

A study on pelvic examination under anesthesia

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Abstract

Introduction: Medical students need to undertake supervised pelvic examinations to achieve competence. This experience is frequently obtained by conducting pelvic examinations on anaesthetized patients who are undergoing gynaecological surgery. Our research was carried out to determine patients' expectations of medical students performing intraoperative pelvic examinations.

Methods: Patients were asked to complete questionnaires including items about who would be present in the OR, what procedures students might undertake, and whether patients would give consent for students doing pelvic exams during surgery. A sample size calculation determined that 100 questionnaires were required.

Results: Completed questionnaires were received from 102 women. Their mean age was 57 years, range 21 to 91; 64 (63%) had previously undergone gynaecological surgery; 56 (55%) expected a medical student would be present during surgery; 80 (78%), wanted to be told if a medical student would be present; 19 (19%) were aware that a medical student might do a pelvic examination in the OR; 73 (72%) expected to be asked for consent before medical students undertook pelvic examinations under anaesthesia. Fifty-eight respondents (62%) said they would consent to medical students doing pelvic examinations, 5 (5%) would consent for female students only, 17 (18%) were not sure, and 13 (14%) would refuse.

Conclusion: The majority of patients wish to help medical students to learn but expect consent to be sought if medical students are to perform pelvic examinations on anaesthetized patients. Before introducing explicit consent in Canadian teaching centres, it will first be necessary to determine the feasibility of seeking consent specifically for this procedure.

Keywords: physical examination, diagnostic technique, obstetrical education, gynaecological, education, medical, undergraduate, cross-sectional study

Introduction

It is vital for medical students to learn basic examination techniques in a safe, well supervised setting. However, even the most routine examinations can be invasive, and the path to learning these skills can pose a challenge for teacher, learner, and patient. Female pelvic examinations can be considered invasive, because the clinician uses his or her fingers to feel inside the vagina. Medical students may be taught pelvic examination technique in a variety of ways; for example, through the use of simulation models, or with the help of paid volunteers or consenting clinic patients. It is also common for medical students to learn pelvic examination technique in the operating room, when patients are anaesthetized.

Medical students rotating through surgical gynaecology are often asked to perform pelvic examinations on anaesthetized patients^[1,2]. These pelvic examinations are valuable learning experiences for students, because they provide them an opportunity to practise technique without causing the patient any pain or embarrassment. Pelvic examinations also allow students to immediately correlate physical examination findings with surgical pathology.

Despite these benefits to students, patient rights groups have drawn attention to the issue, warning that patients may not be adequately informed that such examinations are taking place^[3,4].

Student doctors must learn the necessary skills, but patients must agree to be the learning vehicle. Goedken reviewed this issue and concluded that it is essential for students' learning that they are permitted to perform pelvic examinations on

anaesthetised patients^[3]. However, Wilson, in a companion paper, argued that present systems for obtaining patient consent for such examinations are inadequate. She speculated that educators do not ask for consent because they fear that patients will not give it, but presented data suggesting that this fear is unfounded^[4].

The present study was designed to determine female patients' attitudes towards and expectations of medical students performing intraoperative pelvic examinations, and to determine whether patients believe they should be asked to provide consent specific to these examinations.

Methods

A questionnaire was developed specifically for this study. The questionnaire collected limited demographic information (age, history of employment in health care, and whether the patient had ever had gynaecological surgery); identifying information (name or contact details) was not collected. The second part of the survey dealt with expectations of surgery, such as who would be in the operating room during the surgery, and which of these people the patient would expect to meet prior to the surgery. Response choices included a number of options in addition to medical students (Table 1).

A further section of the questionnaire enquired about what patients expected a medical student might do during the surgery, offering a number of options including holding instruments, making an incision, and carrying out a pelvic examination.

The final part of the questionnaire dealt with consent for

medical students' involvement in surgery. Patients were asked how important they felt it was to be asked for their consent for eight different procedures, one of which was the pelvic examination.

Patients were also asked how they would feel if they found out, after the fact, that a pelvic examination had been performed, and how they would respond if asked for their consent in the future. Participants were women attending the clinic who agreed to participate in a study that was designed to determine "how much women know about what happens in the operating room. [and] how women feel about having medical students help with different parts of their surgery."

Participants needed to be able to read the questionnaire, and be able to understand the questions. Each participant could complete the survey only once during the course of the study. Information sheets and questionnaires were distributed by the researchers to women in the clinic waiting room, using a scripted introduction to avoid potential bias. Researchers were available to clarify survey questions if needed. Patients completed their questionnaires while waiting to see a physician or nurse, and returned completed forms to the researchers. Data were analyzed using SPSS 15.0 for Windows (SPSS Inc., Chicago, IL).

Descriptive statistics were calculated for all data items: for example, mean and standard deviation for age, and numbers and percentages for each of the categorical variables. Exploratory chi-squared and Fisher exact tests were used to compare attitudes of women in health care professions with those of women who had not worked in health care, attitudes of women who had had previous gynaecological surgery with those of women who had not had surgery, and attitudes of women of different age groups (less than 50, 50 to 65, over 65 years). A sample size calculation carried out prior to the study estimated that a sample of 100 would be appropriate for this descriptive study.

Table 1: Expectations about people who would be in the operating room

	Expect to be in OR, N = 102, n (%)	Want to be told if going to be in OR, N = 102, n (%)	Expect to meet before OR, N = 102, n (%)
Surgeon	101 (99)	54 (53)	91 (89)
Anaesthesiologist	100 (98)	55 (54)	83 (81)
Nurse	99 (97)	45 (44)	33 (32)
Medical student	56 (55)	80 (78)	39 (38)
Resident	67 (66)	53 (52)	55 (54)
Nursing student	45 (44)	67 (66)	Not asked

Results

A total of 102 women returned questionnaires, including 10 with at least one missing response. Participants had a mean age of 57 years, ranging from 21 to 91, and 30 (29%) had worked in health care. Sixty-four (63%) had previously had gynaecological surgery, and 18 (18%) expected to have gynaecological surgery in the coming year. Women were asked who they expected would be in the operating room at their surgery, if they needed surgery in the future. Most women expected that the surgeon, the anaesthesiologist, and nurses would be in the operating room.

Based on the high rate of knowledge of the professionals in the operating room, few women wished to be explicitly told which professionals would be there (Table 1). Fewer women expected that residents (n = 67, 66%), medical students (n = 56, 55%) or

student nurses (n = 45, 44%) would also be present (Table 1). As a result, the majority of women would want to be informed if residents (n = 53, 52%), medical students (n = 80, 78%), or student nurses (n = 67, 66%) would be in the operating room.

In addition, before their surgery, 55 (54%) would expect to meet the residents who were attending the surgery, and 39 (38%) to meet the medical students. Women were asked about the role of the medical student. The majority of women did not expect medical students to take an active part in the surgery, but expected the student to observe (n = 86, 84%).

Few women (n = 19, 19%) expected that medical students would perform a pelvic examination under anaesthesia. Women wanted to be asked specifically for their consent if medical students were taking a more active part in surgery; for example, 77 (76%) would want to be asked if the medical student would make an incision. The majority of women (n = 73, 72%) wanted to be asked if a medical student was going to perform a pelvic examination. When asked how they would feel if they found out that a medical student had carried out a pelvic examination under general anaesthetic, 54 (53%) replied that they would not mind if they had been asked first, and 14 (14%) said they would be upset.

Women were also asked if they would give consent for a medical student to do a pelvic examination under general anaesthetic. Among the 93 women who replied, 58 (62%) would be willing to give consent if asked, and a further 5 (5%) said they would consent only if the student were female. Thirteen patients (14%) said they would refuse to give consent, and 17 (18%) were undecided.

No significant differences were found between groups with respect to the possible effect of being employed in health care, having previously had gynaecological surgery, or age group on respondents' expectations that medical students would be in the operating room, that they would be told medical students would be in the operating room, that a medical student may perform a vaginal examination, and that they may be asked to give consent prior to a medical student doing a vaginal examination.

Discussion

Our study, which to the best of our knowledge is the first to examine patient attitudes towards pelvic examinations under anaesthesia, found that some women were unaware that medical students would be present during their surgery, or of the extent of their involvement in surgery. In particular, only 19% of women were aware that students might undertake pelvic examinations in the operating room. The majority of women would be willing to give consent for pelvic examination teaching if they were asked, but a few would restrict their permission to female medical students. Several studies have reviewed the ethics and efficacy of teaching pelvic examinations under general anaesthesia [2-4, 6], and most have concluded that it is an appropriate method of teaching pelvic examination, at least in part because it reduces patient discomfort.

The guideline specifically advises surgeons to inform the patient if trainees will perform pelvic examinations in that role, but does not address a situation where the pelvic examination may be carried out by a trainee for educational purposes only [9].

Table 2: Medical student activities in the operating room

Questionnaire items: patients were asked to check each item that applied to them	Patients who checked this item, N = 102, n (%)
I expect that medical students may	
Do most of the surgery under close supervision	6 (6)
Do some of the cutting for the surgery under close supervision	18 (18)
Do a general physical exam for practice while I'm frozen or asleep	32 (31)
Examine inside my vagina with fingers while I'm frozen or asleep	19 (19)
Hold instruments for the surgeon	53 (52)
Put in stitches	25 (25)
Watch the surgery	86 (84)
I want to be asked specifically for my consent if a medical student will	
Make an incision	77 (76)
Do a general exam	63 (62)
Do an internal vaginal (pelvic) exam	73 (72)
Hold instruments	43 (42)
Put in stitches	65 (64)
Watch the surgery	51 (50)
If I later found out that a medical student had performed a pelvic exam	
I would be glad to help the student learn	20 (20)
I wouldn't mind, as long as someone had asked me if it was okay first	54 (53)
I wouldn't care one way or the other	1 (1)
I would be upset	14 (14)
I'm not sure	3 (3)

Our study is limited by its small size and single centre. While other research has not specifically addressed patient perspective on consent for teaching pelvic examination under anaesthesia, investigators have examined whether patients find it acceptable to have medical students participating in their gynaecology clinic visits [10-12]. Other studies have examined patient willingness to consent to being a medical student's first patient for a variety of procedures (splinting, intravenous access, suturing, 13 and spinal tap 14).

These studies corroborate our finding that many patients are willing to allow inexperienced medical students to participate in their care; however, fewer patients may be willing to allow medical students to perform pelvic examinations, solely for learning purposes, while they are anaesthetised. Unfortunately, it appears that the process for seeking consent for involving medical students may be less than optimal, particularly if that process is carried out by informing patients generally about the potential presence of medical students, with an option to refuse to have a student present [12].

In the case of pelvic examinations under anaesthesia, we cannot assume that consent for medical students to be in the operating room as part of the surgical team includes consent to undertake pelvic examinations, particularly when only 55% of patients expect a medical student to be present in the operating room. Pelvic examinations performed under anaesthetic for teaching purposes without explicit consent may even be considered illegal in the future [15].

Conclusion

Medical students must acquire the skills to undertake pelvic examinations, and we found that the majority of patients would agree to have a medical student perform a pelvic examination while they were under anaesthesia. The major outstanding question is about the best way to seek informed consent for these examinations.

Firstly, information needs to be developed for patients to explain fully why a medical student needs to learn this skill, and exactly what a medical student would do when performing a pelvic examination. Secondly, it will be necessary to determine how the framing of information for patients affects rates of patient recruitment for teaching. Finally, it will be necessary to determine whether indeed it will be feasible to seek patient consent specific to teaching pelvic examinations under anaesthesia.

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