients cite as most important reasons for their preference that they feel more at ease when a gynecological examination is done by a female physician and believe female physicians take more time (Haar et al., 1975; Kerssens et al., 1997). A recent study shows that in encounters which include a gynecological examination patients perceive female physicians as more attentive and informative (van Elderen et al., 1998).

However, like most studies of gender differences in physician consulting style with respect to gynecological issues, the latter study was conducted in primary care. In addition, data were derived from a questionnaire. Although various aspects of male gynecologists' communication behavior have been explored (e.g., Weijts, 1993), so far insight is lacking into *gender differences*

in gynecologists' *actual* communication behavior. Yet, it seems worthwhile to examine this since the number of women who decide to become gynecologists is rapidly increasing; at this moment, 64% of Dutch residents-in-gynecology are women (van der Velden et al., 1997). If gender differences previously found in primary care visits (i.e., longer, more empathic and more informative visits with female physicians [Meeuwesen et al., 1991; Roter et al., 1991; Hall et al., 1994; Bensing et al., 1993; van den Brink-Muinen, 1996; Bernzweig et al., 1997]) can be replicated in gynecology, the length and content of gynecological surgery hours may be expected to change dramatically.

It is, however, unpredictable whether such gender differences will be found, because there are indications that after so many years of medical education, female gynecologists' communication style more and more resembles that of their male colleagues (Lyon, 1997; Mattila-Lindy, 1997).

There are only a few studies (e.g., van den Brink-Muinen 1996) that investigate gender differences in physician communication behavior properly, i.e., using multi-level analysis instead of relying exclusively on bivariate analysis.

Do gender differences found previously hold using the more appropriate multi-level analysis? This paper addresses gender issues by means of three research questions: 1. Does the length of gynecological outpatient encounters differ by gynecologists' gender? 2. Do female and male gynecologists communicate differently in a verbal or nonverbal way? 3. Are bivariately obtained gender differences different from multivariately obtained ones?

## **METHODS**

As part of a larger study investigating the effects of communication training on gynecologists' interpersonal communication skills (van Dulmen, 1999), 21 gynecologists (13 men and 8 women) were videotaped in a number of outpatient encounters. For privacy reasons, the physical examinations were videotaped with a covered lens. Ten men and 3 women were consultants, the others were residents in gynecology. In this paper we confine ourselves to gynecologist communication behaviors; patient communication is dealt with in a related paper (van Dulmen, 1999).

In the Netherlands, in contradistinction to the US, a gynecologist is a consulting physician doing disease-specific encounters and a member of a hospital staff. Patients can visit a gynecologist only after being referred by their family physician. In this paper, we dichotomized the reasons for coming into pregnancy supervisions (obstetric patients) or no pregnancy supervisions (gynecological patients), to reduce

their heterogeneity. Contrary to other countries, this does not mean that we had a group of ill gynecological patients, and a group of healthy pregnant women. Dutch pregnant women visit a gynecologist only when there is a medical reason to do so. Otherwise, women go to a midwife for periodic controls. So a pregnant woman visiting a gynecologist must be considered as a more or less ill patient.

### **Analysis of Communication**

Gynecologist verbal and nonverbal communication was measured by four independent raters directly from the videorecordings using the CAMERA computer system, which is especially designed for processing behavioral interactions from videorecordings (van der Vlugt et al., 1992).

#### *Verbal Behavior.*

The verbal communication process was analyzed using an adjusted version of the Roter Interaction Analysis System (RIAS), which is specially designed to code both doctor and patient communication (Roter, 1989). Each verbal utterance can be assigned to one of sixteen mutually exclusive categories--nine instrumental or task-related and seven affective or socio-emotional categories (Bensing, 1991; van Dulmen et al., 1997). Instrumental categories refer to those communication aspects which primarily focus on solving problems, such as giving information, asking questions, and counseling in medical or psychosocial topics. Affective categories refer to those aspects needed to establish a therapeutically effective relationship between the interactants, such as giving comfort and reassurance and showing optimism, concern and understanding. To control for potential differences in lengths of visit, categories were divided by the total number of utterances.

#### *Nonverbal Behavior.*

Patient-directed gaze (i.e., the time the gynecologist looked directly into the patient's or her partner's face) was measured and adjusted for the time the gynecologist was in sight. Camera angles did not permit coding of the patient's nonverbal behavior.

#### *Reliability and Validity.*

To establish interrater reliability, all four observers coded the same 16 videotaped encounters in a related study on pediatric communication (van Dulmen, 1998). Interrater reliability was calculated for all clusters with a mean frequency greater than two percent (Ford et al., 1996). The overall average pair-wise Pearson correlation coefficient for physician clusters was 0.83 (range 0.70-0.99). The overall interrater reliability for nonverbal communication (i.e., the duration of patient-directed gaze) was 0.98. The content validity and the discriminant validity of the RIAS prove to be satisfactory (Ong et al., 1998).

### **Statistical Analysis**

First, gender differences in the length and the content of the interaction were bivariate analyzed by means of unpaired t-test. Then, the significant differences were again analyzed using multilevel regression analysis which takes into account the similarity among encounters by one gynecologist (Bryk & Raudenbusch, 1992; Goldstein, 1995; Rasbash & Woodhouse, 1995). Using this method, data are analyzed at the level of the gynecologist, without disregarding the variance at the patient level. The first step in this analysis was to take into account variables at the

patient level (i.e., whether the patient visited the gynecologist for the first time or not, whether patient's partner accompanied her into the consulting room and whether the visits concerned a pregnancy supervision). As antenatal pregnancy supervisions differ from gynecologic encounters in content and style, we considered it important to take this aspect into account. Next, variables were entered on the gynecologist level (i.e., gynecologist's sex and professional status--being consultant or resident). Resulting significant associations are presented by means of regression coefficients and standard errors. A regression coefficient is significant at the 5% level when it is at least twice as large as its standard error.

## RESULTS

### Sample Characteristics

The 21 gynecologists were videotaped in a total of 303 outpatient encounters (39% of which concerned antenatal pregnancy supervisions); 196 encounters were with male gynecologists, 107 with female gynecologists. Relatively more visits with male gynecologists included the patient's partner (43% vs. 26%,  $p < .05$ ) and concerned pregnancy supervisions (45% vs. 27%,  $p < .05$ ).

### Bivariate Analysis

#### *Length of the Outpatient Visits.*

Firstly, differences in the length of the outpatient visits were analyzed using unpaired t-tests. Overall, the 303 visits had a mean duration of almost thirteen minutes (12.7 (6.8) min.). When broken down by gender, encounters with female gynecologists appeared to last significantly longer than encounters with male gynecologists (14.2 (8.0) min. vs. 11.9 (5.9) min.,  $p = .004$ ) (Table 1); female gynecologists appeared to perform significantly longer physical examinations (5.3 (5.4) min. vs. 3.2 (2.6) min.,  $p = .000$ ). In addition, there was more verbal exchange in encounters with female gynecologists; the total number of verbal utterances exceeded that of male gynecologists (294 (145) vs. 259 (123),  $p = .03$ ).

#### *General Communication Behaviors.*

Comparing gynecologists' communication behaviors revealed that female gynecologists expressed fewer instrumental statements (41.4% (11.0) vs. 44.3% (10.6),  $p = .03$ ) and more affective statements than their male colleagues (16.6% (6.4) vs. 13.2% (5.8),  $p = .000$ ) (Table 2). Their overall conversational contribution did not appear to differ. In accordance with the difference in verbal affective behavior, female gynecologists also tended to communicate more affectively in a nonverbal way: they looked at their patients relatively more often (41.9% (16.7) vs. 38.4% (16.6) of the time).

### [TABLE 1]

#### *Specific Communication Behaviors.*

Next, gender differences in specific communication behaviors were analyzed to find out what communication behaviors were typically used by female and male gynecologists (Table 3).



Within the instrumental clusters, male gynecologists appeared to ask significantly more medical questions (4.9% (3.2) vs. 3.8% (2.4),  $p = .001$ ) and to provide significantly more medical advice (2.2% (2.0) vs. 1.6% (1.3),  $p = .02$ ). As regards the affective clusters, female gynecologists appeared to use significantly more agreements and paraphrases than male gynecologists: 9.0% (5.2) vs. 5.6% (3.2),  $p = .000$  and 2.3% (1.5) vs. 1.8% (1.7),  $p = .01$ , respectively.

### **Multilevel Regression Analysis**

#### *Length of the Outpatient Visits.*

To examine whether the gender differences in gynecological encounters mentioned above can be explained by either the similarity among encounters by one gynecologist or by characteristics of the patient, the same data were subsequently analyzed by means of multilevel regression analysis (Tables 4-7). Table 4 shows that follow-up visits are more than 6 minutes shorter than initial visits. Also, when the patient's partner is present, outpatient visits last more than 2 minutes longer. Visits with female gynecologists last longer but not significantly so. Physical examinations appear to take 2 minutes more during first visits. Even when the difference in the number of first and follow-up visits and other variables on the patient level were accounted for, female gynecologists still took significantly more time to examine the patient; the examinations lasted on average more than 2 minutes longer (Table 4).

[TABLE 2][TABLE 3][TABLE 4][TABLE 5] [TABLE 6]

#### *Communication Behaviors.*

Table 5 shows what aspects determine the earlier observed gender differences in gynecologists' instrumental and affective behavior. None of the variables entered in the analysis appeared to make a significant contribution to gynecologists' instrumental and affective communication behavior. Yet, although non-significantly, gynecologists' gender appeared to influence the percentage affective communication most; compared with male gynecologists female gynecologists used almost 4% more affective behavior. In Table 6 gynecologists' use of agreements and paraphrases is analyzed. Female gynecologists showed a tendency to use almost 3% more agreements. The use of paraphrases appeared to be related to the acquaintance with the patient; in follow-up visits, gynecologists used significantly fewer paraphrases. Table 7 shows that gynecologists asked significantly fewer medical questions during follow-up visits. After controlling for this and other variables on the patient level, female gynecologists still appeared to ask on average almost 2 medical questions fewer than their male colleagues.

None of the variables measured at the patient or gynecologist level could explain the gender difference that were found in the provision of medical advice.

[TABLE 7]

### **DISCUSSION**

At first glance, female gynecologists appeared to behave differently during outpatient encounters; they had longer conversations with their patient and communicated both verbally and nonverbally in a more affective way (i.e., they more frequently appeared

to indicate their understanding and agreement regarding the patient's communication). Male gynecologists, on the other hand, communicated more instrumentally, primarily with respect to medical topics. This largely accords with previous findings in primary care (Meeuwesen et al., 1991; Roter et al., 1991; Hall et al., 1994; Bensing et al., 1996). As physicians' affective communication behavior is known to contribute to the quality of medical encounters (Bensing, 1991; Bertakis et al., 1991; Delgado et al., 1993), these gender-related differences favor female physicians.

However, when the same data were analyzed in a more sophisticated way by means of multilevel regression analysis, some gender differences disappeared, mainly because they could be attributed to the rank number of the visit (i.e., whether it was a first or a repeat visit). Nonetheless, female gynecologists still performed longer physical examinations, asked fewer medical questions and tended to give their patients more verbal attention; apart from this global affective behavior, they did, however, not appear to communicate more affectively. So there appears to be less difference between male and female gynecologists' communication behaviors than found earlier in primary care. There are a few explanations for this apparent discrepancy. The most important explanation has to do with the method of analysis used. As a result of the similarity among encounters by one gynecologist, we actually had fewer than 303 *independent* cases, which is still far more than the number presented in a lot of other studies. Still, as a consequence, we might have found more significant gender differences had we collected videotapes from more than 21 different gynecologists. Alternatively, the differences found earlier are restricted to a primary care setting, in which physicians behave differently because they are already acquainted with their patient and encounter different types of health problems.

Another explanation, supported by the literature, is that female gynecologists, like other medical specialists, have gradually acquired a more masculine communication style after being educated for so many years (Lyon, 1997; Mattila-Lindy et al., 1997). It may seem odd that female gynecologists ask fewer medical questions than their male counterparts. Additional post-hoc analysis, however, shows that the ratio between gynecologists' question asking and patients' information giving differs by gynecologist gender. One medical question by male gynecologists elicited, on average, 3.1 units of information; with female gynecologists patients responded by providing 3.7 units of information. This suggests that patients visiting a female gynecologist need to be triggered less to express the same amount of information. Patients might feel more at ease with female gynecologists especially in talking about intimate health aspects; female gynecologists may use more open-ended questions; or their higher amount of expressed agreements as such (more active listening) may have stimulated patients' information giving. The reason why female gynecologists give longer physical examinations needs to be investigated further. Perhaps, in accordance with patients' perceptions (van Elderen et al., 1998), female gynecologists are indeed more attentive during internal examinations than male gynecologists. Post-hoc analysis of the nature of the communication during physical examinations showed that, compared with male gynecologists, female gynecologists used significantly more social talk, more paraphrases, more concerns, more orientations, and also gave more medical information. So, by communicating more affectively than men, female gynecologists indeed try to ease their patients more during the physical examination, and give their patients information *during* the

examination; they do not, like their male counterparts, approach the physical examination solely in an instrumental way (which may be more culturally acceptable). The latter gender difference is probably restricted to gynecological examinations. Other differences found in this study (i.e., differences in the length of the examination, in question-asking, and in verbal attention) may also be applicable to other outpatient encounters.

The present findings have several implications for medical practice. Since, recently, more women are deciding to become gynecologists, and female gynecologists appear to perform longer examinations, surgery hours may have to be extended. It is important to account for these consequences in manpower planning. In addition, male gynecologists appear to communicate less affectively, which engenders the risk of less satisfied and compliant patients (Delgado et al., 1993). Therefore, male gynecologists have to be encouraged more specifically to attend to patients' affective needs as well.

Still, individual doctor differences may be as important as differences related to gender. This should be addressed in future research.

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## TABLES

TABLE 1. Length of Outpatient Visits

	Encounters with male gynecologist (N = 196)	Encounters with female gynecologist (N = 107)	t-test p
Length of visit (min.)	11.9 (5.9)	14.2 (8.0)	.004
Length of phys. examination (min.)	3.2 (2.6)	5.3 (5.4)	.000
No. of utterances	259 (123)	294 (145)	.03

TABLE 2. Percentages General Communication Behaviors

	Encounters with male gynecologist (N = 196) % (sd)	Encounters with female gynecologist (N = 107) % (sd)	t-test <i>p</i>
Verbal communication			
instrumental	44.3 (10.6)	41.4 (11.0)	.03
affective	<u>13.2</u> (5.9)	<u>16.6</u> (6.4)	.000
total*	57.5	58.0	ns
Nonverbal communication			
patient-directed gaze	38.4 (16.7)	41.9 (16.7)	.08

\* Patients talked on average 42.5% and 42% of the total encounter with male and female gynecologists, respectively (van Dulmen, 1999)

TABLE 3. Percentages Specific Communication Behaviors

	Encounters with male gynecologist (N = 196) % (sd)	Encounters with female gynecologist (N = 107) % (sd)	t-test <i>p</i>
Instrumental communication			
orientations	8.8 (4.8)	8.8 (1.8)	ns
ask for clarification	3.3 (2.1)	3.2 (1.8)	ns
medical questions	5.0 (3.2)	3.8 (2.4)	.001
psychosocial questions	0.4 (0.7)	0.4 (0.5)	ns
medical information	20.9 (10.4)	20.4 (9.6)	ns
psychosocial information	0.5 (1.1)	0.3 (0.6)	ns
medical advice	2.2 (2.0)	1.6 (1.3)	.02
psychosocial advice	0.2 (0.4)	0.2 (0.4)	ns
administrative remarks	3.1 (3.2)	2.6 (2.6)	ns
Affective communication			
social talk	3.8 (3.5)	3.3 (3.1)	ns
agreements	5.6 (3.2)	9.0 (5.2)	.000
paraphrases	1.8 (1.7)	2.3 (1.5)	.01
reflections	0.4 (0.6)	0.5 (0.7)	ns
concerns	0.3 (0.7)	0.4 (0.7)	ns
reassurances	1.1 (1.4)	0.8 (1.2)	ns
disagreements	0.1 (0.4)	0.1 (0.7)	ns

TABLE 4. Regression Coefficients (s.e.) with Respect to the Length of the Outpatient Visit and the Physical Examination

	Length of outpatient visit <sup>a</sup>	Length of physical examination <sup>b</sup>
patient level		
-follow-up visit	□ 6.5 (0.8)*	□ 2.3 (0.5)*
-pregnancy	□ 1.8 (0.9)	1.1 (0.5)
-partner	2.3 (0.7)*	0.3 (0.4)
gynecologist level		
-female	1.8 (1.7)	2.3 (1.0)*
-consultant	0.7 (1.7)	1.5 (1.0)

\* $p < .05$

<sup>a</sup>Mean length of visit was 12.6 min.

<sup>b</sup>Mean length of physical examination was 3.9 min.

TABLE 5. Regression Coefficients (s.e.) with Respect to Gynecologists' Overall Instrumental and Affective Communication Behavior

	Instrumental communication <sup>a</sup>	Affective communication <sup>b</sup>
patient level		
-follow-up visit	□ 1.3 (1.3)	0.8 (0.7)
-pregnancy	□ 1.0 (1.5)	1.2 (0.8)
-partner	1.5 (1.1)	□ 0.5 (0.6)
gynecologist level		
-female	□ 2.7 (3.3)	3.8 (2.0)
-consultant	□ 1.4 (3.3)	0.6 (2.0)

\* $p < .05$

<sup>a</sup>Mean percentage instrumental communication was 43.0%.

<sup>b</sup>Mean percentage affective communication was 14.6%.

TABLE 6. Regression Coefficients (s.e.) with Respect to Gynecologist Relative Use of Agreements and Paraphrases

	Agreements <sup>a</sup>	Paraphrases <sup>b</sup>
patient level		
- follow-up visit	0.1 (0.4)	□ 1.0 (0.2)*
- pregnancy	□ 0.4 (0.5)	□ 0.2 (0.2)
- partner	□ 0.4 (0.3)	□ 0.1 (0.2)
gynecologist level		
- female	2.9 (1.5)	0.2 (0.4)
- consultant	□ 0.0 (1.5)	□ 0.6 (0.4)

\* $p < .05$

<sup>a</sup>Mean percentage agreements was 6.9%.

<sup>b</sup>Mean percentage paraphrases was 2.2%.

TABLE 7. Regression Coefficients (s.e.) with Respect to Gynecologist Asking Medical Questions and Providing Medical Advice

	Medical questions <sup>a</sup>	Medical advice <sup>b</sup>
patient level		
- follow-up visit	□ 2.2 (0.4)*	0.1 (0.3)
- pregnancy	□ 0.1 (0.4)	□ 0.2 (0.3)
- partner	□ 0.3 (0.3)	□ 0.1 (0.2)
gynecologist level		
- female	□ 1.8 (0.8)*	□ 0.3 (0.4)
- consultant	□ 1.4 (0.8)	0.6 (0.4)

\* $p < .05$

<sup>a</sup>Mean percentage medical questions was 4.6%.

<sup>b</sup>Mean percentage medical advice was 1.9%.