

THE INTERNS' LEARNING ASSESSMENT IN OBSTETRICS AND GYNECOLOGY DEPARTMENT OF ZAHEDAN UNIVERSITY OF MEDICAL SCIENCES

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SUMMARY

Objective: One of the aims of management priorities in medical universities is the evaluation of learning in educational departments in order to prevent educational retardation and to improve the quality of education. The aim of this study was to evaluate the interns' learning in the obstetrics and gynecology (O&G) department at Zahedan University of Medical Sciences (ZUMS).

Materials and Methods: The study was performed in ZUMS, Iran, in 2002–2003 on all interns at the O&G department, including 30 men and 40 women. For data collection, a questionnaire was used and included some questions regarding the common emergencies and diseases in O&G, together with different learning indicators such as reading, observation, hearing, management, and the capability of management. The data were analyzed using descriptive statistics, tables, *t* test, and chi-square test using the SPSS software.

Results: The mean percentages of learning indicators of observation, bedside teaching, supervised management, and personal management in the common emergencies and diseases of O&G in male interns were significantly lower than those in female interns. Also, the mean percentages of managing capabilities were 12% and 70.5% in common emergencies and 14.2% and 59.3% in common diseases for male and female interns, respectively. The chi-square test showed a significant difference between the mean percentages of the managing capabilities in male and female interns for the majority of the common emergencies and diseases. Also, the chi-square test revealed a significant relationship between the learning indicators and the interns' managing capabilities for common emergencies and diseases.

Conclusion: Some learning indicators in the male interns were very low. This needs urgent improvement of the learning quality in the O&G department, especially for the male interns, particularly those who are supposed to work in the deprived areas of the country after graduation in the public service. [*Taiwan J Obstet Gynecol* 2007;46(3):248–254]

Key Words: common disease, emergency, intern, learning, obstetrics and gynecology

Introduction

The aim of the general practitioner training program in the Iranian health services is to receive the health complaint of families or the people who are referred from

different health centers. Therefore, the practitioners should be able to examine the emergency and outpatient cases and manage them according to health centre facilities [1]. The necessity of health and also the fertility health for women are the most important health aspects and development indicators in any society. The management of women's diseases, especially common emergencies and diseases which are strongly related to their health, requires skilled doctors with high capability. Some women's problems, which causes the women to visit a doctor, are related to two persons' health

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(the mother's and the fetus'); thus, the health of both is at risk at the same time. Problems such as these are more important in deprived areas, which have limited access to skilled doctors. These aspects suggest an increase in the availability of skilled doctors to take care of pregnant women, and this is of high importance when there is no access to specialized doctors [2].

With the development of the Iranian health and treatment network and the role of doctors in this network, it is essential for the doctors to have the capability of introducing necessary services to the public. Unfortunately, evidence shows that the capabilities of the doctors in the obstetrics and gynecology (O&G) ward are not at the level of expectancy, reasons being the increasing number of medical students in the medical universities and also the limited number of patients in the O&G wards [3].

Recent reports also show that the rules that restrict the entrance of male interns into some sections of the general and maternity hospitals (e.g. labor room, clinic) result in the retardation of interns' education. The education, which the male interns are deprived of, is the necessary education that all doctors need [2]. In some parts of the country (such as the Sistan and Baluchestan province), women refuse to visit a male doctor even for common and outpatient diseases because of wrong native tradition, despite the limited availability of doctors. This tradition forces the health authorities to insist on continuing the traditional rule of preventing male interns from entering some obstetric/gynecologic-related wards in hospitals. On the other hand, female interns receive the proper education which is needed especially in deprived areas of the country; unfortunately, they are not satisfied to work in these regions after graduation, probably because of the lack of adequate living facility. Therefore, the people of deprived areas, especially women, cannot use the medical services of female doctors, and at the same time, the male doctors are not skilled or educated enough to tend to the women for common emergencies and diseases in O&G.

The male interns at Zahedan University of Medical Sciences (ZUMS) had access to only the wards and operation rooms in the past. They are now less restricted and can learn the common diseases of women in the ward of community medicine but are not allowed to do gynecologic examination in the O&G ward. Also, they are not allowed to go to the gynecology clinics or labor room, even though they can go to the operation room and O&G ward. All the interns are allowed in the morning reports, conferences, lecture rooms, and grand rounds. With education being equal for both male and female interns, the male interns observe less deliveries than female interns and have less experience in all

aspects relating to observation. Likewise, male interns are less competent than female interns in the management of common emergencies and diseases in O&G.

There is the same insufficient education of male interns in O&G wards at many Iranian medical universities, and it has been shown, in a recent study, that male interns have less skill in common emergencies and diseases of O&G [4]. Ehsanpour [5] showed that 93% of male interns were unsatisfied with their learning limitation in O&G wards and were interested in gaining practical education in those wards as well. Another study proved that the capability of interns in managing obstetric emergencies was not sufficient, and the lowest capability was in the management of abnormal uterine bleeding, obstetrics emergency, and prenatal care [6]. Therefore, the conclusion was that the learning of common outpatient diseases, especially gynecologic emergency and prenatal care, is very important and that the interns should be skilled in these areas [7].

Since there is a very wide range of obstetric and gynecologic diseases and women need doctors with complete capabilities to provide high quality services in either the state health centers or private clinics, we need information about the interns' capabilities on common emergencies and diseases of O&G.

The scope of this study was to provide an overview of the learning processes of interns at the O&G department of ZUMS, to show the flaws in the process, and to suggest a solution to the authorities in order to increase the quality of teaching in this department. The goal is for medical education to be more realistic and at the best quality, thereby provide quality service for the public.

Materials and Methods

The study was performed on all interns (30 men and 40 women) of the O&G department at ZUMS in 2002–2003. For data collection, a questionnaire containing questions on common emergencies and diseases in O&G was completed by the interns. The questionnaire was prepared according to the curriculum of the O&G department and was confirmed by the Ministry of Health and Medical Education in Iran. In this questionnaire, different educational indicators were used for the overview of learning processes. These indicators were reading, observation, hearing, management (personal or under supervision of others), and the managing capabilities (proper and improper) of the diseases and emergencies in O&G. Observation is a kind of education by which the interns learn by sight (such as history taking or physical experiment). Hearing was divided

into discussion in the lecture room and bedside teaching; bedside teaching is another kind of education by which the interns practice problem solving, clinical management, and clinical judgment in a specific patient. Therefore, the interns were asked whether they had read, observed, heard or managed each of the common emergencies and diseases during their internship; they were also asked about their managing capabilities.

The common emergencies were divided into hypertensive disorders in pregnancy, third-trimester hemorrhage, abortion, ectopic pregnancy, and vaginal delivery and its management. The common diseases were categorized as pregnancy diagnosis, prenatal care, urinary tract infections in pregnancy, puerperal infection, postpartum hemorrhage, abnormal uterine bleeding, uterine and cervical disorders, vaginal diseases, ovarian diseases, menopause and its complications, and family planning.

The validity of the questionnaire was proved by asking the view of the faculty members of the O&G department (i.e. face and content validity). The reliability of the questionnaire was previously confirmed in another study using the split-half method, and the correlation matrices of indicators in each part were examined [8]. The data of all the learning indicators are presented as mean percentage and standard deviation (SD). An independent sample *t* test was used to compare the mean percentage of different indicators

between male and female interns. To compare the managing capabilities of male and female interns in the 16 common emergencies and diseases, a chi-square test was used. Chi-square test was also used to investigate the relationship between the male and female interns' managing capabilities of the common emergencies and diseases and the learning indicators. Data were also analyzed using SPSS.

Results

The distribution of the mean percentage and SD of different learning indicators in the common emergencies and diseases of O&G for the male and female interns are shown in Table 1. The mean percentages of different learning indicators, such as observation, bedside teaching, supervised management (management under the supervision of residents and attending physicians), and personal management, in female interns were significantly higher than in male interns, indicating that they were more skilled than the male interns. For learning indicators, such as reading and discussion in the lecture room, the managing capabilities in the common emergencies and diseases in the male and female interns were very similar. The overall mean percentages of the managing capability in common emergencies were 12% for the male and 70.5% for the female interns. The managing capabilities for common diseases were

Table 1. Comparison of the different learning indicators in the common obstetrics and gynecologic emergencies and diseases of male and female interns at Zahedan University of Medical Sciences in 2002–2003*

Indicators	Male interns	Female interns	<i>p</i>
In common emergencies			
Reading	91.3±8.99	85.0±10.45	0.01
Observation	16.0±15.38	95.0±9.84	0.000
Discussion in lecture room	83.3±10	84.0±9.45	0.768
Bedside teaching	0.7±1.47	66.0±10.09	0.000
Supervised management (management under the supervision of residents and attending physicians)	0	81.0±6.52	0.000
Personal management	2.7±2.80	46.0±21.26	0.000
Managing capability	12.0±10.72	70.5±16.90	0.000
In common diseases			
Reading	77.3±16.97	75.2±7.28	0.529
Observation	11.5±7.20	83.6±10.74	0.000
Discussion in lecture room	53.9±19.39	64.8±9.91	0.007
Bedside teaching	0.9±1.54	55.5±11.28	0.000
Supervised management (management under the supervision of residents and attending physicians)	0	69.3±10.49	0.000
Personal management	4.5±5.21	38.2±17.57	0.000
Managing capability	14.2±15.42	59.3±24.25	0.000

*Data are presented as mean percentage±standard deviation.

Table 2. Comparison of the managing capabilities in the common obstetrics and gynecologic emergencies and diseases of male and female interns at Zahedan University of Medical Sciences in 2002–2003*

Managing capability	Male	Female	<i>p</i>
In common emergencies			
Hypertensive disorders in pregnancy	26.7	82.5	0.000
Third-trimester hemorrhage	16.7	62.5	0.000
Abortion	13.3	65	0.000
Ectopic pregnancy	3.3	50	0.000
Vaginal delivery and its control	0	92.5	0.000
Overall mean	12	70.5	0.000
In common diseases			
Pregnancy diagnosis	33.4	90	0.000
Prenatal care	10	90	0.000
Urinary infections in pregnancy	46.6	82.5	0.002
Puerperal infection	6.7	65	0.000
Postpartum hemorrhage	13.3	62.5	0.000
Abnormal uterine bleeding	3.3	40	0.001
Uterine and cervical diseases	0	37.5	0.000
Vaginal diseases	6.7	62.5	0.000
Ovarian diseases	0	12.5	0.066
Menopause and its complications	6.7	42.5	0.001
Family planning	30	67.5	0.002
Overall mean	14.2	59.3	0.000

*Data are presented as mean percentage.

14.2% for the male and 59.3% for the female interns. The results, therefore, showed better performance by female interns in the management of common emergencies and diseases in O&G, compared with male interns.

The mean percentages of managing capability in the common emergencies and diseases for the male and female interns are presented in Table 2. The managing capabilities of the female interns were significantly higher in all common emergencies than of the male interns, when using chi-square test. At the same time, the capability of female interns in the management of third-trimester hemorrhage (62.5%) and ectopic pregnancies (50%) were low and needs to be improved by an increase in the quality of learning. The managing capabilities of female interns in common diseases were significantly better than the male interns. For diseases such as abnormal uterine bleeding, uterine and cervical disorders, ovarian diseases, and menopause and its complications, the mean percentages of the female interns' managing capability were less than 50%, indicating necessary improvement of education in these areas.

To investigate the relationship between the learning indicators and the interns' gender in the common emergencies, the chi-square test was used. The results showed that the relationships between some learning

indicators (such as observation, bedside teaching, supervised management, the managing capability) and the interns' gender were significantly different ($p=0.000$) (Table 3).

The relationships between the interns' gender and the personal management in the common emergencies were significant for the hypertensive disorders in pregnancy ($p=0.000$), third-trimester hemorrhage ($p=0.000$), vaginal delivery and its control ($p=0.000$), abortion ($p=0.0025$), and ectopic pregnancy ($p=0.0092$). For the indicator of reading, the only significant relationship between the interns' gender and the common emergencies was for abortion ($p=0.044$), and for the indicator of discussion in the lecture room and the interns' gender, there was no significant relationship.

The results of the relationship between all learning indicators and the interns' gender in common diseases showed a significant relationship in the indicators of observation, bedside teaching, supervised management ($p=0.000$ in all tests). For the indicator of reading, urinary infections in pregnancy ($p=0.044$) and family planning ($p=0.009$) have significant relationships with the gender of the interns. The only significant relationship between the gender and the indicator of discussion in the lecture room was for the uterine and cervical disorders ($p=0.027$).

Table 3. The relationship between the managing capabilities and the learning indicators in all the 16 common obstetrics and gynecologic emergencies and diseases of 70 interns at the Zahedan University of Medical Sciences in 2002–2003*

Learning indicator	Total	Managing capability		<i>p</i> [†]
		Proper	Improper	
Reading				NS
Yes	892	379	513	
No	228	88	140	
Observation				0.000
Yes	620	413	207	
No	500	54	446	
Discussion in lecture room				NS
Yes	762	331	431	
No	358	136	222	
Bedside teaching				0.000
Yes	380	289	91	
No	740	178	562	
Supervised management (management under supervision of residents and attending physicians)				0.000
Yes	467	334	133	
No	653	133	520	
Personal management				0.000
Yes	281	243	38	
No	839	256	583	

*Data are presented as number of responses; [†]chi-square test. NS=not significant.

The relationships between the personal management of the common diseases and the interns' gender were significant for the pregnancy diagnosis, prenatal care, urinary infections in pregnancy, the postpartum hemorrhage and vaginal diseases ($p=0.000$ for all tests). The interns' personal management also had a significant relationship with their gender in the postpartum infections ($p=0.005$), abnormal uterine bleeding ($p=0.004$), uterine and cervical diseases ($p=0.036$), menopause and its complications ($p=0.003$), and family planning ($p=0.003$). The managing capability of interns had significant relationship with their gender in most common diseases, such as the urinary infections in pregnancy ($p=0.002$), family planning ($p=0.002$), menopause and its complication ($p=0.001$), and for other common diseases ($p=0.000$); but there was no relationship between the gender and the managing capability for ovarian diseases ($p=0.066$) (see Table 2).

Table 3 shows the interns' managing capabilities in all common emergencies and diseases according to the different learning indicators. The results showed that the interns' managing capabilities were significantly different in most learning indicators (the total is the sum of the responses of 70 interns on their managing capabilities in the 16 common emergencies and diseases of O&G).

Discussion

The results showed that the interns' management of the common emergencies and diseases of O&G were related to some of the learning indicators such as observation, bedside teaching, supervised management, and personal management. The learning indicators that had no relationship with the managing capability were reading and discussion in the lecture room. Therefore, the interns who were allowed to observe the common emergencies or have discussion about these aspects on the bedside, have managing capabilities or are capable of supervised management in the common emergencies and diseases; they had a managing experience that was significantly more than that of inexperienced interns. In a recent research, the authors concluded that the assessment of the medical students should be based on the observation and skill assessment [7].

The significant differences in the learning indicators, such as observation, bedside teaching, supervised management and the personal management, in all common emergencies and diseases of O&G between male and female interns showed unsuitable education for the male interns, which is similar to the findings of Shams and colleagues [4]. The differences in other learning indicators

such as reading and discussion in the lecture room were not significant and were also very small between genders. In some common emergencies such as ectopic pregnancies and third-trimester hemorrhages, suitable management of the female interns was still moderate, and this result is similar to that of Fardi Azar and colleagues, with the conclusion that interns have less capability in managing the abnormal uterine bleeding [6]. There are many studies about the performances and skills of male and female medical students in the literature. In a study about the gender effects on the acquisition of skills in an O&G department, 78% of the male students stated that their gender had adversely affected their experience, and 67% of female students felt that their gender had positive effects [9]. Bienstock and colleagues showed that the performance of female medical students in the O&G department was better in the written examinations, the overall objective standardized clinical examination, and its interpersonal skills subsections [10]. Krueger [11] showed that there was no significant difference in the O&G ward performance between male and female students in the written examinations or the clerkships' scores, but in clerkships' overall scores, the females were significantly better than the males.

In Ehsanpour's [5] study in a medical school, although the male interns were allowed to enter the wards and the operating room (only as an observer), 91% of them disagreed with the cancellation of gynecologic experiments in the delivery room during the internship period, and 31% of them stated that gynecologic experiments had not been done. Furthermore, 79% of male interns disagreed with the cancellation of gynecologic experiments in the O&G ward and 96% disagreed with the cancellation of the experiments in the clinics, and finally, 37% of them stated that gynecologic examinations had not been done there.

With the possibility of attendance of the male interns in some clinics, limited attendance in the delivery room, and their attendance in the community medicine ward, the learning indicators such as observation, personal management, and supervised management have been relatively improved. The female interns in the above aspects still have more capabilities and skill than the male interns, owing to the female interns' attendance in the O&G clinics, labor room, or greater attendance in the delivery room. However, in bedside teaching, all the male and female interns have the same skills. In a recent study in the O&G outpatient education, 54.5% of the interns were stated to have moderate capabilities in managing the prenatal care, 48% were believed to have moderate capabilities in managing preeclampsia, 40% had a good capability in the management of third-trimester hemorrhage, and

51.5% were believed to have a low managing capability in pregnancy emergencies [6].

The indicators of observation, bedside teaching, supervised management, and personal management, had an important role in learning in the common emergencies of O&G, and their roles were more important than reading and discussion in the lecture room. Therefore, the interns who applied all or some of the above important indicators had more capabilities than the others. In common diseases of O&G, the indicators of observation and lecture room discussion have less importance. The limitation of learning some skills for the male interns led to a limitation of their capabilities, in comparison with the female interns. Also, interns who learned the common emergencies of O&G personally or under the supervision of attending physicians and the residents had significantly higher managing capabilities than the interns who did not learn these skills.

The low level of medical education in the O&G departments is one of the educational problems in western countries as well. In 1995, the head of the American Obstetrics and Gynecology Association acknowledged this problem area in the universities of USA. At the same time, he believed that 60 of the O&G educational scopes should be divided into those aspects which the students should learn, are advised to learn, and can learn. He also emphasized the approval of the quality of education of the lectures, and the necessary education of the national health policies in women health [12].

To compensate for the low level of education in the O&G department, researchers have suggested the following: the use of the outpatient centers [13], addition of general non-educational hospitals to the available educational spaces [14], activation of the practice room, use of audio-visual equipments for education, and finally, the cooperation of faculty members. It seems that the best solution to improve the education and preventing the decrease in its quality is to provide an educational protocol with a minimum requirement for each learning indicator. Also, it is necessary to have supervision by academic experts to gain from these minimum education.

The permanent presence of the interns in educational activities, such as morning reports, conferences, and rounds, and also their active attendance in the wards, night on-call and outpatients clinics, their limited attendance in the labor room (with the permission of the patients), the use of anatomic models and visual simulations in the skill laboratory, a more active cooperation of faculty members and residents in educational activities, especially for the male interns, application of modern and new educational methods,

such as the problem solving method, can be effective in the improvement of the O&G clinical education.

In recent years, some effort has been made, and the male interns can enter the labor and operation rooms and some O&G clinics with less restrictions, but they still need more attendance in all sections, especially the delivery room and the O&G clinics in order to improve their education. They urgently need the decision of authorities to introduce a protocol to solve these problems.

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