Measurement of Completeness of Medical Records in Family Health Centre in El Shorouk City.

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Received: July 2015, accepted: October 2015

Abstract

Introduction: Medical records play a vital role in the planning, development and maintenance of health care services. A well designed family folder system provides useful summary data on the demographic profile of the family. **Objectives:** 1-To measure the completeness of the family folder in a family health center in EL-Shorouk city. 2-To identify main causes of record incompleteness including knowledge and attitude of physicians towards medical records. **Methodology:** The study was conducted in a family health centre in El-Shorouk city using a cross sectional study, a sample of 200 out of 1000 records was estimated to be reviewed. **Study tool:** 1- Medical record assessment check list. 2-Structured questionnaire. **Results**: Out of 200 records, 130 (65%) of records had been properly organized. Personal data was the most frequently recorded item (100%). The least recorded was general examination (51.5%). It was found that (88.5%) of records had completeness scores from 80-100% from standards, so they had passed the assessment as the minimal passing score is (80%)**. Conclusion:** To improve the quality of Medical Record, regular auditing, training and good orientation of medical personnel for good record practices.

Key words: Medical records, health care services, and family folder.

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Introduction

Family practitioners and other staff working in primary care require comprehensive and accurate data on patients at the point-of-care if they are to provide high quality health services to their patients. Medical records are an effective method of achieving this objective[1].

Huffman defines a medical record as a compilation of pertinent facts of a

patient's life and health history, including past and present illness and treatment(s), written by the health professionals contributing to that patient's care. The health record must be compiled in a timely manner and contain sufficient data to identify the patient, support the diagnosis, justify the treatment, and accurately document the results [2].

The family folder is the compilation or grouping of a set of patient care documents. Usually for an entire family or household, that is retained or stored in a cardboard file box container. This file box, commonly referred to as the "family file folder," contains several documents that have been designated as a permanent part of the patient's medical records. These documents

represent a picture of the family household from several perspectives. For instance, they reflect the socioeconomic and demographic data of the family unit, children's ages and levels of educational achievements are noted in the file. The file folder contents also summarize the health history of the family unit, identifying family member's specific diseases and illnesses as well as a list of the names of all members of the household [3].

Accurate, timely and accessible health care data play a vital role in improvement of the quality of health services [4]. Quality improvement and the timely dissemination of quality information are essential if health authorities wish to maintain health care at an optimal level [5]. These concerns not only relate to the quality of medical record documentation, but also to the collection of health care statistics at all levels, from the largest hospital to the smallest clinic[6].

All entries in the medical record must be complete. A medical record is considered complete if it contains sufficient information to identify the patient; support the diagnosis/condition; justify the care, treatment, and services; document the course and results of care, treatment, and services; and promote continuity of care among providers. All entries in the medical record must be dated, timed, and authenticated, in written or electronic form, by the person responsible for providing or evaluating the service provided [7].

The incompleteness of medical record may occur for some reasons, one of them is lack of medical record training. Another factor is clinicians who do not fully understand the benefit and purpose of medical records, the gap between perceptions of physician, as a user of medical records, and the perception of hospitals as a provider of medical record form resulted failure on delivery of quality services [8].

Aim of the study

1. To measure the completeness of the family medical records in a family health center in EL-Shorouk city.

2. To identify main causes of record incompleteness including knowledge and attitude of physicians towards medical records.

Methodology

The study was conducted in a family health centre in El-Shorouk city, it was built in 2003. This medical centre provides healthcare services for average 60 patients every day, there are about 20 doctors and 8 nurses working there.

A cross sectional study was carried for measurement of completeness of medical records, a sample of 200 medical records out of 1000 records chosen in systematic random manner.

Two data collection tools were used in collection of data:

1- Medical record assessment check list: it was adopted and modified from2 sources[9][3]. The records were checked for

a- Administrative elements: completeness of administrative elements of the sheets depends on: presence, completeness, signature of physician and date of filling the sheets.
b- Clinical elements: were reviewed to determine the completeness and appropriateness of the sheets of clinical elements as regards 1- recording the patient's complaint and subsequent diagnosis during

treatment of patient. 2- recording the patient's vital signs.

The score was based on a review standard of each medical record and giving one point if criterion met the standards and zero point if criterion didn't meet the standards**).**

Considering the file complete was determined as follows: exempted pass is 90%, conditional pass is 80-90%, not pass is below 80%, and the minimum passing score is 80%.

Scoring components included administrative elements results (11 points), history and physical examination (15 points), significant data results (9points), patient visits results (9 points), dental examination results (5 points), for a total of 49 possible points.

- Scoring calculation:

Step 1: Add the points given in each section.

Step 2: Add points given for all five (5) sections.

Step 3: Subtract the "N/A" points from total points possible

Step 4:divide points by 49.

Step 5: multiply by 100 to calculate percentage[9].

2- Structured questionnaire to identify main causes of record incompleteness among physicians. The questionnaire included many elements such as:

- Demographic data of physicians.
- Background and experience of physicians about records.
- Satisfaction of physicians toward medical records.
- Barriers and difficulties facing physician during recording.
- Recommendations and suggestions of physicians to improve recording.

Knowledge score calculation: Each question in knowledge section (q 12, 13, 14, 15) is scored 0 and 1. Scores of the 4 questions are summed and divided by the maximum knowledge score (4) and multiplied by 100 to yield the knowledge percentage**.**

Attitude score calculation: Each question in attitude section (q 21, 22, 23, 24, 25, 26, 27, 28) is scored 0: not important, 1: did not decide, 2: highly important. Scores of the 8 questions are summed and divided by the maximum attitude score(16) and multiplied by 100 to yield the attitude score percentag**e.**

Administrative approval was taken and confidentiality of data in medical records was considered.

The collected data was revised, coded, tabulated and introduced to a PC using statistical package for social science (SPSS 15.0.1 for windows, SPSS Inc, Chicago, IL, 2001) and appropriate statistical tests were applied.

Results

On measuring the completeness of medical records the following was revealed:

Regarding the extent of compliance with the criteria of recording the history and physical examination), there was a wide range in the extent of compliance with the different targeted items where (100%) of records contain personal data and on the other hand documentation of

general examination only in (51.5%) of records. Around 96% of records had item of past history filled, out of those with previous hospitalization and previous operations (91.5 %) were filled in all reviewed records. While, trauma and injuries filling was (96%) in records, allergies were listed within (93%) of records as shown in (Table 1).

Regarding the extent of compliance with the criteria of recording the Patient Visits Sheet reviewing of records revealed that the personal data was filled in (86.5%) of reviewed records, while only (81.5%) of records were signed, (85.5%) of records showed the date of visit, complaint and diagnosis, (83.5%) of records had recorded vital signs, (86%) recorded examination item, (83%) recorded treatment &plan for return visit item and (84%) of records showed hand writing legibility (Table 2).

The study revealed that that out of 200 records, 121 (60.5%) were Exempted pass, 56 (28%) were conditional pass and 23 (11.5%) did not pass (Table 3).

The results of questionnaire revealed that mean knowledge score was 59.1±25.67 among those who completely fill the records compared to 28.9±27.96 and this difference was statistically significant (p=0.007) (Table 4).

Also it revealed that mean attitude score was 88.1±17.6 among those who completely fill the records compared to 58.9±25.9 and this difference was statistically significant (p=0.003) (Table 5).

Discussion

In this study, we aimed to measure the completeness of the family medical records in a family health center in EL-Shorouk city and to identify main causes of record incompleteness including knowledge and attitude of physicians towards medical records.

As regard the measurement of completeness of medical records we used Medical record assessment check list which was adopted and modified from **(Medical Record Review Guidelines, 2012)** and **(Forte, 2000).**

So, according to the estimatedsample sizea 200 records of total medical records from a family health centre in El-Shorouk city were reviewed. The results of this study revealed that the percentage of completeness of family members in records ranges from 33.5% to 100%.

Regarding demographic data of patients, personal data was 100% completed, marital status was present in 86.5% of records, both educational status and recorded patient occupation was present in 83.5% of records and address was present in 81.5% of records.

Regarding clinical data, laboratory results completeness represented 90%, local examination of different systems was complete in 92%,**,** complaint was present in 85.5%, diagnosis was present in 85.5%.

Regarding legibility of hand writing it was completed in 87.5% of medical records. Medical records completing scores ranged from 40% to 100% .

As regard identifying main causes of record incompleteness including knowledge and attitude of physicians towards medical records we use a structured questionnaire applied on 30 physicians, the analysis of its results showed that: the mean age of physicians in the sample was 31.67±8.45 years and mean years of experience were 6.52±7.94 years **,** males were 33.33%

and females were 66.6%, 70% of doctors reported that medical records were important in managing patient, 56.67% of doctors reported that medical records reduce medical errors, 20% of doctors said that medical record were not worth time and effort consumed in them, 26.67% of doctors reported that medical records help in accomplishing the work and 57.89% of doctors who didn't complete records reported that medical records were difficult to be completed.

The results of the study are similar to the results of the study carried out by Forte, in Egypt for Medical records Assessment of family health facilities in five primary health care centers in Alexandria). He found that completeness of demographic data ranged from 64% to 77% in records, laboratory results ranged from 50% to 95%, legibility of hand writing ranged from 61% to75% and medical records completing scores ranged from 30% to 82 %[3].

Another study conducted by Hayan et al., 1990 in Kuwait for assessment of physicians' documentation in medical record of general hospitals and found that local examination of different systems was complete in 98.2%, complaint was present in 98.2%, and diagnosis was present in 98.2% of records [10].

A study done in Jordan for assessment of Medical Records Services at Ministry of Health Hospitals by Ajlouni, 2006 revealed that laboratory results ranged from 21% to 58%, local examination of different systems ranged from 21% to 58%, and medical records completing scores ranged from21% to 95% [11].

A study done in Makah region in Saudi Arabia by Shaker et al., 2015 to assess physicians' perception about electronic medical record system revealed that there were 63.1% males and 36.9% females, 77.7% of doctors reported that medical records important for practicing medicine, 69% of doctors reported that records reduce medical errors, 71.2% of doctors reported that medical records improve quality of patient care and 53% of doctors saw that it was difficult to use records [12].

Another study done in a Tertiary Hospital in Oman for assessment of satisfaction and perceived quality of an electronic medical record system by Al-Mujaini et al., 2011 revealed that 57.4% of participants were males, 68.1% of doctors had prior training, 29.4% of respondents considered electronic records not worth the time and effort required to use it, 69%% of doctors reported that medical records reduce medical errors and32.6% of doctors reported that medical records help in accomplishing the work[13].

Conclusion and Recommendations

The study reflects that there is a need to improve the quality of Medical Record through regular auditing, training and good orientation of medical personnel for good record practices.

The following is suggested regarding record completeness:

- Medical records' policies and procedures manual should be present.
- Regular training should be carried out.
- Regular auditing should be done to detect the defects.
- Enough family physicians to work in centers and apply correct system.
- Implementation of easy forms of sheets to be filled by physicians.
- Enough paramedical personnel should be available to fill non medical data.
- Implementation of electronic medical records system.

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Table (1): Description of Completeness of History and PhysicalExamination Sheet (for first visit)

	Complete		Incomplete		Total	
	N	%	N	%	N	%
Personal data	200	100	0	0	200	100
Past history	193	96.5	7	3.5	200	100
Hospitalization	183	91.5	17	8.5	200	100
Previous operations	183	91.5	17	8.5	200	100
Trauma/injuries	192	96	8	4	200	100
Allergies	186	93	14	7	200	100
Family history	181	90.5	19	9.5	200	100
Lab. Results	180	90	20	10	200	100
General examination	103	51.5	97	48.5	200	100
Local examination of systems	184	92	16	8	200	100
Detailed examination	182	91	18	9	200	100
Legibility of hand writing	175	87.5	25	12.5	200	100
Signature	176	88	24	12	200	100
Date of examination	177	88.5	23	11.5	200	100

Table (2): Description of the Extent of Completeness of Patient Visits Sheet

	Complete		Incomplete		Total	
	N	%	N	%	N	%
Personal data	173	86.5	27	13.5	200	100
Date of visit	171	85.5	29	14.5	200	100
Vital signs	167	83.5	33	16.5	200	100
Complaint	171	85.5	29	14.5	200	100
Examination	172	86	28	14	200	100
Diagnosis	171	85.5	29	14.5	200	100
Treatment &plan for return visit	166	83	34	17	200	100
Legibility of hand writing	168	84	32	16	200	100
Signature	163	81.5	37	18.5	200	100

Table (3): Description of the Extent of the Record Filling Scores Categories (Assessment Score)

Score	N	%
exempted pass 90%-100%	121	60.5%
conditional pass 80-90%	56	28 %
not pass is below 80%	23	11.5%

Table (4): Comparing mean knowledge score as regards the complete filling of files

No. of doctors who fill records	Mean Knowledge score	Std. Deviation	Sig.
No n=19	28.9	27.96	Student t = -2.9 p=0.007
Yes n= 11	59.1	25.67	

Table (5): Comparing mean attitude score as regards the complete filling of files

No. of doctors who fill records	Mean Attitude score	Std. Deviation	Sig.
No n=19	58.9	25.9	Student t = -3.3 p= 0.003
Yes n=11	88.1	17.6	