

Physicians Knowledge and Attitude Towards Patient Confidentiality and Data Sharing: A Cross-Sectional Study

Lubna Wisam Abdul Lateef M.B.Ch.B Supervised by
Huda Adnan AL-Mausawie, Family Medicine Consultant M.B.Ch.B / F.I.C.M.S-F.M
University of Baghdad / Al-Kindy College of Medicine

Abstract

Background: The physician-patient relationship has long been linked with a special ethos of confidentiality. It is one of the most important aspect in any medical specialty, it promises patients' trust in the health system. Healthcare workers in general, and doctors in particular, must to be knowledgeable about patients' rights.

Aim of study: To examine practicing physicians' knowledge and attitudes related to different aspects of patient confidentiality and data sharing.

Subjects and Methods: This was a cross-sectional study with analytic component conducted in two teaching hospitals and six Primary Health Care Centers in Baghdad during a period of 10 months from 1st of February to 1st of December 2023. It included 253 physicians. Data collected by a questionnaire with three parts: Socio-demographic characteristics, knowledge about data sharing and confidentiality, and attitudes towards patient confidentiality and data sharing).

Results: In this study, 52.5% of participants had fair knowledge towards patient confidentiality and 19% were with poor knowledge. Rates of good knowledge were significantly higher in female physicians, physicians who had board certificate, and those who received training on medical ethics. Regarding physicians' attitude towards patient confidentiality, 79.9% were found to have a positive attitude 20.1% had negative attitude. Having board degree, having contact with > 40 patients per day, and taking training on medical ethics were significant factors associated with positive attitude of physicians towards patient confidentiality.

Conclusion: The majority of participants showed fair level of knowledge and positive attitude towards patient confidentiality. The most important modifiable factors that may increase the level of knowledge and attitude were getting higher level of education (board certificate) and taking training on medical ethics.

Keywords: Physician, patients, confidentiality, knowledge, attitude, Iraq.

Introduction

The restriction of unauthorized individuals' access to personal information during authorized times and in authorized ways is known as confidentiality ⁽¹⁾. Dictated in the famous Hippocratic Oath, preserving patient confidentiality is one of the oldest cornerstones of healthcare practice. So, Physicians have a moral and legal obligation to respect patient liberty and data privacy ⁽²⁾. The requirements of the patient and the doctor are served by patient confidentiality. It is in the best interests of the doctors. Additionally, it shields patients' data from improper usage ⁽³⁾. Patients' fundamental rights include the following: upholding human decency, obtaining first-rate medical care, having access to information and the right to keep it confidential, initially consenting to medical intervention, maintaining care and treatment, and maintaining privacy and personal life ⁽⁴⁾. Patients' trust in their healthcare professionals may decline if patient medical records are not protected, especially when it comes to sensitive and stigmatized conditions including sexually transmitted diseases, drug addiction, mental health issues, and reproductive health ⁽⁵⁾. If a patient's medical data are going to be used for clinical or epidemiological research without the patient's explicit consent, the treating physician is responsible for making sure that the patient's identity is protected. Information should only be given about valuable medical research that complies with all applicable legal requirements and written protocols that have been approved by accredited ethics committees, limiting the information shared to that which is absolutely necessary for the study ⁽⁶⁾. Confidentiality and privacy protection are in greater demand as technological improvements make it easier to intervene in people's private life. Demand influences the healthcare services offered and inspires innovative approaches ⁽⁷⁾. The Data Protection Act was created to provide protection and establish guidelines for the usage of personal data ⁽⁸⁾. To uphold ethical practices, physicians must be aware of these regulations and codes of ethics. Few researches have looked into how knowledge doctors are connected to ethical rules and laws of data security and sharing ^(9, 10). Healthcare workers in general, and doctors in particular, must to be knowledgeable about patients' rights. Physicians must always consider patients' rights in their actions if an integrated strategy is to be realized in the health sector. The main goal of this study is that it addresses the widely emerging trend of patient data sharing information and confidentiality among physicians in developing countries taking Iraq as an example, so we aimed to examine practicing physicians' knowledge and attitudes related to different aspects of patient confidentiality and data sharing.

Subjects and methods

Study design, setting, and time: This was a cross-sectional study with analytic component conducted in two teaching hospitals and six Primary Health Care Centers (PHCCs) in Baghdad. The selection of centers was performed by convenient sampling method and this study conducted during a period of 10 months from 1st of February to 1st of December 2023.

Study population: This study included the physicians who working in the selected hospitals and PHCCs after being consented to participate in the study. They informed about the purpose of the study and those who agreed to participate were enrolled in the study. Physicians who refused to participate in the study or those with incomplete filled questionnaire were excluded. The total number of participants included in this study was 253.

Ethical approval: Verbal consent was obtained from each physician prior to collecting data, and information were anonymous. Names were removed and replaced by identification codes. All information kept confidential in a password secured laptop and data used exclusively for the research purposes.

Official approval: It was granted from Scientific Committee in Family and Community Department in Al-Kindy College of Medicine, AL- Rusafa and Al-Karkh Health Directorates, and Al-Kindy and Al-Elwiya Teaching Hospitals (including approval by ethics review committees).

Data collection: Data had been collected by self-administered questionnaire; provided directly to the participants by web-based survey software (Google Forms) and collected by researcher up on the completion and including three parts: (Participants' socio-demographic characteristics, knowledge about data sharing and confidentiality, and attitudes towards patient confidentiality and data sharing). The questionnaire based on previous literatures and modified according to national needs which was edited, reviewed, revised and approved by the supervisor and revision committee^(2, 11).

▪ Sociodemographic characteristics included age and gender, marital status, educational level, monthly income, specialty, place of work, working setting, years of experience, number of patients served / day, training on medical ethics, and time of training on medical ethics.

▪ Physicians' knowledge about data sharing and confidentiality: Included eight questions that measure knowledge of the physicians about data sharing and confidentiality as:

1. Is confidentiality and access to medical records governed by law?
2. Is confidentiality and access to medical records governed by unique instruction such as official legislation of the MOH?
3. Is the non-medical information in the medical record confidential?
4. Are the police allowed to access medical record freely?
5. Can third parties (such as a cleaning staff) access medical record without patient consent?
6. Can a patient's confidentiality be breached if he/she dies?
7. Can a patient's confidentiality be breached if the disease is communicable?
8. Can patients' confidentiality be breached if the disease is not communicable?

The answers to questions that show how physicians can understand data sharing and confidentiality were categorized into (Yes, no, and don't know). Correct answer was given 1 mark while no mark was given for each question that was wrongly answered or stated as "don't know". The total score may range from 0 to 8 with higher scores reflecting better knowledge.

Nominal scale and response categorized as true, false, and I don't know. Results to be used in statistical calculation would be correct and incorrect as:

- ✓ < 50% (0 – 3) represented poor knowledge.
- ✓ Between 50 – 74% (4 – 5) represented moderate knowledge.
- ✓ ≥ 75% (6 – 8) represented good level of knowledge.

▪ Physicians' attitude about patient data sharing and confidentiality: Included 13 items measure physicians' response toward attitudes about patient data sharing and confidentiality.

1. I make sure to keep the patient investigation results and examination findings and document it completely Confidentially.
2. I discuss a patient's conditions with them in front of other patients to save time and place.
3. While I'm with patient, I allow non-medical personnel (e.g., cleaning staff) to enter the examination room.
4. I use a lock to store patient information.
5. I use a personal computer to store patient information.
6. I send patient information online.
7. I send information by phone.
8. I deal with the information of patients with sensitive diseases with more caution.
9. I discuss my patients' conditions with my colleagues for consultation (not in public) during work breaks.
10. I discuss my patients' conditions with my colleagues at work sitting in the open. spaces (in public), such as reception areas and corridors.
11. I discuss my patient's conditions with my friends outside the workplace.
12. I leave notes about my patients' conditions on my desk.
13. I make or receive phone calls about patient's conditions when I am near other patients.

The items were rated on a 5- point Likert scale, which is, strongly disagree - 1, disagree - 2, neutral- 3, agree- 4 and strongly agree - 5. The 13 Likert scale items were summed together to give a total score ranging from 13 to 65, in which a higher score reflects more confidentiality toward patient data sharing. Likert scale score was used to scoring responses in an attitude part which is also known as summative scale. It is type of ordinal scale and generally used to quantify attitude and behavior with score below 50% considered negative attitude; while score of $\geq 50\%$ was considered positive attitude.

Statistical analysis: Analysis of data was carried out using the available statistical package of SPSS-25 (Statistical Packages for Social Sciences- version 26). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum values). The significance of difference of different percentages (qualitative data) were tested using Pearson Chi-square test (x²-test) with application of Yate's correction or Fisher Exact test whenever applicable. Statistical significance was considered whenever the P value was equal to or less than 0.05.

Results

The mean age of participants was 31.24 ± 4.97 years, 32% were males, 61.3% were married, 45.5% and 46.2% had university and board degrees respectively, 79.4% working in hospitals, 23.3% had a specialty in family medicine, 37.9% had > 10 years of experience, monthly income was (1 – 2) million Iraqi Dinars for 59.7%, 53.8% reported that they served > 40 patients per day, 68.8% reported that they had training on medical ethics, and 62.6 of them received training during undergraduate period as shown in table (1).

Table (1): Distribution of study sample according to general characteristics

Physicians' Characteristics	No. (N= 253)	Percentage (%)
Gender		
Male	81	32.0
Female	172	68.0
Marital Status		
Single	87	34.4
Married	155	61.3
Widowed Or Divorced	11	4.3
Educational Level		
M.B.Ch.B	115	45.5
Diploma	21	8.3
Board/Phd	117	46.2
Workplace		
Primary Healthcare Centre	40	15.9
Hospital	201	79.4
Tertiary Care Centre	12	4.7
Specialty		
Family Medicine	59	23.3
General Practitioner	47	18.6
Obstetrics And Gynecology	46	18.2
Pediatrics	42	16.6
General Surgery	29	11.5
Internal Medicine	14	5.5
Dermatology	5	2.0
Urology	4	1.6
Neurology	3	1.2
Others	4	1.6
Years Of Experience (Years)		
< 5	79	31.3
5 - 10	78	30.8
> 10	96	37.9
Monthly Income (Iraqi Dinar)		
< 1.000.000	70	27.7
1.000.000 – 2.000.000	151	59.7
> 2.000.000	32	12.6
Number Of Patients Served/ Day		
< 30	53	20.9
30 – 40	64	25.3
> 40	136	53.8
Training On Medical Ethics		
Yes	174	68.8
No	79	31.2
Training Time N= 174		
Undergraduate	109	62.6
Postgraduate	65	37.4

As shown in table (2), 52.5% of physicians had fair level of knowledge towards patient confidentiality, and 71.1% of them had positive attitude towards patient confidentiality.

Table (2): Distribution of study sample according to knowledge and attitude levels towards patient confidentiality

Variable	No. (N= 253)	Percentage (%)
Knowledge Score		
Good	72	28.5
Fair	133	52.5
Poor	48	19.0
Attitude Score		
Positive	180	71.1
Negative	73	28.9

Logistic regression analysis was applied (table 3) using poor and fair knowledge and negative attitude towards patient confidentiality as the dependent variables and the variables that showed significant association in the binary analysis as the independent variables. Three factors were found to be significant independent risk factors for poor and fair knowledge. These factors were: Male gender (OR= 1.32), lower level of educational degree (OR= 3.72), and lack of training on medical ethics (OR= 4.78). Three factors were found to be significant independent risk factors for negative attitude. These factors were: Lower level of educational degree (OR= 2.66), lower number of patients served / Day (OR= 1.53) and lack of training on medical ethics (OR= 4.22).

Table 3: Logistic regression analysis of the factors associated with poor and fair knowledge and negative attitude towards patient confidentiality

Variable	Odds Ratio	95% C.I.		P - Value
		Lower	Upper	
Determinants Of Poor And Fair Knowledge Towards Patient Confidentiality				
Male Gender	1.32	1.021	2.412	0.042
Lower Level Of Educational Degree	3.72	2.152	7.521	0.006
Lack Of Training On Medical Ethics	4.78	2.32	11.218	0.001
Determinants Of Negative Attitude Towards Patient Confidentiality				
Lower Level Of Educational Degree	2.66	1.74	4.51	0.021
Lower Number Of Patients Served / Day	1.53	1.12	3.49	0.036
Lack Of Training On Medical Ethics	4.22	2.51	7.49	0.001

Discussion

A number of medical groups and communities have adopted codes of ethics that place a significant emphasis on privacy and secrecy. The World Federation for Medical Education has also highlighted the need to balance medical students' behavioral and intellectual skills ⁽¹²⁾. Maintaining patient confidentiality is not always possible, and there are situations in which doctors may need to disregard it.

Some nations have defined the situation-specific circumstances that can qualify for confidentiality exceptions in order to avoid subjectivity ⁽¹³⁾. Physicians must always reassure patients that their information will be kept private and that disclosing personal information about a patient compromise that patient's trust. Due to the significant value placed on patient privacy in the medical and health fields, doctors need to be well informed on the associated issues, national laws, and confidentiality guidelines ⁽¹⁴⁾. Despite legislative legislation that upholds rights, physicians' beliefs may ultimately influence their decision to maintain anonymity. Comprehending the perspectives and convictions of medical professionals who treat patients could assist in customizing regulations for particular socio-cultural contexts. Despite the fact that numerous studies sought to investigate perceptions around healthcare confidentiality ⁽¹⁵⁾. The present work revealed that 28.5% of participants had good knowledge, 52.5% had fair, and the remaining 19% were with poor knowledge towards patient confidentiality and the factors that related to poor level are male gender, lower level of educational degree, and lack of training on medical ethics. This result was agreed with study conducted by Tegegne MD et al 2022 ⁽¹¹⁾ with 59.8% of physicians had good knowledge and different from Karasneh R et al 2021 study ⁽²⁾ which found that knowledge of physician regarding confidentiality among male were significantly higher compared to female. In Plaiasu MC et al study 2022, the specialty was the strongest predictor of legal knowledge, with emergency physicians rating the lowest and non-surgical physicians scoring the highest ⁽¹⁶⁾. Health workers in high-resource nations are better aware of patients' rights to privacy in their day-to-day interactions and understand the comparative advantages of patient confidentiality. The bulk of the participants had less professional experience interacting with patients, and their age was significantly lower, which is consistent with the experience, which could account for the remaining reasons for the discrepancy between studies. In addition, doctors were expected to have more specialized training and superior clinical data management than others with low education ⁽¹⁷⁾. It is imperative that medical professionals give due consideration to all of its features. Holding medical staff accountable to patients during treatment and caregiving is necessary to uphold patients' rights ⁽¹⁸⁾.

This study found that educational level, contact with > 40 patients/day, and training on medical ethics were significant factors associated with positive attitude of physicians towards patient confidentiality. Medical staff must be trained in patient rights protection and provide guidance in this regard. It's also essential to clearly define the duties and statuses of medical staff and patients. Strengthening the autonomy of those who use patient rights and the opportunities that come with carrying out these responsibilities will ensure that society adopts more positive approaches to patient rights ⁽¹⁹⁾. In conclusion, the majority of participants showed fair level of knowledge and positive attitude towards patient confidentiality. The most important modifiable factors that may increase the level of knowledge and attitude were getting higher level of education (board certificate) and taking training on medical ethics. So, raising the awareness among physicians about the importance of education and receiving training programs on medical ethics is recommended. Further larger researches in other regions of Iraq are needed involving larger sample size for good representation of population and to give researchers and policymakers a general idea about physicians' knowledge and attitude towards patient confidentiality.

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