Perception of some ethical issues by clinical medical students, physicians and nurses, faculty of medicine, Alexandria university, Egypt

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Abstract

Aim: Today the practice of good medicine raises both ethical and legal issues that affect doctors. This is developed through education and later from practical experience. A cross-sectional study was conducted in Alexandria University hospitals to gauge the extent of knowledge, awareness and attitude of undergraduate medical students, physicians and nurses towards medical ethics.

Materials and Methods: A structured questionnaire including awareness of principles of medical ethics and attitudes towards ethical issues and medical errors was distributed to participants. Three-point Likert scale (agree, disagree, and do not know) was used to assess the attitudes.

Results: The majority of the participating nurses (84.8%), 74% and 56.5% of the participating physicians and students, respectively divulged that their clinical teachers encouraged them to raise ethical issues. More than half of all respondents denied witnessing a physician treating patients differently because of their backgrounds or beliefs; 67.5% of all responding participants denied observing a physician discussing confidential information in an inappropriate setting. Nearly three-quarters of research respondents denied witnessing a physician who did not take informed consent before any invasive intimate examination or before performing any interventional procedure. Among the responding physicians and nurses, 54% and 46.6% respectively affirmed observing a medical error by one of their physicians; 40.1% of the responders attributed medical errors to load of work due to a low number of caregivers, while 51.9% of them suggested training in preventing errors and encouraging hospitals to report medical errors.

Discussion: Different related studies revealed similar responses from participants of their research. They confirmed that the majority of participants had positive attitudes towards autonomy, paternalism, justice and confidentiality. In addition, medical errors have been reported by participants in some studies. We can conclude that participants had a reasonable knowledge and positive attitude towards medical ethics.

Keywords

Ethical issues; Attitude; Perception; Confidentiality; Consent; Medical errors

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Introduction
The term 'Medical Ethics' is attributed to the English physician Thomas Percival, who in the year 1803 first published the expectations and requirements of a member of the medical profession. It is based on a set of values that healthcare professionals can lean on in case of conflict or confusion and includes the four main principles [1]. Health ethics as applied to medical practice date back to the ancient civilization by the symbolic adherence to the Hippocratic Oath, codes of conduct and laws regulating the profession are devised and updated from time to time [2].

Over the last 3 decades, medical practice has been increasingly complicated by the emergence of moral conflicts in medical care and an increased emphasis on patient-centeredness in the doctor-patient relationship, the development of sophisticated medical technology, and the influence of legal and health system factors on clinical care. For these reasons, medical ethics is now considered a key foundational component of the essential knowledge and skills required for good clinical practice [3]. The practice of good medicine raises both ethical and legal issues that affect doctors. This is developed through education [4]. After graduating and entering into a practical field, the exposure to various challenges makes it difficult to take decisions encompassing the broader aspect of both scientific knowledge and human values. Medicine is holistic in nature and the patient-physician relationship is its backbone [5, 6]. The disciplines of law and ethics in medical practice overlap in many areas, and yet each has its unique parameters and distinct focus [7].

Medical ethics has been founded on the framework of four moral principles of autonomy, beneficence, nonmaleficence, and justice. The first of these principles, autonomy, is the respect for the patient's right to self-governance, choice in care, and the right to accept or refuse treatment [1]. In recent years, interest in understanding the ethical environment faced by students, physicians and nurses has increased [3]. The importance of culture as a part of medical education has been raised, and ethical views have become an issue with an increase in research on these issues [8, 9].

In today's society, with the complexity of medical treatment and decisions surrounding health care, it is important for healthcare providers, to be knowledgeable and aware of the laws and ethics that govern patient care. Not only to preserve the patient's right to competent, compassionate health care, but also to avoid legal problems that can threaten their ability to earn a living [10, 11].

The objectives of the present work were to assess medical students', nurses' and physicians' perceptions of the ethical environment, to gather information about any ethical issue they witnessed or experienced during their clinical rotations, to evaluate ethical conduct among healthcare providers in different ethical dilemmas.

Material and Methods
Subjects
A descriptive cross-sectional survey was carried out on 340 study participants divided into 100 physicians of different specialities and different categories, house-officers, residents, and clinical staff members, 115 medical students (in the clinical phase) and 125 nurses of different specialities at the three University Hospitals of Alexandria University, Egypt, from March 2019 to January 2020.

Study design
An anonymous self-administered structured questionnaire was designed, based on appraisal of literature, and distributed by the authors of the research. It was designed to examine the perception of research participants (physicians, students in the clinical phase, and nurses) of different ethical issues encountered during day-to-day practice, preserving the confidentiality of patients, obtaining informed consent from patients, and medical errors, through a four-section design. At the same time, an Arabic version of the questionnaire was prepared for distribution to nurses in order to be more understandable. Some questions of no relevance to nurses were omitted from this version [12,13].

At the same time, the questionnaire included an explanation of the objectives of the research and ended with a space where subjects of research could write their personal experience of ethical issues that they have witnessed. Participation was voluntary and did not involve the collection of personally identifiable information.

Before the beginning of the study, a small-scale trial was conducted to identify potential methodological problems. The following aspects were evaluated: the reaction of the study participants to the research procedures, the data collection tools like sequence and clarity of questions, and the time needed to fill the questions, sampling procedures, and supervision and administration of fieldwork activities. Its reliability was confirmed by carrying out a Cronbach's alpha coefficient equal to 0.872. Moreover, the validity of the questionnaire was tested.

Ethical considerations
Ethical approval was obtained from The Ethics Committee of Alexandria Faculty of Medicine (IRB No: 00012098, FWA No: 00018699) before starting the research. Informed consent was obtained from each research participant before participating in the study.

No personally identifiable information was obtained or linked to participants' responses, except for the class of students and for the specialty of physicians and nurses. Moreover, confidentiality was observed and ensured by the researchers.

Statistical analysis of the data
Data were introduced to the computer and processed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp). Qualitative data were defined using number and percent. The significance of the acquired results was judged at the 5% level. The Chi-square test for categorical variables, to compare between different groups, and Monte Carlo correction (correction for chi-square when more than 20% of the cells have expected count less than 5) were used.
Results
The current study included 340 respondents divided into 100 physicians of different specialties, 115 medical students in the preclinical phase and 125 nurses of different specialties. Participants’ general characteristics are shown in Table 1.

Professional Conduct of physicians, nurses, and students
Table 2 demonstrates that the majority of the participating nurses (84.8%), 74% and 56.5% of participating physicians and students, respectively, stated that their clinical teachers encourage them to raise ethical issues. A significant difference was noted between the given answers, where \( X^2 = 27.326 \) and \( p = 0.001 \). Among the participated physicians, students, and nurses, 53%, 47%, and 77.6%, respectively, declared that they reported to the authorities if they noticed that any of their fellows impaired or had a lack of professional responsibility, with significant difference noted between them (\( X^2 = 29.213 \) and \( p = 0.001 \)).

More than half of participated physicians (54%) and (49.6%) nurses in the current research observed a colleague or a physician who was not putting patient’s interest first (\( X^2 = 18.155 \) and \( p = 0.001 \)). On the other hand, 58.3% of contributing students did not notice such a behavior. At the same time, 53%, 47% and 77.6% of participated physicians, students and nurses, respectively, declared reporting to authorities if they noticed any of their fellows impaired or lacking professional responsibility, with a significant difference noted between them (\( X^2 = 29.213 \) and \( p = 0.001 \)).

A significant difference was observed between respondents’ answers regarding whether they had previously observed a physician who gave a medical certificate of sick leave to a person who was not ill (\( X^2 = 40.238 \) and \( p = 0.001 \)), and less than half of the participating physicians and students (46% and 48.7%), respectively, declared such behavior. Only 22% and 28% of responding physicians confirmed being asked to do something unethical for fear of receiving a poor evaluation or to fit in the group. A significant difference was noted with \( X^2 = 22.307 \) and 28.574, \( p < 0.001 \), respectively.

At the same time, 49%, 46.1% and 38.5% of responding physicians, students and nurses, respectively, watched a medical teacher manifesting unethical behavior towards a patient. Moreover, the present study shows that the majority of participating physicians and students (90% and 87.8%) affirmed that they saw a physician making fun of a patient. Only 24% of responding nurses witnessed such behavior. In addition, the responses of the attendees reported by physicians and students were laughing (42.2% and 32.7%) or additional joking (28.9% and 28.7%), respectively.

At the same time 87%, 83.5% and 12.2% of responding physicians, students and nurses declared that they observed how a nurse made fun of a patient before. However, 76%, 83.5% and only 5.7% of contributing physicians, students and nurses, respectively, perceived a student made fun of a patient before.

The highest percentages (79.6%, 73.9% and 70.2%) of participating physicians, students and nurses, respectively, denied watching a physician made fun of a psychiatric patient, with a significant difference (\( X^2 = 16.936 \) and \( p = 0.002 \)). Similarly, more than two thirds (68.1%) of all responding research participants declared they had never seen a physician making fun of an obese patient before. Moreover, 66%, 67.8% and 67.8% of responding physicians, students and nurses, respectively, did not witness a physician describing a patient or his family in an insulting manner.

In addition, the current research describes that more than half (55.6%) of all responding research participants denied witnessing a physician treating patients differently because of their backgrounds or beliefs (\( X^2 = 13.599 \) and \( p = 0.009 \)). On the other hand, 10.9% of them signed this question as “don’t know”. In addition, 53.4% of the total respondents declared not perceiving a physician treating a patient in a disrespectful manner, while 41.9% of them confirmed watching such a behavior, with non-significant difference between them, (\( X^2 = 6.358 \) and \( p = 0.175 \)).

Among all respondents, 45.9% stated that they witnessed a physician before describing other clinical services or other physicians in a derogatory manner. Among all the research participants, 43.5% denied having seen such a scene before. Non-significant difference was noted between the three groups (\( X^2 = 7.557 \) and \( p = 0.109 \)).

In the present study, 54.9% of all responding participants had witnessed nude behavior from a physician before, with a significant difference between them (\( X^2 = 20.973 \) and \( p < 0.001 \)). At the same time, 55.8% of all responding participants declared observing an inappropriate behavior from a physician, with non-significant difference between obtained responses (\( X^2 = 6.366 \) and \( MCp = 0.167 \)).

Moreover, the majority of all responding participants (80.2) denied watching a patient in distress upon examination during clinical rotation, with a significant difference (\( X^2 = 89.177 \) and \( p < 0.001 \)). According to the nurses’ responses, the physician’s empathic attitude towards the patient accounted for 42.5% and aggressive attitude accounted for 27.5%.

The present work shows that 57.8% of all respondents denied the fact of observing a physician who wrote an inappropriate prescription, with a significant difference (\( X^2 = 11.362 \) and \( p = 0.023 \)). Moreover, 55.5% of all responding participants negated that they had witnessed a case of fraud before, with a significant difference noted between the attained responses (\( X^2 = 15.214 \) and \( p = 0.004 \)). In addition, 61.7% of them did not witness any unlicensed activity (\( X^2 = 22.323 \) and \( p < 0.001 \)).

Among responding physicians, students and nurses, 73%, 75.7% and 68%, respectively, did not watch a physician using drugs or alcohol, with a significant difference observed between responses (\( X^2 = 9.863 \) and \( p = 0.043 \)). In addition, 57%, 38.3% and 73.4% of responding physicians, students and nurses, respectively, confirmed perceiving a case of medical negligence, with a significant difference attained (\( X^2 = 33.514 \) and \( p < 0.001 \)).

Confidentiality
Table 3 shows that regarding confidentiality related issues, 62.6%, 45.2% and 45.1% of responding physicians, students and nurses, respectively, affirmed witnessing a physician discussing a patient’s condition in a public place such as a lift, corridor, waiting room, coffee shop. A significant difference was noticed between the three groups (\( X^2 = 14.691 \) and \( p = 0.005 \)). On the other hand, more than half (54.1%) of the total
respondents confirmed that they had not seen the disclosure of information to family members without the patient’s permission before, with a significant difference between the responses received (X² = 36.274 and p < 0.001).

Among the responding physicians, students and nurses, 67%, 50% and 36.9%, respectively, heard a physician commenting on a patient, but not in the patient’s presence, with a significant difference between them (X² = 23.567 and p < 0.001).

In the present research, 67.5% of responding participants denied having observed a physician discussing confidential information in an inappropriate setting. A significant difference was detected with X² = 37.846 and p < 0.001. Furthermore, 75.1% of all respondents did not see a physician give false information to a patient or his/her family before, with a non-significant difference obtained (X² = 2.961 and p = 0.564). On the other hand, about three quarters of the responding participants (73.6%) did not observe a physician withholding information from a patient without proper reasons, with a significant difference between them (X² = 23.141 and p < 0.001).

Regarding the previous experience of a medical error, more than half of the total respondents (52.2%) in the present work declared that one of their family members had been subjected to a medical error before, with a non-significant difference noticed between the three groups (X² = 8.117 and p = 0.087). Furthermore, the highest percentage of responding physicians (63%) confirmed witnessing a medical error done by one of their colleagues. On the contrary, the higher percentage of participating students and nurses (69.3%) and (47.5%) respectively, negated watching this before, with a significant difference between the obtained answers (X² = 43.775 and p < 0.001).

In the present research, only about two-thirds (63.2%) of responding physicians and students confirmed that they were introduced to the patients or their families as students by their seniors, with a non-significant difference between them (X² = 1.694 and p = 0.429), while only 36.3% of them stated that they were introduced as a junior physician to the patients or their families by their seniors. A significant difference was observed between the answers (X² = 28.517 and p < 0.001).

At the same time, near three-fourths (73.3%) of research respondents denied witnessing a physician who did not take informed consent before any invasive intimate examination, such as rectal or vaginal while under anesthesia. In the current work, 76.9% of respondents did not see a physician not taking informed consent before performing any interventional procedure. In addition, 68% of them did not witness a case where the key components of informed consent before performing any interventional procedure were not fulfilled, with a significant difference noticed between the obtained responses (X² = 28.517 and p < 0.001); 70% of all respondents did not observe a physician not taking informed consent about the type of anesthesia before performing any interventional procedure. Furthermore, 75.6% of research respondents did not watch a physician not taking informed consent from parents of child patients before performing any interventional procedure, with a significant difference observed (X² = 22.030 and p < 0.001).

At the same time, 75.9% of responding research participants of the current work negated perceiving a physician not taking informed consent from a caregiver of an incompetent patient before performing any interventional procedure, with a significant difference between them (X² = 16.626 and p = 0.002); 59.7% of them denied witnessing a physician not taking consent for blood sampling with significant difference noticed (X² = 18.835 and p < 0.002); 64.4% of all respondents in the present study did not observe a physician not taking consent for tissue sampling; 58.4% of them did not see that the necessary procedures were performed against the patient’s wish.

Medical errors

Regarding the previous experience of a medical error, more than half of the total respondents (52.2%) in the present work declared that one of their family members had been subjected to a medical error before, with a non-significant difference noticed between the three groups (X² = 8.117 and p = 0.087). Furthermore, the highest percentage of responding physicians (63%) confirmed witnessing a medical error done by one of their colleagues. On the contrary, the higher percentage of participating students and nurses (69.3%) and (47.5%) respectively, negated watching this before, with a significant difference between the obtained answers (X² = 43.775 and p < 0.001).

In addition, 54% and 46.6% of responding physicians and nurses, respectively affirmed observing a medical error by one of their physicians, while the highest percentage of responding students (63.2%) negated watching this, with a significant difference between the answers gained (X² = 45.892 and p < 0.001).

When the research participants were asked about how serious this problem was, the highest percentage of responding physicians (54.6%) signed as none, while the highest

### Table 1. General characteristics of research participants (n = 340)

| Groups                      | No. | %     |
|-----------------------------|-----|-------|
| Students                    | 115 | 33.8  |
| Nurses                      | 125 | 36.8  |
| Physicians                  | 100 | 29.4  |

| Physician Specialty (n = 100) | No.  | %     |
|-------------------------------|------|-------|
| Dermatology                   | 8    | 8.0   |
| Emergency                     | 2    | 2.0   |
| ENT                           | 6    | 6.0   |
| Gynecology                    | 6    | 6.0   |
| ICU                           | 3    | 3.0   |
| Internal medicine             | 35   | 35.0  |
| Oncology                      | 5    | 5.0   |
| Pediatrics                    | 8    | 8.0   |
| Radiology                     | 6    | 6.0   |
| Surgery                       | 21   | 21.0  |

| Nurses specialty (n = 125)    | No.  | %     |
|-------------------------------|------|-------|
| Emergency                     | 7    | 5.6   |
| ENT                           | 5    | 4.0   |
| ICU                           | 8    | 6.4   |
| Internal medicine             | 79   | 63.2  |
| Surgery                       | 26   | 20.8  |

| Student Years (n = 115)       | No.  | %     |
|-------------------------------|------|-------|
| 4th year                      | 18   | 15.7  |
| 5th year                      | 45   | 39.1  |
| 6th year                      | 52   | 45.2  |
percentage of responding students and nurses (46.8%) and (54.2%), respectively. answered it was minor problem. Only 20.5% of all respondents stated that it was a major problem. A significant difference was noted (X2= 29.321 and p<0.001) (Figure 1).

Regarding the consequences of this observed medical error, serious pain was stated by 30.8% of all respondents, followed by temporary disability (28%), then loss of time from work or school (21.7%). The least percentage was given to permanent disability in 9.8% of answers (Figure 2).

Moreover, concerning who was responsible for the observed medical error, it was a physician in 47.9% of all respondents' answers, followed by a nurse in 24.1%, then a clinic in 13.6%. The least percentage was given to the hospital, accounting for 10.1% of all obtained answers.

On the other hand, when the participated research subjects were asked about the possible cause of the observed medical error, 40.1% of them mentioned the workload due to a low number of caregivers, while insufficient training was mentioned by 38.3%. Only 12.5% of respondents revealed stress as the cause of medical error.

Furthermore, the current study shows the measures that were recommended by the study participants in order to reduce medical errors. About two thirds (64.5%) of them recommended

### Table 2. Comparison between the three studied groups according to I. professional conduct

| Q | Professional conduct | Physician (n=100) | Students (n=115) | Nurses (n=125) | Total (n=340) | X² | p |
|---|-----------------------|------------------|-----------------|---------------|--------------|----|---|
| 1 | Has one of your seniors asked you or one of your colleagues to participate in his patient management? | Yes | 88 | 88.0 | 74 | 64.3 | – | – | 162 | 75.3 | 16.536* | <0.001* |
|   | No | 12 | 12.0 | 39 | 33.9 | – | – | 51 | 23.7 | 2.0 | 0.156 |
|   | Don’t know | 0 | 0.0 | 2 | 1.7 | – | – | 2 | 0.9 | 0.0 | 1.0 |
| 2 | Have you observed or noticed that a physician is not putting a patient's interest first? | Yes | 54 | 54.0 | 39 | 33.9 | 62 | 49.6 | 155 | 45.7 | 18.155* | 0.001* |
|   | No | 43 | 43.0 | 67 | 58.3 | 48 | 38.4 | 158 | 46.6 | 2.0 | 0.156 |
|   | Don’t know | 2 | 2.0 | 9 | 7.8 | 15 | 12.0 | 26 | 7.7 | 0.0 | 1.0 |
| 3 | If you noticed one of your fellow students is impaired or lacking professional responsibility, would you report it to authorities? | Yes | 53 | 53.5 | 54 | 47.0 | 97 | 77.6 | 204 | 60.2 | 29.213* | <0.001* |
|   | No | 34 | 34.3 | 36 | 31.3 | 18 | 14.4 | 88 | 26.0 | 2.0 | 0.156 |
|   | Don’t know | 12 | 12.1 | 25 | 21.7 | 10 | 8.0 | 47 | 13.9 | 0.0 | 1.0 |
| 4 | Were you encouraged by your clinical teacher to raise ethical issues? | Yes | 74 | 74.0 | 65 | 57.0 | 106 | 85.5 | 245 | 72.5 | 27.326* | <0.001* |
|   | No | 23 | 23.0 | 36 | 31.6 | 15 | 12.1 | 74 | 21.9 | 2.0 | 0.156 |
|   | Don’t know | 3 | 3.0 | 13 | 11.4 | 3 | 2.4 | 19 | 5.6 | 0.0 | 1.0 |
| 5 | Did you observe a physician giving a medical certificate of sick leave to a person who is not really ill? | Yes | 46 | 46.0 | 56 | 48.7 | 24 | 19.2 | 126 | 37.1 | 40.238* | <0.001* |
|   | No | 51 | 51.0 | 46 | 40.0 | 70 | 56.0 | 167 | 49.1 | 2.0 | 0.156 |
|   | Don’t know | 3 | 3.0 | 13 | 11.4 | 3 | 2.4 | 19 | 5.6 | 0.0 | 1.0 |
| 6 | Were you asked anytime to do something unethical for fear of receiving a poor evaluation? | Yes | 22 | 22.0 | 22 | 19.3 | 5 | 4.0 | 49 | 14.5 | 22.307* | <0.001* |
|   | No | 75 | 75.0 | 61 | 53.4 | 113 | 90.4 | 269 | 79.4 | 2.0 | 0.156 |
|   | Don’t know | 3 | 3.0 | 11 | 9.6 | 7 | 5.6 | 21 | 6.2 | 0.0 | 1.0 |
| 7 | Were you asked anytime to do something unethical to fit in the group? | Yes | 28 | 28.0 | 9 | 7.8 | 7 | 5.6 | 44 | 12.9 | 28.574* | <0.001* |
|   | No | 69 | 69.0 | 96 | 83.5 | 113 | 90.4 | 278 | 81.8 | 2.0 | 0.156 |
|   | Don’t know | 3 | 3.0 | 10 | 8.7 | 5 | 4.0 | 18 | 5.3 | 0.0 | 1.0 |
| 8 | Did you watch a medical teacher showing unethical behavior towards a patient? | Yes | 49 | 49.0 | 53 | 46.1 | 45 | 38.5 | 147 | 44.3 | 3.392* | 0.494* |
|   | No | 45 | 45.0 | 51 | 44.3 | 61 | 52.1 | 157 | 46.6 | 2.0 | 0.156 |
|   | Don’t know | 6 | 6.0 | 11 | 9.6 | 11 | 9.4 | 28 | 8.4 | 0.0 | 1.0 |

* Chi square test  MC: Monte Carlo  p: p value for comparing between the three studied groups  *: Statistically significant at p < 0.05  Percentages are calculated from those who answered the question only
Table 3. Comparison between the three studied groups according to confidentiality

| Q | II: Confidentiality | Physician | Students | Nurses | Total | $X^2$ | p | MC | p |
|---|---------------------|-----------|---------|--------|-------|-------|---|----|---|
| 1 | Have you witnessed a physician discuss a patient’s condition in a public place such as a lift, corridor, waiting room, coffee shop? | (n=99) | (n=115) | (n=122) | (n=336) | 14.691* | 0.05* |
| Yes | 62 | 62.6 | 52 | 45.2 | 55 | 45.1 | 169 | 50.3 |
| No | 33 | 33.3 | 60 | 52.2 | 55 | 45.1 | 148 | 44.0 |
| Don’t know | 4 | 4.0 | 3 | 2.6 | 12 | 9.8 | 19 | 5.7 |
| 2 | Have you witnessed the disclosing of information to family members without patient’s permission? | (n=100) | (n=115) | (n=123) | (n=338) | 36.274* | <0.001* |
| Yes | 44 | 44.0 | 42 | 36.5 | 33 | 26.8 | 119 | 35.2 |
| No | 53 | 53.0 | 69 | 60.0 | 61 | 49.6 | 183 | 54.1 |
| Don’t know | 3 | 3.0 | 4 | 3.5 | 29 | 23.6 | 36 | 10.7 |
| 3 | Have you heard a physician comment about a patient while not in the patient’s presence? | (n=100) | (n=114) | (n=122) | (n=336) | 23.567* | <0.001* |
| Yes | 67 | 67.0 | 57 | 50.0 | 45 | 36.9 | 169 | 50.3 |
| No | 29 | 29.0 | 52 | 45.6 | 62 | 50.8 | 143 | 42.6 |
| Don’t know | 4 | 4.0 | 5 | 4.4 | 15 | 12.3 | 24 | 7.1 |
| 4 | Have you witnessed a physician discuss confidential information in an inappropriate setting? | (n=100) | (n=115) | (n=123) | (n=338) | 37.846* | <0.001* |
| Yes | 36 | 36.0 | 26 | 22.6 | 14 | 11.4 | 76 | 22.5 |
| No | 54 | 54.0 | 88 | 76.5 | 86 | 69.9 | 228 | 67.5 |
| Don’t know | 10 | 10.0 | 1 | 0.9 | 23 | 18.7 | 34 | 10.1 |
| 5 | Have you witnessed a physician give false information to a patient or his/her family? | (n=100) | (n=115) | (n=122) | (n=337) | 2.961 | 0.564 |
| Yes | 14 | 14.0 | 19 | 16.5 | 22 | 18.0 | 55 | 16.3 |
| No | 79 | 79.0 | 88 | 76.5 | 86 | 70.5 | 253 | 75.1 |
| Don’t know | 7 | 7.0 | 8 | 7.0 | 14 | 11.5 | 29 | 8.6 |
| 6 | Have you witnessed a physician withhold information from a patient without proper reasons? | (n=100) | (n=115) | (n=122) | (n=337) | 19.205* | 0.001* |
| Yes | 18 | 18.0 | 11 | 9.6 | 23 | 18.9 | 52 | 15.4 |
| No | 78 | 78.0 | 94 | 81.7 | 76 | 62.3 | 248 | 73.6 |
| Don’t know | 4 | 4.0 | 10 | 8.7 | 23 | 18.9 | 37 | 11.0 |

x²: Chi square test
MC: Monte Carlo
p: p value for comparing between the three studied groups
*: Statistically significant at p ≤ 0.05

Categories are not mutually exclusive.

Figure 1. Comparison between the three studied groups according to their answers about how serious was the problem.

Figure 2. Comparison between the three studied groups according to consequences of the medical error perceived.

Table 3: Comparison between the three studied groups according to confidentiality.

Q II: Confidentiality

Have you witnessed a physician discuss a patient’s condition in a public place such as a lift, corridor, waiting room, coffee shop? (n=99) (n=115) (n=122) (n=336)

- Yes: 62, 52, 55, 169
- No: 33, 60, 55, 148
- Don’t know: 4, 3, 2, 19

Have you witnessed the disclosing of information to family members without patient’s permission? (n=100) (n=115) (n=123) (n=338)

- Yes: 44, 42, 33, 119
- No: 53, 69, 61, 183
- Don’t know: 3, 4, 29, 36

Have you heard a physician comment about a patient while not in the patient’s presence? (n=100) (n=114) (n=122) (n=336)

- Yes: 67, 57, 45, 169
- No: 29, 52, 62, 143
- Don’t know: 4, 5, 15, 24

Have you witnessed a physician discuss confidential information in an inappropriate setting? (n=100) (n=115) (n=123) (n=338)

- Yes: 36, 26, 14, 76
- No: 54, 88, 86, 228
- Don’t know: 10, 1, 23, 34

Have you witnessed a physician give false information to a patient or his/her family? (n=100) (n=115) (n=122) (n=337)

- Yes: 14, 19, 22, 55
- No: 79, 88, 86, 253
- Don’t know: 7, 8, 14, 29

Have you witnessed a physician withhold information from a patient without proper reasons? (n=100) (n=115) (n=122) (n=337)

- Yes: 18, 11, 23, 52
- No: 78, 94, 76, 248
- Don’t know: 4, 10, 23, 37
developing a system for preventing error, followed by 51.9% of them who suggested training in preventing errors, and finally, encouraging hospitals to report medical errors (45.3%). The least percentage (10%) of respondents proposed suspending the license of a medical institution.

**Discussion**

Knowledge and practice of medical ethics by healthcare professionals is an extremely important issue in today's highly sophisticated and expensive medical treatment [14]. The current study included 340 respondents to a self-administered structured questionnaire divided into 100 physicians of different specialties, 115 medical students in the preclinical phase and 125 nurses of different specialties. The questionnaire was for mainly four ethical issues. Professional misconduct extends to any behavior affecting the clinician in his professional capacity, which may properly be regarded as dishonorable or disgraceful by his colleague in the light of the accepted ethical standards of the profession, whether written or unwritten. Improper delegation, abuse of confidentiality and exercising of undue influence over a patient's affairs are other serious overconfidence mistakes. Further instances of professional misconduct include drunkenness, treatment in return for financial inducements from the suppliers, incorrect certification with regards to sick notes, or insulting patient [15].

In the present study the majority of participating nurses (84.8%), 74% and 56.5% of participating physicians and students, respectively, divulged that their clinical teachers encouraged them to raise ethical issues. More than half of the participated physicians (54%) and 49.6% of nurses observed a colleague or a physician who was not putting patient's interest first, whereas 58.3% of the participating students did not notice such behavior. At the same time, 53%, 47% and 77.6% of participated physicians, students and nurses, respectively, declared that they reported to the authorities if they noticed that any of their fellows impaired or had a lack of professional responsibility, with a significant difference noted between them.

To evaluate the awareness and attitudes of medical ethics amongst medical students in Malaysia, the response rate was 84.3% reflecting positive attitudes of students towards medical ethics [12]. Similar findings were observed by Chatterjee and Sarkar [16] and Walsh et al. [17], while in the study by Acharya and Shakya [18], 91.3% of the medical interns considered medical ethics to be important.

In the work of Mohamed et al., a significant difference was observed between respondents' answers regarding previously watching a physician who gave a medical certificate of sick leave to a person who was not ill [19]. Among the responding physicians, students and nurses, 87%, 83.5% and 12.2%, respectively, declared that they had previously observed a nurse making fun of a patient before. However, 76%, 83.5% and only 5.7% of the participating physicians, students and nurses, respectively, perceived a student making fun of a patient.

More than half of all respondents denied witnessing a physician treating patients differently because of their backgrounds or beliefs, or treating a patient in a disrespectful manner, while 41.9% of them confirmed watching such behavior and witnessed rude or inappropriate behavior from a physician. However, the majority of all responding participants denied watching a patient in distress upon examination during clinical rotation.

Medical students confirmed that occasionally they might do what they consider unethical but necessary for their survival or success, while at the same time believing that they are main training. Kunda observed that medical students are motivated to justify reasonably their observation and participation in unethical behavior [20].

Testerman et al. concluded that some medical students struggle to develop coping skills in the complex and challenging medical environment, but that this cynicism decreases as residents and then as practicing physicians when they become more knowledgeable, skillful, and adept at dealing with ambiguous and challenging medical and ethical situations. These two studies were conducted in the nineties of the twentieth century before medical ethics was included in curricula and when ethical issues were not mostly concerned in practice [21].

In the present study, 73%, 75.7% and 68% of responding physicians, students and nurses did not watch a physician using drugs or alcohol. In addition, 57%, 38.3% and 73.4% of responding physicians, students and nurses respectively confirmed perceiving a case of medical negligence. Nearly similar results were observed in other works [16-18]. The rule of confidentiality is nonetheless subject to a number of important limitations both legal and moral in clinical practice [1].

In the present study, 62.6%, 45.2% and 45.1% of responding physicians, students and nurses, respectively, affirmed witnessing a physician discussing a patient's condition in a public place.

However, 67.5% of all responding participants denied observing a physician discussing confidential information in an inappropriate setting. Furthermore, 75.1% of all respondents did not see a physician giving false information to a patient or his/her family or withheld information from a patient without proper reasons.

Similar results were reported in a study by Singh et al. (2016) regarding the respect of patient wishes informing close relatives. However, a small percentage of their respondents considered confidentiality an unimportant aspect of treatment [22].

Consent is the act of giving approval or acceptance of something done or proposed to be done, and an act exact conduct flowing from the person giving the consent. In recent years, informed consent before an interventional procedure is mandatory to ensure that one's autonomy is respected, letting patients to carefully consider their choices [23].

In Achaya and Shakya work, the majority of the participants had positive attitudes towards autonomy, paternalism, justice, and confidentiality [18]. Similar findings were reported by Chatterjee and Sarkar and others [16, 17].

Medical errors are accepted as a human factor and are recorded in the literature everywhere in the world [24]. More than half
of the total respondents (52.2%) in the present work declared exposure of one of their family members to a medical error before.

Among the responding physicians and nurses, 54% and 46.6%, respectively, affirmed observing a medical error by one of their physicians, while the highest percentage of responding students (65.2%) negated watching similar incidents. The consequences were serious only as stated by 20.5% of all respondents. The consequences included severe pain, as stated by 30.8% of all respondents, followed by temporary disability (28%), and then loss of time from work or school (21.7%). The least percentage was given to permanent disability in 9.8% of responses.

The responsible personnel was a physician in 47.9% of answers of the responses, followed by a nurse in 24.1%, and then a clinic in 13.6%. The least percentage was given to the hospital with 10.1% of all obtained answers.

This is in contrast to results found in a study in Africa that showed that 42% of respondents agreed that ethics is important only for legal purpose indicating that there is very little knowledge regarding health care ethics in these settings [25].

There was some discrepancy in our study population between doctors and nurses. This could be attributed to personalized judgment in the absence of knowledge on ethics. On the other hand, 40.1% of the responders attributed the errors to load of work due to a small number of caregivers, while insufficient training was mentioned by 38.3% of them, and 12.5% of respondents revealed stress as a cause of medical error.

About two thirds of respondents in the present work recommended developing system for preventing error, while 51.9% of them suggested training in preventing errors and 45.3% suggested encouraging hospitals to report medical errors.

In Adhikari et al's work, the preference of the resident doctors and nurses was consultation regarding ethical and legal problem they observe [13]. Similarly, the majority (67.2 %) of doctors preferred to consult a lawyer, while majority of the nurses (80.7%) prefer consulting their supervisors.

**Conclusion**

Our study elucidates that doctors and nurses differ in their attitudes pertaining to practical ethical issues such as informing close relatives, consenting to treating, adherence to confidentiality and consent. The attitude towards medical ethics including core values for the guidance of doctors, physician's duties towards patients including respect, and confidentiality and consent among the students of our medical college was satisfactory.

**Scientific Responsibility Statement**

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

**Animal and human rights statement**

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflicts of interest

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