Assessment of the documentation completeness level of the medical records in Basrah General Hospital

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ABSTRACT

Background: **Medical records documentation is an important legal and professional requirement for all health professionals. They include information which describes all aspects of patient's care. But, despite the importance of medical records to support better quality service provided at the health facilities, incomplete documentation is very common all over the world.**

Objective of the study: **to assess the documentation completeness level of the medical records in the different inpatient wards of Basrah General Hospital.**

Methodology: **The study was a descriptive cross-sectional one. Medical records of 268 inpatients from Basrah General Hospital during June 2016 were included from four departments of the hospital (medicine, surgery, pediatrics and obstetrics and gynecology). A standard Iraqi Ministry of Health inpatient medical record with a two-level scoring system for assessing the level of documentation completeness were used in the study.**

Results: **the overall documentation level for the medical records included in the study was generally poor in 78% of the records. Surgical department was found to be the worse in documenting patient's notes related to medical history, while Gynecology and Obstetrics department was found to be the worst in documenting the medical examination assessment and the physician's notes related to the patient's state and details of any improvement / deterioration of his/her condition.**

Conclusions and recommendations: **The present study confirmed obvious incompleteness of documenting medical data for inpatient records in Basrah General Hospital especially in the general surgery, internal medicine and Gynecology and Obstetrics words. This is specifically found for the Physician notes (patient's state and details of any improvement/deterioration of the condition) and the Clinical pharmaceutical sheet. A hospital based quality improvement project to improve the medical record documentation completion is highly recommended to be implemented by the Quality Assurance Unit of Basrah Directorate of Health.**

Key words: Medical records, inpatients, documentation, Basrah

دراسة لتقييم مستوى التوثيق في السجلات الطبية للمرضى الراقدين في مستشفى البصرة العام

المقدمة: عملية توثيق السجلات الطبية احتياج قانوني ومهني مهم لجميع المهنيين الصحيين. وهي عملية تتضمن معلومات تصف جميع جوانب رعاية المريض. لكن وعلى الرغم من أهمية السجلات الطبية لدعم جودة الخدمة المقدمة في المرافق الصحية، فإن التوثيق الغير المكتمل هي مشكلة شائعة جداً في جميع أنحاء العالم.

الهدف: تقييم مستوى اكتمال التوثيق في السجلات الطبية للمرضى الراقدين في مستشفى البصرة العام.

المنهجية: الدراسة وصفية مقطعية شملت السجلات الطبية لـ ٢٦٨ مريضا راقدا في مستشفى البصرة العام خلال حزيران ٢٠١٦ من أربعة أقسام في المستشفى (الطب والجراحة وطب الأطفال والأمراض النسائية والتوليد). واستخدمت الدراسة "السجل الطبي القياسي" لوزارة الصحة العراقية مع نظام تقييم ثنائي لتقييم مستوى اكتمال الوثائق.

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النتائج: تبين أن مستوى اكتمال الوثائق الكلي للسجلات الطبية المدرجة في الدراسة كان موثقاً بصورة فقيرة في ٧٨٪ من السجلات. وقد وجد أن القسم الجراحي هو الأسوأ في توثيق ملاحظات المريض المتعلقة بتاريخه الطبي، في حين وجد أن قسم الأمراض النسائية والتوليد هو الأسوأ في توثيق تقييم الفحص الطبي وملاحظات الطبيب المتعلقة بحالة المريض وتفاصيل أي تحسن أو تدهور في حالته.

الاستنتاجات والتوصيات: أظهرت الدراسة الحالية نقصا واضحا في توثيق البيانات الطبية لسجلات المرضى الراقدين في مستشفى البصرة العام وخاصة في ردهات الجراحة العامة والطب الباطني والأمراض النسائية والتوليد. تحديداً، وجد هذا في نماذج المتابعة وملاحظات الطبيب والمعلومات المتعلقة بالأدوية المعطاة. توصي الدراسة بمشروع لتحسين الجودة في المستشفى من خلال تحسين التوثيق الطبي يتم تنفيذه من قبل شعبة ادارة الجودة في دائرة صحة البصرة.

INTRODUCTION

Medical records documentation is an important legal and professional requirement for all health professionals. Despite its importance, there has been little available research evaluating the whole standard of medical record documentation by health professionals.[1] Since medical records are the major source of health information, they are essential to maintain accurate, wide ranging and properly coded patient's data. They also include relevant facts, findings, and observations about a patient's health history including past and present illnesses, examinations, laboratory tests, treatments, and outcomes.[2] Medical records, manual or electronic, include information, which describes all aspects of patient's care. Physicians, nurses, and other healthcare providers need medical information for the patients' treatment. These information items mediate the relation between physicians, patients, and other healthcare providers.[3] Healthcare information causes legal protection for patient, healthcare providers or hospitals when it is required or there is a problem. In addition, medical records have a big role in supplying financial purposes and shaping treatment costs and supports medical education, healthcare services, and clinical research.[4] A well designed evaluation of medical records and the related clinical documentation practices allows hospitals and physicians in addition to health authorities and decision makers to have an accurate assessment of their existing standings with consideration to accuracy and compliance for medical record keeping. The international laws require that all actions related to medical services be recorded completely and accurately.[4] A record should be generated whenever a health care service is started and this includes all tests, diagnosis, treatments, and nursing care. Medical records are important tools to perform the correct needed treatment and prevention.[5] In addition, they play an important role in accelerating the process and correcting treatment, evaluating medical and nursing staff performances, medical/health organization planning and making proper and essential decisions.[6] Furthermore, preparation of the inpatients' medical reports in hospitals helps the doctors for scheduling patients' treatment, and disease diagnosis.[7] Incomplete registration of data in a medical record will lead to missing of the tests and undergoing further expenses for patients.[7] In the era of information and technology, medical records are the most important, the most actual and the richest resource of health and medical information because they are based on medical facts.[8] Since some of the medical forms are considered as focal forms of patient's record and have particular importance such as summary sheet, medical history sheet, progress note; if they are not in medical records or are not completed they can cause incorrect diagnosis during patient's hospitalization and also after patient's discharge.[8] In addition, complete and perfect saving and maintaining of medical records is the vital part of patient's treatment management.[7] One of the most important

reason of incomplete records is that the doctors and surgeons believed that the medical or surgical care required for patients are vital, but documentation of the data concerning to care is not considered as a part of treatment process by them, This is a misconception because the time spent to register and complete the patients' medical records is considered as part of care process.[9] Medical records quality reflects healthcare quality provided by physicians, and an efficient medical record system facilitates medical care assessment and research.[4] According to Iraqi Ministry of Health, the medical record is made up of a number of forms, which includes.[10]:

- The front sheet or identification and summary sheet, with an operation code and the attending doctors signature;
- Consent for treatment which is often on the back of the Front Sheet and must be signed by the patient at the time of admission. There are two parts to this form. The first half of the form is a general consent for treatment and the bottom half is consent to release information to authorized persons.
- Correspondence and legal documents received about the patient, e.g., referral letter, requests for information.
- Discharge summary, if required by the hospital/health authority.
- Admission notes, including the patient's family medical history, the patient's past medical history, presenting symptoms, results of a physical examination, proposed tests and care.
- Clinical progress notes recording the patient's daily treatment and reaction to that treatment written by the attending doctor and other health care professionals.
- Nurses' progress notes recording daily nursing care including temperature, pulse and respiration charts, blood pressure charts etc.
- Operation notes if an operation or operations are performed.
- Other health care professional notes, e.g., physiotherapy, consultation to other physicians, etc.
- Pathology reports including hematology, histology, microbiology, etc. or
- Other reports - X-ray, etc.
- Orders for treatment and medication forms listing daily medications ordered and given with signatures of the doctor prescribing the treatment and the nurse administering it.

Objective of the study

To assess the documentation completeness level of the medical records in the different inpatient words of Basrah General Hospital.

METHODOLOGY

Type of the study and sampling:

This study is a descriptive cross-sectional one in which, 268 medical records of inpatients from Basrah General Hospital during June 2016 were included for the purpose of analysis. The sample included assessing the medical records of all the patients admitted during June 2016 to the 4 main words: (general internal medicine, General surgery, pediatrics and obstetrics/gynecology). Out of these 268 records, 90 were from the general internal medicine, 127 from surgical word, 23 from pediatrics and 28 from obstetrics and gynecology words.

Study tool:

Standard Iraqi Ministry of Health inpatient medical records were included in the study. Six types of forms were studied:

- Admission sheet
- Medical history and examination sheet
- Progress note(including both: the follow-up progress part & the Physician's notes related to the patient's state and details of any improvement or deterioration of the condition).
- Nursing sheet.
- Vital signs sheet
- Operation sheet
- Clinical pharmaceutical sheet

A two level scoring system was used for assessing the level of documentation completeness:

1. *Good documentation: at least 50% of the sheets' items were filled.*
2. *Poor documentation: less than 50% of the sheets' items were filled.*

Gathered data were entered into a custom-designed Excel worksheet, for the purpose of data base generation and statistical analysis.

RESULTS

(Table-1), shows that the overall documentation level for the medical records included in the study was poorly documented in 78% of the records specially those related to the completeness of the admission notes in the different words of the hospital. It is noticed that surgical department was the worst in documenting patient's notes related to medical history (83.5% were poorly documented). General medical and Gynecology / Obstetric words followed (75.6% and 71.4% respectively), while Pediatric words were found to be slightly better with poor documentation in 65.2% of records.

Table 1. Documentation completeness level for the admission sheet according to word.

Ward	Total	Good		Poor	
		No.	*%*	*No.*	*%*
Medicine	90	22	24.4	68	75.6
Surgery	127	21	16.5	106	83.5
Gynecology	28	8	28.6	20	71.4
Pediatrics	23	8	34.8	15	65.2
Total	**268**	**59**	**22.0**	**209**	**78.0**

(Table-2), represents documentation completeness level at the medical history and examination sheet. The study found that 62.7% of the sheets were poorly documented. Gynecology / Obstetric word was the worst in documenting the medical history and examination assessment done by the doctors with 96.4% poorly documented records. General medicine was the next worst with 77.8 poor records, pediatrics with 60.9% and the best were surgical words with 55.2% good records.

Table 2. Documentation completeness level for the assessment of medical history and examination

Ward	Total	Good		Poor	
		No.	*%*	*No.*	*%*
Medicine	90	20	22.2	70	77.8
Surgery	127	70	55.2	57	44.8
Gynecology	28	1	3.6	27	96.4
pediatrics	23	9	39.1	14	60.9
Total	**268**	**100**	**37.3**	**168**	**62.7**

(Figure-1), shows the documentation completeness level for the progress / follow up sheet (part 1) according to the hospital words. It is seen that documentation in the pediatric words was 100% good followed by the medical word (74%). On the other hand, follow up documentation was found poor mainly in the Gynecology / Obstetric words (93%) followed by the surgical words (75%).

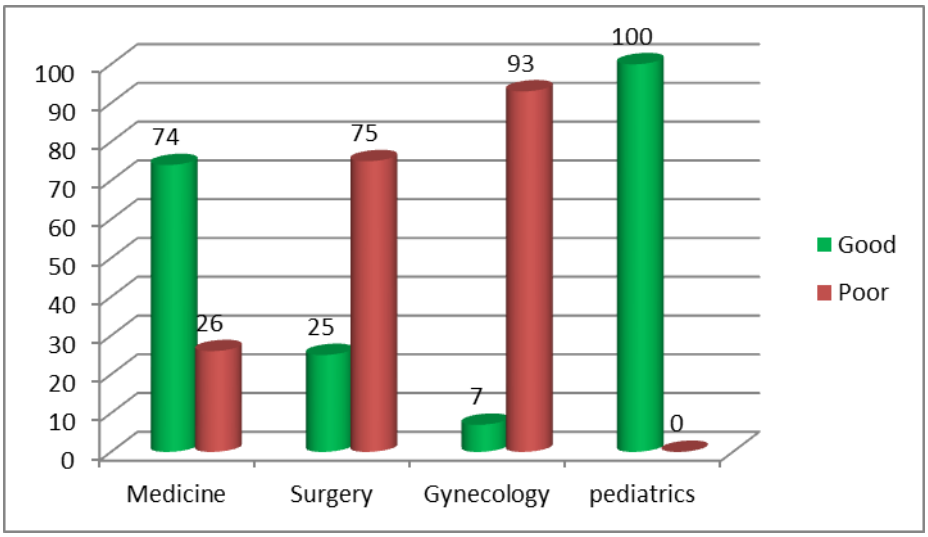

Fig 1. Documentation completeness level for the assessment of the progress/follow-up sheet

(Table-3), shows that the overall documentation level of the physician notes related to the patient's state and details of any improvement/deterioration of the condition is 87.7%. All of the study records (in Gynecology / Obstetric words) were poorly documented (100%). The next poor documentation was found to be in the surgical wards (94.5%). Pediatric and medical wards had close to three quarters poor documentation.

Table 3. Documentation completeness level for the physician note sheet.

Ward	Total	Good		Poor	
		No.	*%*	*No.*	*%*
Medicine	90	21	23.3	69	76.7
Surgery	127	7	5.5	120	94.5
Gynecology	28	0	0.0	28	100.0
pediatrics	23	5	21.7	18	78.3
Total	**268**	**33**	**12.3**	**235**	**87.7**

Regarding the documentation completeness level at the nursing sheet (contain the documentation of medical work about a given treatment and their times), (Table-4), shows that 53.7% of all the study records were poorly documented. 95.7% of the sheets were documented in a good way by the pediatric words. Gynecology/obstetric words have also good documenting nursing sheet in 82.1% of the study records, while only 30.7% of the surgical words documents were well documented. Similarly, 44.4% of general medicine records were found good.

Table 4. Documentation completeness level for the nursing sheet

Ward	Total	Good		Poor	
		No.	*%*	*No.*	*%*
Medicine	90	40	44.4	50	55.6
Surgery	127	39	30.7	88	69.3
Gynecology	28	23	82.1	5	17.9
Pediatrics	23	22	95.7	1	4.3
Total	**268**	**124**	**46.3**	**144**	**53.7**

(Table-5), shows documentation completeness level of the operation notes (documented for surgery and gynaecology only). The present study found that good documentation of the operation notes was found only in 32.3% of the surgical wards and in only 7.1% of the Gynecology / Obstetric wards.

Table 5. Documentation completeness level for the operation note sheet

Ward	Total	Good		Poor	
		No.	*%*	*No.*	*%*
Surgery	127	41	32.3	86	67.7
Gynecology	28	2	7.1	26	92.9
Total	**155**	**43**	**27.74**	**112**	**72.26**

On assessing documentation completeness level of the vital signs' sheet (Table-6), the study found that vital signs were poorly documented in 69.03% of the study records. 100% of the sheets were poorly documented in Gynecology / Obstetric words followed by 85.8% poorly documented sheets in surgical words. Good documentation was noticed in paediatrics records (82.6%). Medical records were equally distributed between poor and good documentation.

Table 6. Documentation completeness level for the vital signs sheet

Ward	Total	Good		Poor	
		No.	*%*	*No.*	*%*
Medicine	90	46	51.1	44	48.9
Surgery	127	18	14.2	109	85.8
Gynecology	28	0	0.0	28	100.0
Pediatrics	23	19	82.6	4	17.4
Total	**268**	**83**	**30.97**	**185**	**69.03**

(Table-7), shows that the overall documentation level for the clinical pharmaceutical sheet is 86.19%. Most of the hospital wards were poorly documenting the clinical pharmaceutical notes (96.4% in the Gynecology/Obstetric, 94.5% in the surgical and 91.3% of the pediatric words). In addition, only 30% of the clinical pharmaceutical notes were found by the study as goodly documented in the medical words.

Table 7. Documentation completeness level for the Clinical pharmaceutical sheet

Ward	Total	Good		Poor	
		No.	*%*	*No.*	*%*
Medicine	90	27	30.0	63	70.0
Surgery	127	7	5.5	120	94.5
Gynecology	28	1	3.6	27	96.4
pediatrics	23	2	8.7	21	91.3
Total	**268**	**37**	**13.81**	**231**	**86.19**

In an overall review, (Table-8) summarizes the study results. It shows that poorly documentation of the patient's records was mainly those related to the Progress / Physician notes (patient's state and details of any improvement/deterioration of the condition: 87.7%), followed by the Clinical pharmaceutical sheet (86.19%). On the other hand, nursing sheet was the least poorly documented part of the records (53.7% poorly documented).

Table 8. Overall Documentation completeness level for the patient's medical records in Basrah general hospital

Type of the sheet included	Good		Poor	
	No.	*%*	*No.*	*%*
Admission sheet	59	22.0	209	78.0
Medical history and examination sheet	100	37.3	168	62.7
Progress/ Follow up notes	123	46.01	145	53.99
Progress/ Physician notes	33	12.3	235	87.7
Nursing sheet	124	46.3	144	53.7
Vital signs sheet	83	30.97	185	69.03
Operation sheet (Only for Surgery & Gy/Ob)	43	27.74	112	72.26
Clinical pharmaceutical sheet	37	13.81	231	86.19

DISCUSSION

In the present study, majority of the records were found to be poorly documented. In a study done in Ethiopia in 2015 to assess the difference of medical records' completeness, it was found that there was an improvement from 14% to 84% in the completeness of documenting medical records after a year of a quality intervention programme.[11] Another comparative study done in Rwanda to assess the improvement in completeness of medical records in the maternity unit found that there was an improvement from 25% to 67% over a period of a year of a quality improvement strategy in the hospital.[12] The present study confirmed a clear weakness in documenting the admission notes of patients especially in the surgical, general medical and Gynecology / Obstetric words. In a retrospective study involved reviewing completeness of 860 admission notes in Jeddah, Saudi Arabia, poor documentation of the admission notes was reported in 95% of the medical records specially those including the physical examination notes on admission of the patients.[13] A study done in Korea in 2014 to assess the completeness of medical records, only 27.4% of the records were found to be completely documented especially for items related to the patient's symptoms and examination.[14] Higher figures were revealed in our study especially in the surgical, medical and Gynecology/Obstetric departments. A big defect was found in documentation completeness level for the Progress/follow up sheets mainly in the Gynecology/Obstetric words (93%) followed by the surgical word (75%). A cross-sectional study aimed to review medical records in 16 hospitals of Mazandaran University of Medical Sciences revealed closely similar results of ours. It was found that incompleteness of documenting the follow up and progress notes was reaching 75% of the studied records. Especially those related to Gynecology/ Obstetric department.[15] All of the present study records (in Gynecology/Obstetric and surgical words) were found to be poorly documenting the physician's notes related to the patient's state and details of any improvement / deterioration of his/her condition. A close similar result was found by a cross-sectional study done in Iran during 2014 involving reviewing completeness of patient's medical records in 16 hospitals within the geographical area of Mazandaran province.[16] Regarding the documentation completeness level at the nursing sheet, the present study shows that less than 50% of the study records were found to be completed. In a descriptive study aiming to assess the quality of medical records in a university hospital in Brazil in 2010, nursing documentation was found to be 82% complete.[17] Completeness of documenting the operation notes is very important for the total management of the patient's condition. For the present study, majority of the operation notes were poorly documented. A similar result was found in a study done by the Royal College of Surgeons in 2014 assessing the improvement in completeness level of documentation compared with the standard Good Surgical Practice guidelines.[18] Furthermore, documentation of vital signs is very important for the follow up of patient's condition. Unfortunately, the present study confirmed very high level of badly documenting the patient's vital signs specially post operatively in the Gynecology/Obstetric and surgical words. In a Swedish study done to assess completeness of vital signs documentation in 2011, an obvious incompleteness was found especially with those electronically recorded for patients suffered from serious cardiac arrest, which significantly dangers patient's life.[19] Finally, a precise documentation of the pharmaceutical history and notes related to the patient's condition and response to drugs is very crucial especially for the admitted patients and having incomplete documentation of this vital information might result in undesirable treatment interrelated

problems.[20] In a study which included 304 admitted patients of two hospitals in Utrecht-Netherlands, documenting pharmacological history of admitted patients was found to be often incomplete with 61% of the patients records.[20] While in the present study, a higher percentage of the badly documented pharmacological history was found.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the present study confirmed obvious incompleteness of documenting medical data for inpatient records in Basrah General Hospital especially in the surgical, general internal medicine and Gynecology / Obstetric words. This is specifically found for the Physician notes (patient's state and details of any improvement/deterioration of the condition) and the Clinical pharmaceutical sheet. A hospital based quality improvement project to increase the medical record documentation completion is recommended to be implemented by a group of trained personnel with periodic random assessments by the Quality Assurance Unit of Basrah Directorate of Health.

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