شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

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التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بالرسالة صفحات
لم ترد بالأصل

Utilization of Maternal Child Health Services among High Risk Pregnant Women using Geographic Information System

Thesis
Submitted in partial Fulfillment of the Requirements for Master Degree in Community Health Nursing

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I. Technical Design:

Sampling:

Type: A convenience sample was used, as all the available of HRPW in any trimester; attending the forementioned settings were eligible for inclusion in the study sample.

Size: The sample included all HRPW who were attending antenatal clinic at the six selected MCH centers for a period of six months starting from March to August, 2008. Out of the 611 HRPW registered in the selected MCH center. 235 HRPW were included in the study. The sample size of 611 HRPW were only used for GIS applications related to distribution of HRPW within the six regions (Figures 14-25).

Technique: The study settings were visited from 9:00 am to 1:00 pm daily (six days per week); the researcher visited one center every day from the selected MCH centers using the developed research tools. Selection of the HRPW were based on records registration used by nurses according to the standard specifications developed by MOH. The researcher explained to the participant the aim of the study and assured them that the collected data will only be used for the research benefits then the oral consent of the pregnant women was obtained. Confidentiality of the information was insured to gain women confidence and trust. Each interview was completed within 25-30 minutes. An average of 2-3 women were interviewed

daily the same steps were applied for the six selected MCH centers.

Data Collection Tools:

Three tools were used for data collection:

(1) Record review form this review was implemented in directorate of health affairs in Cairo governorate, its analysis aimed at collection data about:

A) **Current records:** A review was conducted as it aimed at collecting data related to the data about MCH centers including name of region, number and names of centers, their location, utilization rate, and the affiliated obstetrical referral hospitals for mapping their locations (Appendix I-A).

B) **HRPW record analyses form:** including data about all HRPW attending the six antenatal clinic within six months duration and clinical investigations. The analyses were performed to decide sample size and identify prevailing risk factors. Data of 611 attending HRPW were only used for mapping HRF in different regions (Appendix I-B).

(2) A Structured Interviewing Questionnaire Form: it was developed by the researcher based on the review of pertinent literature, experts' opinions and researcher experience to collect the necessary data from studied HRPW. This included five parts (Appendix II):

First part: Data related to women socio-demographic characteristics, which included age, address, level of education, occupation, husband's level of education and occupation, marital status, family size, monthly income, number of family members, number of rooms in the house. (Questions 1-19).

Second part: It covered women's medical and obstetrical history that includes maternal chronic diseases, gravidity, parity, number of live born infants, fetal death, premature babies, abortions, infants with congenital anomalies, low, and over weight babies. Also, it included the interval between last delivery and current pregnancy, type of used contraceptive, previous pregnancy complications (e.g., bleeding, toxemias, threatened abortion, premature labour, premature ruptured membrane, and placenta separation. This is in addition to previous labor complications (e.g., prolonged labor, cesarean section or forceps delivery), antenatal follow up for the last pregnancy, and place of last delivery, besides postpartum complications. Additionally, family history of chronic diseases was included (Questions 20-44).

Third part: It involved information about current pregnancy such as last menstrual period, gestational age, the expected date of delivery, and any other complications. Also, it included number of visits to MCH centers for antenatal follow up (Questions 45-49).

Fourth part: It covered pattern of MCH services utilization during the current pregnancy. It involved information

about data of first visit, causes of first visit and number of visits. Also, services provided in MCH centers (e.g., FP, immunization, and infant growth follow up) (Questions 50-69).

Fifth part: Data included women's opinions pertaining to PHC services' main parameters such as availability accessibility, affordability, and acceptability (Questions 70-78).

N.B.: All tools included closed, open ended, as well as multiple choice questions.

(3) Remote Sensing and GIS tool: (Appendix III)

The remote sensing tool (e.g., Cairo Satellite image) was adopted by Cairo Demographic Information Center (CDIC). Several GIS layers for this study were developed by GIS specialist.

a) Satellite image of Greater Cairo Governorate: High resolution MrSID satellite image for the entire Cairo Governorate was captured in April, 2006. It was used as a base map to develop the required GIS layers. The developed GIS layers included the locations of the administrative boundaries of the selected study regions. Then, it was used to locate the studied MCH centers, HRPW, as well as the referral hospitals. The satellite image was used with the aid of hardcopy maps that have names of the streets, names of the administrative boundaries, MCH centers and referral hospitals.

b) GIS tool: were used to develop GIS layers as mentioned in the above section, then link, organize and store information obtained from different sources (such as information obtained from the interviewed women including socio-demographic data, medical and obstetrics data,...etc.), as well as spatial (geographical) data analysis (such as the distribution of risk factors maps and accessibility maps). All GIS works were carried out by a GIS specialist.

II. Operational Design

Preparatory phase: This phase involved the preparation of data collection tools based on review of relevant literature in addition to experts' opinions were solicited for finalization of the tools.

Pilot study: this was implemented at different MCH centers for 20 HRPW selected based on the same criteria of high risk factors. The aim was to test the face validity, clarity, completeness, practicability and feasibility of the tools. Data obtained from the pilot study were analyzed. Accordingly, necessary modification (addition, omission and rewording) was done, as well as to determine the average time required to complete each tool. The selected number of the HRPW was excluded from the study sample.

Field Work: Data collection for this study was carried out through the period of six months started from March to August, 2008. The study settings were visited from 9:00 am to

1:00 pm daily (six days per week); the researcher visited one center every day from the selected MCH centers using the developed research tools. This was continued until the duration of the study ended and the sample size reached 235 of HRPW. The HRPW were selected based on records registration on special files by nurses according to standard specifications developed and applied by MOH facilities. The HRPW were noted at the first visit.

The total numbers of the pregnant women attended the antenatal clinic ranged from (20 - 25) women/day in each center including the HRPW. The number of HRPW was very low and ranged from (2-3) women/day. However, in some days there was only one HRPW, other days there were none. All HRPW met were interviewed.

Limitation of the Study:

Some HRPW (about 10 women) refused to complete the interviewing questionnaire due to long waiting time in the clinic.

III. Administrative Design:

To implement the study permissions were obtained from the director of the higher nursing services administration through formal letter from director of faculty of nursing, Ain Shams University furthermore submission of official letters issued from the administrator director of MOH in Cairo which delivered to each director of the six selected MCH centers.

IV. Statistical Design:

All the collected data were tabulated using the "Excel Spreadsheet" program and then converted to a database file to be jointed with the spatial data (maps) to form the Geo-database.

A- Development of GIS Layers:

Once the previous data was obtained, the development of the GIS layers started. High resolution MrSID satellite image for the entire Cairo Governorate, was captured in April 2006, was used as a base map to develop the required GIS layers. Several GIS layers, representing most of the existing life facilities were developed by using head-up (on computer screen) digitizing method (which means using the image as a base map, then drawing the GIS layers on top of the image) within ARCVIEW GIS software. Figure (2) show MrSID Cairo satellite image.

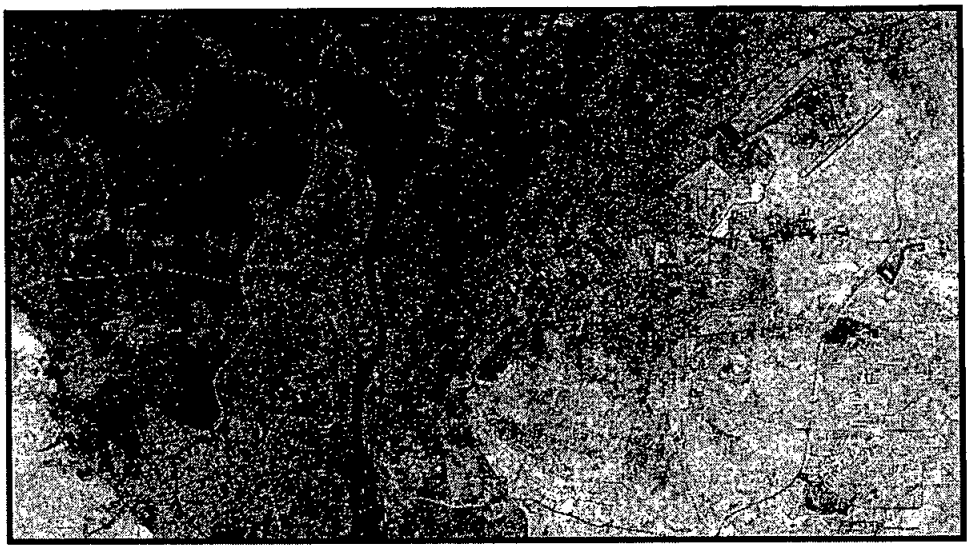

Figure (1): Cairo satellite image.

The developed GIS layers by CDIC included streets, residential blocks, the administrative boundaries of each region in Cairo, and hospitals,...etc. The GIS layers required for this research study were developed as a point-layer including the locations of both the MCH centers and high risk pregnant women for the collected data in each center. Figure (3) show the GIS layers overlaid on top of the satellite image.