

**“Assessment and Development of Medical Record System
in the Oncology Unit, the Obstetrics and Gynecology
Department,
Ain Shams University Hospital”**

Thesis submitted for partial fulfillment of master degree in epidemiology

By

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L i s t o f a b b r e v i a t i o n s

AAAHHC: Accreditation Association for Ambulatory Health Care.

AHIMA: American Health Information Management Association Testing.

CDR: Clinical Data Repository.

CPOE: Computerized Practitioner/Physician /Order Entry.

eMAR: Electronic Medication Administration Record System.

EMR: Electronic Medical Record.

HCO: Health Care Organization.

HIS: Health Information System.

HIMSS: Health Care Information and Management Systems Society.

ICD: International Classification of Diseases.

ICD-10: International Classification of Diseases, version 10.

ICPM: International Classification of Procedures in Medicine.

IFHRO: International Federation of Health Records Organization.

****list of abbreviations****

JCAHO: Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

MPI: Master Patient Index.

MR: Medical Record.

MRC: Medical Record Committee.

MRD: Medical Record Department.

NCAHC: North Carolina Alliance for Healthy Communities.

NCI: National Cancer Institute.

NCQA: National Committee for Quality Assurance.

ONC: Office of the National Coordinator for Health Information Technology.

PACS: Picture Archive and Communication Systems.

PIH: Partners in Health.

POMR: Problem Oriented Medical Record.

RFID: Radiofrequency Identification.

TPO: Treatment, Payment and Healthcare Operations.

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Introduction:

Cancer is regarded as a group of diseases characterized by an abnormal growth of cells with the ability to invade adjacent tissues and even distant organs and the eventual death of the affected patient if the tumor has progressed beyond that stage when it can be successfully removed. It is one of the most dreaded non-communicable diseases has become an important contributor to the global burden of the diseases. (Stewart & Kleihes, 2003).

The burden of cancer is growing, and considering it as one of the leading causes of death worldwide. From a total of 58 million deaths in 2005, cancer accounted 13% of all deaths. More than 70% of all cancer deaths in 2005 occurred in low and middle income countries. Deaths from cancer in the world are projected to continue to rise, with an estimated 9 million people expected to die from cancer in 2015 and 11.4 million in 2030. (WHO, 2007)

In Egypt, (2003), the number of new cancer patients per year is estimated to be 70,000. Added to these are another total of 250,000 patients who have accumulated from previous years who require medical care. Accumulated patients represent more than three times the number of new cases. This patient load will expand in the future as the population continues to grow, and as the prevalence of known etiologic factors increase. Egyptian patients with cancer usually present at a relatively advanced stage of their disease, which has a negative impact on treatment results. (NCI, 2002-2003).

Knowledge about the causes and the possible preventive strategies for cancers has greatly advanced during the last century. This has been largely based on the development of cancer epidemiology, which has in turn benefited from the establishment of cancer registry in many areas of the world. (Roger Detels, et al., 2002)

Wagdy *Amr* *11.11.11*

In Ain Shams University hospital, there is no electronic medical record; the departments depend only on paper-based medical records. There was a trial to introduce the computerized medical records in the Oncology unit, in Ain Shams University since 2003 but, this trial didn't reach the required computerized patient-based medical record. (Rehab farouk, 2003)

Based on the previous information, our study will be conducted to assess the current situation in the oncology unit, and then a computerized medical record system will be established. A booklet guide will be designed to include all the steps to be a helpful tool for all personals working in the unit to maintain sustainable implementation of the system in the future.

Objectives:

- a) To assess the current situation of medical record system in the oncology unit in the Gynecology and obstetrics department, Ain Shams University.
- b) To set up a model of medical record forms to be used in establishment of a computerized patient-based medical record system.
- c) To analyze the collected data through the computerized patient-based records and present them in a scientific way.

Subjects and Methods:

• Study setting:

The Oncology unit, in the Obstetrics and Gynecology department in Ain Shams University hospitals.

- **Study design:**

A descriptive study will be applied.

- **Data collection tools:**

- a) Two Assessment checklists will be done: one for assessment the system as a whole & the other one will be for assessment of medical records (one per case).
- b) Model forms of medical records: will be designed, to assure the availability of data which can be computerized.

- **Sampling and sample size:**

All medical records documented from (July/2009) to (July/2010) will be revised and their checklist will be fulfilled, then the information will be abstracted to a model form of medical record to be computerized on a special computer program.

Data management and analysis plan:

Data will be analyzed using SPSS package and appropriate significant tests will be used.

Ethical considerations:

Approval of Ain Sham University Ethical Committee will be obtained.

References:

1. Stewart BW & Kleihues P (Eds) (2003) World Cancer Report. IRAC. Lyon.
2. WHO (2007) : from WHO website
www.who.int/mediacentre/factsheets/fs.297/en/index.html

Date of access at 22/3/2010

3. Roger Detels, James McEwen, Robert Beaglehole and Heizo Tanka (2002) : the practice of public health 4th edition, volume 3, 155.
4. Roffer S, Liu G, Fritz A, Dibble R, Hultstrom D, Lewis M, Schymura M, Young J, Farah R and Stravou T (2002) : SEER Cancer Registry training course. NCI.
5. Amal S., Hany Hussein, Kadry Ismail, Ahmed Hablas, Ibrahim Abdel Bar and Mohammad Ramadan (1999) : Cancer Profile in Gharbiah-Egypt, Methodology and Results.
6. G.D.Mogli (1996), Importance of medical records in quality management, from www.emro.who.int/HIS/ehealth/IMEMR/imp_med_rec.pdf
Date of access at 24/3/2010
7. Bates DW, Cohen M and Leape L. (2001): Reducing the frequency of errors in medicine using information technology. Journal of the American Medical informatics Association, volume 8, 299-308
8. Cancer statistics at National Cancer Institute, Cairo University, Cancer registry 2002-2003.
www.nci.cu.edu.eg/lectures/NCI%20registry%202002-03.pdf
Date of access at 22/3/2010
9. Transition to electronic medical records, CPSA Guidelines, 2004 : from www.cpsa.ab.ca/libraries/policies_and_guidelines/transition_to_electronic_medical_records.sflb.ashx
Date of access at 23/3/2010
10. Rehab Farouk Ibrahim: A model of cancer registry in the Gynecology and Obstetrics department in Ain Shams University hospitals, 2003.

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النساء و التوليد بمستشفيات جامعة عين شمس

رسالة

توطئة للحصول علي درجة الماجستير في الوبائيات

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