

Effects of gynaecological education on interpersonal communication skills

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Objective To investigate the effects of an experimental communication course on how gynaecologists handle psychosocial issues in gynaecological consultation.

Design Pre-post testing. Multilevel analysis was used to take into account the similarity among encounters with the same gynaecologist.

Sample Eighteen gynaecologists (13 consultants and 5 junior doctors) from five different hospitals participated. All gynaecologists videotaped consecutive outpatient encounters before and after attending an intensive training course.

Main outcome measures The communicative performance of the gynaecologists at pre-and post measurement.

Results The gynaecologists recorded a total of 526 outpatient encounters, 272 before and 254 after the training. As a result of the training, gynaecologists' sensitivity to psychosocial aspects of their patients increased. At post measurement, the gynaecologists gave more signs of agreement, became less directive, asked fewer medical questions and more psychosocial questions. No difference was found in the duration of the outpatient visits. With the trained gynaecologists, patients asked more questions and provided more psychosocial information.

Conclusions Junior doctors and clinically experienced gynaecologists can be taught to handle psychosocial issues without lengthening the visit.

INTRODUCTION

Gynaecological disorders often coincide with emotional or marital problems. These concomitant problems predict clinic attendance more than organic factors¹, and may also explain why patients experience physical complaints and disorders differently. Some patients may, for instance, worry about the level to which the gynaecological disorder interferes with their marital life, while others feel distressed about their presumed reproductive incapacity. Patients like for their gynaecologist to take notice of personal and family conditions and to initiate communication about these subjects². More specifically, some patients would welcome an exploration of their ideas about their illness, how they feel about being ill, what they expect from the gynaecologist, and how the illness affects them. These psychosocial issues are rarely discussed in gynaecological practice³ and patients' perception of gynaecologists in performing examinations is more often a problem with communication than with the technical aspects of the examination⁴. Apparently, gynaecological patients place great demands on physicians' communication

skills. However, lack of time appears to be a major factor in gynaecologists' resistance to implementing guidelines⁵ to improve communication during the consultation. Providing sufficient information which is tailored to the patients requirements is not only experienced as difficult, but also a time-consuming task.

Gynaecological training has been primarily directed at acquiring technical medical skills⁶. As a result, most consulting gynaecologists have received little or no formal education on communicating with their patients and may therefore lack the skills required to handle patients' psychosocial needs effectively. In addition, there are indications that insufficiently trained consultants are more frequently confronted with burnout syndrome⁷. This situation is likely to change rapidly because the importance of good communication has become acknowledged as being important and more and more communication courses are being offered. Attempts are also being made to develop communication guidelines for handling specific health problems⁵. This implies that junior doctors in gynaecology have ample opportunity to acquire the necessary interpersonal communication skills; however, they are coached by consultants who act as a model for them. Skills acquired previously may be suppressed when a junior doctor observes a coach perform differently. Therefore, training junior doctors may only produce the desired effects if consultants are trained as well.

Postgraduate education is an effective way to refresh consultants' previously acquired skills and to develop

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new techniques. Besides, postgraduate education facilitates the adjustment of the level of medical care to the constantly changing needs of patients and society (e.g. the rise of consumerism, patient empowerment and autonomy)^{6,8}. As previous studies which address the effort of teaching communication skills have focused almost exclusively on training of general practitioners and internists⁶, insight is lacking into the effectiveness of training gynaecologists. The present study aimed to investigate the effects of an experiential communication course for gynaecologists in which consultants and junior doctors were trained together. The following research questions were addressed:

1. How did the gynaecologists assess the training they received?
2. What were the effects of the communication training with respect to handling psychosocial issues and providing medical information?
3. Did the newly acquired skills increase the length of the gynaecological visits?
4. How did the training course affect the patients' communication behaviours?

METHODS

The study was approved by the Medical-Ethical Committee of the University Hospital Maastricht as well as by the local committees of the participating hospitals. In the Netherlands a gynaecologist is a consulting physician and a member of a hospital's staff.

A comparison was made between communicative performance of gynaecologists before and after attending a three-day training course (a pretest–post test design). A total of 21 gynaecologists completed the training in two groups. At post measurement, three junior doctors had changed workplaces. So, the effects of the training were measured in 18 gynaecologists (Table 1). Prior to and four months after completing the training, all participants were asked to videotape a series of consecutive general gynaecology outpatient visits. About one week before the

Table 1. Sample characteristics; number of gynaecologists and videotaped encounters. The number of videotaped encounters coincide with the number of patients; the 272 encounters were made by the 18 gynaecologists who also participated in the postmeasurement.

	Premeasurement No.	Postmeasurement No.
Gynaecologists	21	18
Consultants	13	13
Residents	8	5
Women	8	6
Men	13	13
Patients/encounters*	272	254
New referrals	48	49

appointment with the gynaecologist, patients were informed of the nature of the study and were asked to give written consent to allow recording for research purposes. The 18 gynaecologists videotaped a total of 526 encounters (range 26–35 per gynaecologist) using a fixed unmanned camera, 272 at premeasurement and 254 at postmeasurement. At premeasurement, 48 visits (17.6%) were new referrals; at postmeasurement, this number was 49 (19.3%) (Table 1). Patients consulted the gynaecologists with either gynaecological problems or obstetric complications requiring specialist supervision. Training effects were measured by comparing gynaecologists' performance on the videotapes at pre- and postmeasurement. The use of videotapes to evaluate physician performance has proved to be a reliable measure⁹. After completing the training, the gynaecologists were asked to indicate how they evaluated the training by means of open-ended questions.

Communication training

Two experienced trainers, a psychotherapist and a primary care physician, ran all the meetings of the three-day communication training. The training was aimed at identifying maladaptive communication skills (e.g. ignoring nonverbal signals) and encouraging and acquiring alternative and more effective ways of communicating with patients (e.g. inquiring about patients' psychosocial wellbeing). These aims were accomplished by assisting gynaecologists to acquire patient-centered interviewing skills¹⁰ (i.e. skills needed to unravel patients' experience of illness) and to handle patients' instrumental need (i.e. the need to know and understand what is wrong) and affective needs (i.e. the need to feel understood by the doctor) by providing information and advice and showing support and understanding, respectively. An important part of this experiential training was dedicated to watching and discussing videotapes of trainees' actual performance during outpatient encounters. These discussions focused on real-life examples of effective and less effective communication behaviours. This gave insight into each gynaecologist's characteristic way of communicating and encouraged a learner-centred approach with personal learning objectives, self-awareness, colleagues' constructive feedback and comments, and suggestions for alternatives. In summary, the training combined:

1. Education on the significance of a therapeutic doctor–patient relationship, of communicating affect (verbally and non-verbally), of addressing psychosocial issues, and of giving the patient time to talk.
2. Theoretical and practical homework and application of what was learned between sessions.
3. Role-playing exercises, which provided an opportunity of becoming comfortable with alternative communication skills.

4. Trainers' and colleagues' feedback of videotaped and role-play interaction style.
5. Discussion of the gynaecologists' own experiences.

These training techniques have been identified as educational methods of demonstrated effectiveness and feasibility¹¹⁻¹³. The aims of the training were that trainees were expected to become less verbally dominating and more supportive, and to pay more attention to patients' thoughts and feelings, as dictated by a patient-centred approach and to look at the patient more often.

The training was accredited by the Dutch Society of Obstetrics and Gynaecology.

Communication measures

The verbal and non-verbal communication between gynaecologist and patient was measured by four independent raters directly from the video recordings using the CAMERA computer system, which is especially designed for coding behavioural interactions from video recordings¹⁴.

The verbal communication process was analysed using an adjusted version of the Roter Interaction Analysis System (RIAS), which is specially designed to code both doctor and patient communication¹⁵. This system distinguishes instrumental or task-related and affective or socio-emotional verbal utterances by doctors and patients. Each statement that is made during the medical encounter by either the physician or the patient can be assigned to one of these mutually exclusive and exhaustive categories. 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. Based on the findings from earlier studies, the categories were reduced to 16 clusters identical for gynaecologist and patient^{16,17}. Examples of the affective and instrumental clusters are shown in Table 2 and Table 3, respectively. To control for potential differences in lengths of visits,

clusters were divided by the total number of utterances. So, gynaecologist communication behaviours are presented as percentages instead of frequencies.

Nonverbal behaviour such as patient-directed gaze (i.e. the time the gynaecologist looked directly into the patient's face) was measured and adjusted for the time the gynaecologist was in sight. Camera angles did not permit coding of nonverbal communication for the patient.

To establish inter-rater reliability, all four observers coded the same 16 videotaped encounters in a related study on paediatric communication¹⁸. Inter rater reliability was calculated for all clusters with a mean frequency greater than two percent¹⁹. The overall average pair-wise Pearson correlation coefficient was 0.79. Physician clusters had a mean correlation of 0.83 (range 0.70 - 0.99) and the average correlation for patient clusters was 0.71 (range 0.46 - 0.89). The overall inter rater 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 proved to be satisfactory²⁰.

Additional measures

The effects of communication training were assessed by examining changes in the percentages of the communication behaviours, as described above. In addition to these specific communication behaviours, the following measures were assessed: a psychosocial composite (i.e. a ratio of psychosocial categories/biomedical categories), reflecting the focus of the encounter. This composite was calculated for the total number of utterances; patient's conversational contribution relative to the total count of utterances as a measure of patient's participation in the consultation; patient-directed gaze; the length of the outpatient visit.

Statistical analysis

As each gynaecologist videotaped several encounters, the similarity among encounters by one gynaecologist had to be taken into account. This exploration required multi-level regression analysis which provides the option of analysing data at the level of the gynaecologist, without

Table 2. RIAS affective clusters; operationalisations and examples.

Affective communication	Operationalisation	Examples
Social talk	Greetings, personal remarks, jokes, compliments	"Goodmorning." "I'm Dr. Smith."
Agreements	Signs of agreement or understanding, backchannel responses	"I see". "Hmmm."
Paraphrases	Restatements of information told by the other	"You say you don't feel well?"
Reflections	Statements which name the other's emotional state	"This is distressing to you, I understand."
Concerns	Statements which indicate that a condition is serious or worrisome	"I'm really concerned about your bloodpressure."
Reassurances	Statements which indicate optimism, encouragement, relief or reassurance	"I wouldn't worry about that." "This looks a lot better."
Disagreements	Indications of disapproval, criticism, rejection or disbelief	"That's impossible." "I can't believe he said that to you."

Table 3. RIAS instrumental clusters; operationalisations and examples.

Instrumental communication	Operationalisation	Example
Orientations	Directive remarks regarding the medical visit process	"Let's check that cold first." "Look straight ahead."
Requests for clarification	Checks with the other to see if information has been understood, requesting repetition of previous statements	"Do you follow?" "Alright?" "Say it again."
Medical questions	Questions that ask for information on medical condition or therapeutic regimen	"Tell me what your problem is." "Did they do a blood test last time you were here?"
Psychosocial questions	Questions relating to lifestyle, family or home situations, stress or personal likes or dislikes	"Are you planning to breast feed?" "Can you cope with that?" "Any cause for increased stress?"
Medical information	Statements or facts relating to medical condition, diagnosis or test results	"Your blood pressure is 100 over 70." "You've gained 5 pounds."
Psychosocial information	Statements or facts relating to lifestyle, family or home situations or stress	"Annual Pap smears are not really necessary." "Every marriage has its ups and downs."
Medical counseling	Statements which suggest resolution or action to be taken by the other relating to medical condition, diagnosis or test results	"No more salt for you." "Come back in two weeks."
Psychosocial counseling	Statements which suggest resolution or action to be taken by the other relating to lifestyle, family and home situations or stress	"Do this breast exam at least once a month." "You really need to get out and meet more people."
Administrative remarks	Statements relating to paperwork, exam procedures, unintelligible utterances	"Today's date is the 14th." "Should I take off my trousers?"

disregarding the variance on the patient level^{21,22}. Using the MLN-software, intraclass correlation coefficients were calculated to investigate whether encounters by one gynaecologist had a greater degree of similarity than encounters of different gynaecologists. These coefficients reflect the proportion of total variance of an observation that is associated with the class (in our case the gynaecologist) to which it belongs²³. In this study, the average intraclass correlation coefficient for all communication behaviours appeared to be 0.27. This means that 27% of the variance in gynaecologist communication behaviour is among gynaecologists, while the remaining 73% is due to

other sources. So the encounters by one gynaecologist were more alike than encounters by different gynaecologists, but only slightly so. In order to take into account this apparent similarity among encounters of the same gynaecologist, weighted mean percentages and standard errors were calculated for all communication behaviours and encounter characteristics. As a result, the percentages listed in Tables 4 and 5 do not add up to 100% for each column. In addition, multilevel regression analysis was used to account for the influence of gynaecologist and patient characteristics on the communication. Factors known to influence the communication between gynaecol-

Table 4. Gynaecologist communication behaviours at pre- and postmeasurement, weighted by encounter and gynaecologist characteristics. Values are given as mean percentages and standard errors of the mean (SEM).

Variable	Premeasurement	Postmeasurement
Affective		
Social talk	2.71 (0.47)	2.61 (0.47)
Agreements	6.84 (0.78)	7.67 (0.78) ^a
Paraphrases	2.73 (0.20)	2.79 (0.20)
Reflections	0.42 (0.05)	0.43 (0.05)
Concerns	0.30 (0.04)	0.22 (0.04)
Reassurances	0.48 (0.14)	0.49 (0.14)
Disagreements	0.11 (0.03)	0.08 (0.03)
Instrumental		
Orientations	9.82 (0.69)	8.90 (0.69) ^b
Requests for clarification	3.35 (0.29)	3.08 (0.29)
Medical questions	6.41 (0.38)	5.56 (0.38) ^a
Psychosocial questions	0.55 (0.09)	0.67 (0.09) ^b
Medical information	20.35 (1.10)	20.99 (1.11)
Psychosocial information	0.42 (0.10)	0.58 (0.10)
Medical counseling	1.98 (0.19)	1.87 (0.19)
Psychosocial counseling	0.16 (0.03)	0.18 (0.03)
Administrative remarks	2.36 (0.43)	2.42 (0.43)

^a Significantly different from premeasurement, $P < 0.01$.^b Significantly different from premeasurement, $P < 0.05$.

Table 5. Patient communication behaviours at pre- and postmeasurement, weighted by encounter and gynaecologist characteristics. Values are given as mean percentages and standard error of the mean (SEM).

Variables	Premeasurement	Postmeasurement
Affective		
Social talk	3.31 (0.51)	3.34 (0.51)
Agreements	12.28 (0.62)	14.28 (0.62) ^a
Paraphrases	1.09 (0.09)	1.11 (0.09)
Reflections	0.009 (0.003)	0.002 (0.003)
Concerns	1.27 (0.12)	1.06 (0.12)
Reassurances	0.23 (0.08)	0.23 (0.08)
Disagreements	0.25 (0.04)	0.24 (0.04)
Instrumental		
Orientations	0.71 (0.07)	0.68 (0.07)
Requests for clarification	0.97 (0.07)	0.72 (0.08) ^b
Medical questions	1.41 (0.18)	1.93 (0.18) ^a
Psychosocial questions	0.02 (0.006)	0.01 (0.006)
Medical information	17.45 (0.80)	15.02 (0.80) ^a
Psychosocial information	2.22 (0.33)	3.14 (0.34) ^a
Medical counseling	0.05 (0.01)	0.02 (0.01) ^b
Psychosocial counseling	0.02 (0.007)	0.01 (0.007)
Administrative remarks	1.18 (0.13)	1.14 (0.13)

^a Significantly different from premeasurement, $P < 0.01$.^b Significantly different from premeasurement, $P < 0.05$.

ogists and patients^{3,24} (i.e. new referrals *versus* follow up encounters and male *versus* female gynaecologists) were included in the multilevel analysis. In this paper, multilevel analysis is used to weight the prevalence of communication behaviours by gynaecologist and consultation characteristics. The number of gynaecologists ($n = 18$) was too small to allow for comparisons between subgroups of gynaecologists (e.g. junior doctors *versus* consultants; female *versus* male gynaecologists).

RESULTS

Trainees' evaluation of the training

The gynaecologists of the two trained groups evaluated the training differently. Initially, the gynaecologists in the first group experienced some problems as a result of discrepancies between their expectations with respect to the content, structure, and pace of the training, and in the way the trainers handled their personal learning objectives and responded to their needs. In addition, participants felt that the training, which was scheduled as a five-day course, was too long. These problems were resolved

after several discussions between training sessions. By the end of the course, gynaecologists appreciated the course and particularly valued the following components: watching themselves perform on the videotapes, role-playing, practising, receiving and giving feedback, and learning to put communication theory into practice. The second training group received a similar training program, which now was scheduled as a three-day course, similar to the final duration of the training in the first group. After finishing the training course, the gynaecologists in the second group concluded that the training was too short, and that they would have appreciated a follow up. In common with the first group, they also considered working with the videotapes and role-playing as the most valuable educational methods.

Effects on the gynaecologists consultations

Tables 4 and 6 show the weighted mean percentages of gynaecologist communication behaviours and additional measures at pre- and postmeasurement. Several significant differences emerged. At postmeasurement, the gynaecologists appeared to express more agreement, and to ask more psychosocial questions. In addition,

Table 6. Additional communication measures, weighted by encounter and gynaecologist characteristics. Values are given as mean and standard error of the mean (SEM).

Variables	Premeasurement	Postmeasurement
Psychosocial/medical talk (ratio)	0.09 (0.01)	0.12 (0.01) ^a
Patient contribution (%)	42.75 (0.83)	43.24 (0.83)
Patient-directed gaze (%)	40.31 (2.56)	41.86 (2.57)
Visit length (min.)	18.37 (0.99)	19.26 (0.99)

^a Significantly different from premeasurement, $P < 0.01$.

trained gynaecologists asked fewer medical questions (Table 4). On the whole, compared with premeasurement encounters, postmeasurement encounters were more psychosocially oriented (Table 6) (i.e. both gynaecologists and patients spent more time talking about psychosocial and lifestyle issues). No effects were found on the frequency of patient-directed gaze or on the length of the outpatient visits.

Effects in patients

Table 5 shows the weighted mean percentages of patient communication behaviours at pre- and postmeasurement. With trained gynaecologists, patients appeared to express more agreements, more medical questions and more psychosocial information. In addition, they requested clarification from the gynaecologist less often, and provided less medical information. No effects were found on patients' participation to the conversation.

DISCUSSION

The results of this study indicate that a three-day communication course positively influences gynaecologist and patient behaviours. After completing the course, the gynaecologists in this study generally became more attentive to patients' psychosocial needs. This was shown verbally by inquiring more about how patients experienced their condition, by becoming less directive, and by expressing more agreements. In addition, patients appeared to be able to express themselves more, as they asked more questions and provided more psychosocial information with trained gynaecologists. This may be a direct result of the training, which aimed at handling psychosocial issues and at stimulating patients' contribution to the conversation. These are important findings as they coincide with patients' needs to discuss psychosocial issues with their gynaecologist². Considering patients' personal and lifestyle conditions and, incorporating these aspects into the therapeutic regimen is likely to increase patients adherence and health outcome.

Nonverbal communication skills have recently been identified as important tools for detecting psychosocial problems²⁵ and therefore require specific attention in communication courses for health care providers. A recent study evaluating training effects in paediatrics using a controlled design showed that paediatricians acquire nonverbal communication skills quite easily²⁶. As a result of the training, paediatricians gave patients more room to talk and looked at them more frequently. The present study showed that, in gynaecology, nonverbal communication skills did not change dramatically, perhaps because with children, paediatricians are more accustomed to take notice of patients' feelings, appearance and behaviour. In agreement with earlier findings, the observed increase in attention to non-medical aspects did not lengthen the

outpatient visit^{26,27}. This agrees with the observation of Stewart and others that when a doctor has mastered a patient-centred attitude medical visits will no longer take more time^{12,28}. When physicians do not respond to patients' emotional expressions, patients attempt to raise the same topic again, thereby lengthening the visit²⁹. Besides, the decrease in patients' requests for clarification in this study suggests that, after the training, the perspectives of both doctors and patients became more equal.

After the training, gynaecologists expressed fewer orientations. This rather unexpected finding needs some explanation. The majority of orientations uttered by gynaecologists were signs of holding track of the conversation by using separate statements such as 'okay' or 'let's see'. By using such expressions, gynaecologists attempt to structure the interaction but only according to their own agenda¹⁰. Following this line of reasoning, the decrease in expressing orientations can be understood positively as a decrease in gynaecologist dominance or doctor-centred approach.

Contrary to the study by Joos *et al.*³⁰ but in agreement with others^{11–13,31}, this study showed several important changes in the communication behaviour of gynaecologists as measured by RIAS scores. Nevertheless, there were a few methodological shortcomings that may have prevented greater improvements. The most important limitation has to do with the small sample size. This has diminished both the power and the generalisability of the findings and made it impossible to compare training effects in different subgroups, e.g. between male and female gynaecologists or between consultants and junior doctors. It was difficult to recruit enough gynaecologists. Postgraduates are generally reluctant to participate in communication skills training⁶. We did consider it worthwhile to report our findings at this stage, as it might stimulate others in developing comparable education programs. Still, until the results of this study have been replicated using a greater sample size, the present findings have to be considered preliminary.

Apart from the sample size, the study design has influenced the generalisability of our results as well. In the present study, no control group was used. Differences between the pre- and postmeasurements can, therefore, not be ascribed exclusively to the intervention. A randomised controlled trial which would have required three instead of two measurements was, however, not possible because 1. we already asked a lot of the gynaecologists' precious time (for training hour and videotaping real-life patient encounters) and 2. this would have required the participating junior doctors to work in the same hospital for at least one year which was not possible. Within this pilot study, we chose to test the effects of a long term course because short courses do not appear to result in detectable changes in communication behaviours³⁰. Detecting few effects of the training might also result from the fact that not every communication behaviour

is relevant in every encounter. This may reduce the chance of finding course effects on all observed behaviours⁶. Besides, training courses first of all change providers' attitudes. Not all learned skills will be translated into daily practice. Whether course effects result in actual behavioural changes depends on the provider's intention to change³².

CONCLUSION

Despite the shortcomings of the study, the results indicate that clinically experienced gynaecologists can be trained in communication skills. It would be worthwhile to examine how long the training effects last. The preliminary results from this study will be used by the Dutch Society of Obstetrics and Gynaecology in defining training requirements and needs in interviewing skills and in the psychosocial aspects of gynaecologist practice. As, with other medical specialists, gynaecologists are primarily biomedically oriented. A shift towards incorporating psychosocial factors in medical health care is an important change that will be highly appreciated by patients.

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