Mother's Satisfaction with the Quality Care Of Maternal & Child Health Services At Maternal and Child Health Centers in Zagazig City, Sharkia Governorate, Egypt

Eman Shokry Abd Allah[1], Eman Elsayed Mohamed Elsabagh[2] and Samah El Awady[3]

Departments of [1]Community Health Nursing, [2]Obstetrics & Gynecology Nursing and [3]Pediatric Nursing, Faculty of Nursing, Zagazig University.

emanshokry2012@yahoo.com

Abstract: The concept of quality is a 'property' or characteristic of medical care. This characteristic can range from one end of the spectrum to the other (e.g. low to high quality care) and can manifest itself through various elements or "attributes". **The aim of the study** was three folds; to assess the quality of care provided by maternal and child health services in MCH centers, to assess the level of mother's' satisfaction with care, and to assess the services' providers of care in the MCH centers in Zagazig city Sharkia governorate. **Design**: A descriptive cross-sectional study design was used in this study. **Setting**s: All the MCH centers (4 centers) 4 MCH at Zagazig city were included in the study. The sample consisted of 405 mothers who attended to MCH centers for taken care (Services utilizers) and 150 Health services providers. **Tools**: a standardized checklist was prepared by the researchers to assess the quality of care. Also, service utilizers and providers interview questionnaires were utilized to collect relevant **Results:** A total of 405 mothers were interviewed in the 4 MCH at Zagazig city, out of these, only 53.6%, of mothers were educated up to secondary level where 8.6%, 25.9%, and 11.9% were illiterate, primary and university respectively. Also the results showed that about 77.8 of mothers were house wife and 22.2 were employees. Also, 16% of mothers visit the MCH for their immunization while the other causes were antenatal care was 42.7%, child birth services was 18.7%, ARI was 6.9%, immunization of the child was 6.1%, diarrhea of the child was 7.1% and follow up was 2.2%. and 83.2 of attended mothers feel easy accessibility while only 16.8 feel difficulty in dealing at MCH. The quality score for the structure was 7.8% and for performance was 63.4%. Users rating score about aspects of care in the MCH centers were high score. The health users recommended increasing the drug therapy while 70.6% of them complain from absence of chair for sitting. **CONCLUSION**: There is shortage in the services and dealing with the mothers from the health care providers at MCH also there were shortage in knowledge about quality among the health care providers.
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Keyword: quality care, Maternal & Child Health Services, maternal & child health Centers, Mother's Satisfaction.

1. Introduction

Quality can be defined as a conformance to requirements **(Crosby, 1996)**. Also, it may be defined as doing the right thing right the first time and improving it every time **(Brown, 2007)**. Quality can be a simple action to achieve desired objectives in the most efficient and effective manner with the emphasis on satisfying the customer or the consumer. It is a health service that is acceptable, accessible, efficient, effective, safe, cost savings and that's continuously evaluated and upgraded **(WHO, 2000)**.

Abdel-Razik *et al.***(2012)** identified certain elements of quality, which are accessibility, effectiveness, essential provision of suppliers and equipments, quality of client provider's interaction, equity, acceptability, comprehensiveness of care, and continuity of care and follow up and support to health care providers. Quality of care can be measured at three levels: the policy level; the service delivery level; and the client /outcome level. Outcomes have received special emphasis as a measure of quality. Assessing outcomes has merit both as an indicator of the effectiveness of different interventions and as part of a monitoring system directed to improving quality of care as well as detecting its deterioration **(Blumenfeld,**

1993). Quality assessment studies usually measure one of three types of outcomes: medical outcomes, costs, and client satisfaction. For the last mentioned, clients are asked to assess not their own health status after receiving care but their satisfaction with the services delivered **(Barnett, 1995)**.

Significance of the study

In Egypt, maternal and child health (MCH) services are provided by different types of primary health care (PHC) facilities, including MCH centers and general urban health centers in urban areas as well as combined rural health units, rural health units and integrated rural health units **(MOHP, 1999)**. Maternal and child health care refers to promotive, preventive, curative and rehabilitative health care for women in child bearing period, infants and preschool children **(Wallace and Giri, 1990)**. Assessing quality in health services means, measuring the gap between the qualities of care as perceived by the providers and as perceived by the women users' **(Al-Qutob** *et al.,* **1996)**. For instance, quality care to some providers may mean impersonal 'efficient' care, which reduces mortality and morbidity. Less attention is given to women's perception and experience of illness such as daily discomforts which are not identified as major

problems. It is often precisely those daily discomforts which influence her health-seeking behavior. Thus a quality service ought to give special emphasis to women's experiences, expectations, and level of satisfaction with the service, to complement the views of the providers of care (**Mawajdeh *et al.*,1995)**.

The importance of peoples' perception of quality was demonstrated by (**Akin and Hutchinson, 1999)** who found that the ill and poor people by-passed free or subsidized services in facilities they perceived to be offering low quality services. The quality and peoples' perception of the quality of services in public facilities, together with the utilization of MCH services, in order to improve the health of mothers and children (**Masatu *et al.*,2001)**.

Aim of the study is three folds:-
1-To assess the quality of care provided by maternal and child health services in MCH centers.
2. To assess the level of mother's' satisfaction with care and
3. To assess the services' providers of care in the MCH centers in Zagazig city.

Research question

Are there relationships between Mother's satisfaction and maternal and child health services provided by the MCH centers and its quality of care.

2. Subjects and Methods:-
Research design:

A descriptive cross-sectional study design was used in this study.

Study Setting:

All the four MCH centers (Sheba, Abokhalile, Alnahal, and Alsiaden MCH centers.) were included in the study.

 Study subjects

The sample consisted of 405 mothers who attended to MCH for taken care (Services utilizers) and 150 Health services providers. The data was collected through 6 months started at January 2012 and finished at July 2012.

1- Health services providers:

All the service providers (150) in the studied centers; physicians, dentists, nurses' laboratory technicians and pharmacists were included in the study.

2- Services utilizers:

From each center maternal (mothers) utilized of the antenatal care, immunization and childbirth services which includes (immunization, diarrhea and acute respiratory infection (ARI) and follow up), clinics were selected after service provision through a systematic random sample technique; every third child's care giver (mother) was interviewed. The total

number of sample was 395 mothers , and then we increased the sample by 3.33% (10 mothers) to guard against presence of incomplete data. So, the number of sample reached 405 mothers.

Ethical approval

The agreement for participation of the subjects was taken after full explanation the aim of the study to get their approval for participation in the study. Also, they were assured that the information would be confidential and used only for the research purpose.

Tools of Data Collection:
1. A standardized observational checklist was prepared by the researchers used to assess the quality of care. The methods used for data collection through the checklist were done by direct observation during work that is the idealistic method. It is used to record the behavior of health services providers, assess the process of the services and to assess the accessibility, availability and quality of the equipments, supplies and materials e.g. drugs.
2- Quality Scale:
2.1- Service utilizers interview questionnaire:

It was used to collect data relevant to topic of the study. **Clarification of points related to presentation of users satisfaction:** The type of rating scales selected was the quality scale. Response format of excellent (3), good (2), fair (1) and poor (0) to provide greater variability and lesser skewness of responses. The number of respondent was the figure that was used for calculation of percent. The mean percent score was calculated by multiplying the "excellent" column by 3, the "good" column by 2, the "fair" column by 1 and the "poor" column by 0 and then adding the resulting figures and dividing the sum by total number of respondents. Mothers who responded to any items by don't know were considered missed data. The resulting figure was then divided by 3 and multiplied by 100 to convert the score into percent for meaningful presentation (**WHO, 1995)**.

2.2- Service providers interview questionnaire:

It was used to collect data relevant to topic of the study. **Quality assessment manual (MOHP, 2000):** It was used to determine the quality index (QI). It comprises of two parts. **The first part** includes the different services components and each component has its criteria, which are the elements of assessment. Each criterion has different standards, which are description of the minimum level of that criterion to be acceptable. The first part comprises of general sections which are shared between the different health programs and services in the facility as structure, general resources and infection control and special sections which are specific for each health service or program provided by the centers as vaccination, ARI program and follow up

programs. **The second part** contains checklist to assess the quality index guided with the first part standards. The checklist contains different general and special sheets with their components and criteria only without the standards.

Calculation of the QI:

The data were subjected to scoring system to calculate the QI for each sheet. Each item was evaluated by giving a score; 0= not present, 1= poor, 2= fair and 3= good.

A modified score based on the **MOHP (2000)** score was used; QI: <60= poor quality, QI: 60–74= fair quality and QI: 75–100= good quality.

$$\text{QI for each sheet} = \frac{\text{Total actual number of compliance criteria in that sheet}}{\text{Total required criteria number for the same sheet}} \times 100$$

Validity and reliability

The questionnaire was translated into Arabic, and then reviewed by 5 experts (3 experts from community health nursing and 2 experts from obstetrics and Gynecology nursing) who conducted face and content validity of all item. All recommended modifications were performed. Degree of reliability was alpha precision 88% of the study sample.

Pilot study

It was carried out for 10 of mothers to and 10 of providers to ascertain the clarity and applicability of the tools, and to assess the respondent's acceptance and understanding the questions. Data were collected by using structured interview questionnaires.

Field work

The study was conducted during the period from January to July 2012. Informed consent to participate in the study was obtained from mothers and the providers. Modifications of the tools were done accordingly. Each mother was individually interviewed using the previously mentioned tool. Every one in the sample was assured for confidentiality, asked separately and away from health service providers and motivated to give true answers. Time consumed for each interview ranges from 30 to 45 minutes. The collected data were categorized, tabulated and made ready for use.

Statistical analysis

Statistical package for social sciences (SPSS) version 19.0 was used for data analysis. Descriptive statistics; frequency, percent distribution and arithmetic mean (M) and analytical statistical tests; Yates chi-square (χ^2), χ^2 and Fischer exact (FE) were used. The significance level for Yates χ^2, χ^2 and FE were accepted if the P-value ≤0.05.

3. Results

Table (1): **personal Characteristics of mothers about MCH services** as regard the mother's education; 53.6% were secondary educated, 25.9% primary educated, 11.9% university educated and 8.6% illiterates. Regarding mother's job; 77.8% and 22.2% were housewives, employees respectively. As respect number of visits to the MCH centers, 81.5% and 18.5% of mothers visited the center 1-4 times and ≥5 times in the last year, respectively. Regarding cause of visit; 20.2%, 50.6%, 29.2% visited for the immunization clinic, the antenatal clinic, and the child birth clinic respectively. So, sick baby clinics were visited more than the well baby clinics (28.4% vs. 8.6%). As regard accessibility to the centers, 83.2% of mothers have no difficulty in accessibility. As regard the usual source of care, 65.4% considered the center is the usual source of care. Regarding time spent in examination; 39.5% of mothers spent 5-9 minutes, 33.3% spent <5 minutes and 27.2% spent >10 minutes.

Table (2) demonstrated the quality scores (QSs) percent of structures and performance in ante natal care, immunization, well baby and sick baby clinics in the four MCH centers. Regarding the structural assessment; the mean QSs of the ante natal care, immunization, well baby and sick baby were 66.2%, 75.6%, 72.9% and 68.4%, respectively. As regard the average quality score of the structures of the studied clinics, was reported a fair score (70.8%). As regard the performance assessment, the mean QSs percent of the ante natal, immunization, well baby and sick baby clinics were 59.8%, 73.8%, 63.5% and 56.3%, respectively. As respect the average QS of the studied clinics performance, was reported a fair score (63.4%).

Table (3) showed percent distribution of the health care users' rating score about aspects of care provided by the MCH centers. Majority (64.7%) of the mothers had got good care at the center, 18.3% had fair care, 16.3% had an excellent care and 0.7% had poor care. Also, most of mothers were satisfied with different aspects of care, the highest good percent scores were competence of doctors in diagnosis and treatment (48.1%), Politeness of doctors (69.8%), Politeness of nurses (87.8%), child examination by the doctors (65.9%), efficacy of nurses (87.8%), Politeness of laboratory technician (91.6%) and Politeness of pharmacists (93.3%). Further, the present study revealed that good percent scores of doctor's explanation about illness and medication were 69.5% and 48.1%, respectively. On the other hand, the aspect of care, which dissatisfying the users and had the lowest scores was inadequacy of drugs (23.4%).

Availability of laboratory facilities (64.2%), doctors clearing up about medication (68.8%), while the cleanliness; 80.2% and 57.7% were for both the clinic and bath respectively.

Table (1): personal characteristics of health care users

Variables	Number (n=405)	Percent
Mother's education:		
Illiterate	35	8.6
Primary	105	25.9
Secondary	217	53.6
University	48	11.9
Mother's job:		
House wife	315	77.8
Employee	90	22.2
Number of visits in the last year:	330	81.5
1-4	75	18.5
≥5		
Cause of visit:		
Immunization of women	65	16
Antenatal care	173	42.7
Child birth services	76	18.7
ARI	28	6.9
Immunization	25	6.1
Diarrhea	29	7.1
Follow up	9	2.2
Difficult accessibility:		
Yes	68	16.8
No	337	83.2
Is the center the usual source of care?	265	65.4
Yes	140	34.6
No		
Waiting time (minutes):		
<15	348	85.9
15-29	52	12.9
30-60	5	1.2
Time spent in examination:		
<5 minutes	135	33.3
5-10 minutes	160	39.5
>10 minutes	110	27.2

Figure (4) showed mothers' comments of the health care according to the cause of attending to maternal clinic. Drug adequacy was the most common comment (35.6%), followed by chairs for setting (29.4%). Meanwhile, 24.9% of them with no comments. Regarding the drug adequacy, the highest percents were found among users of immunization clinic (42.7%), users of child birth services clinic (37.3%) and ante natal clinic (31.7%).

Figure (5) showed mothers comments of the health care according to the cause of attending to Pediatric clinic. Drug adequacy was the most common comment (44.0%), followed by chairs for setting (10.2%). Meanwhile, 37.3% of the users had no comments. Regarding the drug adequacy, the highest percents were found among users of sick baby clinic (52.9%), users of immunization clinic (34.3%) and well baby clinic (23.0%).

Table (6) showed distribution of the studied health care providers according to their personal and work characteristics. As regard age, the age group 25-34 years was the commonest age group (33.3%) and the least was the age group 45-55 years, 17.3%. Regarding gender, almost all the providers were females (92.7%). As respect the job, the nurses had the highest percent (62.7%) followed by doctors (24.7%), pharmacists (9.3%) and lastly the technicians (3.3%). As regard the work duration, 34.0% of providers worked 5-9 years and 5.3% worked 10-15 years. Regarding training course(s), 72.7% of the providers received training course. As regard duration of the training courses, 37.3% spent one week in the course, 32.0% spent two weeks and 22.0% spent one month. As respect type of the course(s), 49.3% had theoretical and practical courses, 34.6% had theoretical course and 14.7% had a practical course. As regard benefits from the courses, all providers had benefits; 60.7% had complete benefit and 39.3% had partial benefit.

Table (7) showed distribution of the studied health care providers according to their knowledge about quality and quality application program in relation to receiving training course. As regard the quality awareness, the majority of providers (71.3%) had no idea about quality in health care and 48.6% of them don't know if there is quality application program in the MCH centers or not. In details, 27.5% of trained providers were aware compared with 31.7% of not trained providers, with no statistical significant difference. Also, 10.1% of trained providers were aware about quality application program in the center compared with 12.2% of not trained providers, no statistical significant difference.

Figure (8) showed distribution of the studied health care providers according to their work duration, taking other work duties, presence of work problems and their opinions in the role of the supervisors' visits in improving work performance in the MCH centers in relation to providers' job. As respect work duration, none of the doctors and pharmacists worked in the center ≥10 years compared with 14.1% of the nurses and technicians. Regarding taking other work duties, 52.7% of the providers take other duties. In details, 21.6% of the doctors and pharmacists took other duties compared with 68.7% of the nurses and technicians, with a statistically significant difference. As regard work problems, 58.8% of the doctors and pharmacists are facing work problems compared with 52.5% of the nurses and technicians, with no statistically significant difference. As respect providers' opinion in the role of

supervisors' visits, 66.0% of them said that it has. Also, 43.1% of the doctors and pharmacists said that it have a role in improving work performance compared with 77.8% of the technicians and nurses, with a statistically significant difference.

Figure (9) cleared distribution of health care providers' degree of satisfaction, causes of users' satisfaction and dissatisfaction from providers' point of view and providers' recommendations to improve the work in the centers in relation to providers' job. As respect degree of satisfaction, most of the providers (80.7%) were satisfied. In details, 82.4% of the doctors and pharmacists were satisfied compared with 79.8% of the technicians and nurses, with no statistically significant difference. As regard causes of users' satisfaction from providers' point of view, cheap

service and proper care were the commonest causes of satisfaction as reported by 51.3% and 42.0% of providers, respectively. Regarding cheap service, 68.6% of the doctors and pharmacists said that it is the most important cause. While, 52.5% of the nurses and technicians said that proper care was the most common cause. Regarding causes of dissatisfaction, drug deficiency was the commonest cause as reported by 82.4% of the doctors and pharmacists and 71.7% of the nurses and technicians, with statistically insignificant difference. As regard recommendations, adequacy of drugs was the most common recommendation, 49.0% of the doctors and pharmacists recommend that. Also, increasing the resources and equipments was the most common recommendation of the nurses and technicians, 50.5% of them recommend that.
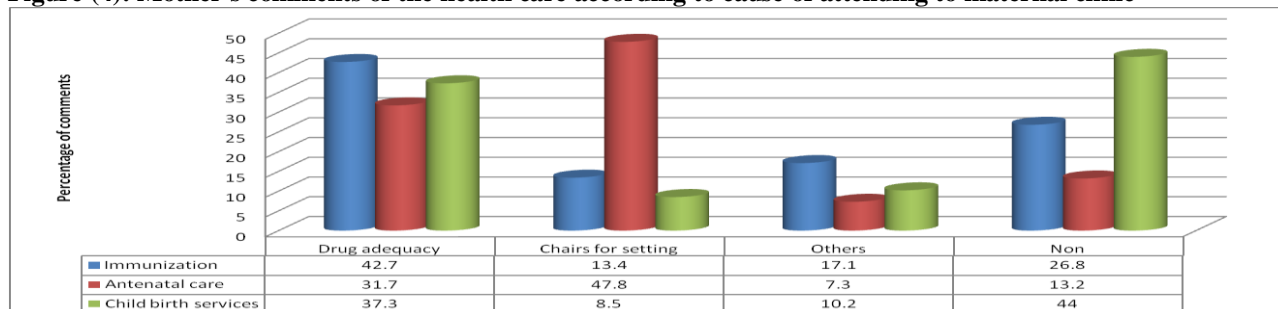
Table (2): Quality score percent in maternal and child clinics in the 4 MCH centers in Zagazig city.

| Variables	Quality score percent in maternal & pediatric clinics				Average M %
	Antenatal care %	Immunization %	Well baby %	Sick baby %	
Structures:					
Building and infrastructures	70.7	68.7	79.9	75.4	
Furniture and equipments	55.6	81.2	61.3	66.8	
Requirements tools	72.3	76.9	77.6	63.2	
Average mean (X)	66.2	75.6	72.9	68.4	70.8
Performance:					
Health care performance	81.3	93.2	90.8	86.7	
Health education	55.8	87.8	43.3	43.2	
Infection control	28.5	41.4	30.8	26.1	
Records	73.4	72.9	89.0	69.0	
Average mean (M)	59.8	73.8	63.5	56.3	63.4

Table (3): Distribution of the mothers rating score about aspects of care in the MCH centers

Aspects of care	Mothers No.	Poor		Fair		Good		Excellent	
		No.	%	No.	%	No.	%	No.	%
Politeness of registers	388	2	0.5	69	17.8	276	71.1	41	10.5
Politeness of doctors	374	0	0.0	11	2.9	261	69.8	102	27.3
Child medical examination by doctors	372	0	0.0	25	6.7	245	65.9	102	27.4
Doctors clearing up about illness	367	2	0.5	64	17.4	255	69.5	46	12.5
Doctors clearing up about medications	369	5	1.4	78	21.1	254	68.8	32	8.7
Efficiency of doctors in diagnosis and ,treatment	372	0	0.0	15	4.0	179	48.1	178	47.8
Doctors asking about past history	310	5	1.6	73	23.5	181	58.4	51	16.5
Efficiency of nurses	403	0	0.0	17	4.2	354	87.8	33	8.2
Politeness of nurses	404	3	0.7	26	6.4	245	60.6	130	32.1
Availability of laboratory facilities	215	2	0.9	66	30.7	138	64.2	9	4.2
Politeness of laboratory technicians	215	0	0.0	6	2.8	197	91.6	12	5.6
Convenience of drugs	364	74	20.3	201	55.2	85	23.4	6	1.6
Politeness of pharmacist	345	0	0.0	8	2.3	322	93.3	15	4.3
Pharmacist clearing up about medications	346	3	0.9	10	2.9	323	93.4	10	2.9
Health intervention	203	6	2.9	56	27.6	96	47.3	45	22.2
Work hours	397	0	0.0	66	16.6	316	79.6	15	3.8
Cleanliness of bath	267	18	6.7	93	34.8	154	57.7	2	0.7
Convenience of waiting area	360	61	16.9	159	44.2	137	38.0	3	0.8
Cleanliness of waiting area	403	6	1.5	72	17.9	314	77.9	11	2.7
Cleanliness of clinics	405	0	0.0	54	13.3	325	80.2	26	6.4
Overall rating of services	405	3	0.7	74	18.3	262	64.7	66	16.3

Figure (4): Mother's comments of the health care according to cause of attending to maternal clinic

	Drug adequacy	Chairs for setting	Others	Non
Immunization	42.7	13.4	17.1	26.8
Antenatal care	31.7	47.8	7.3	13.2
Child birth services	37.3	8.5	10.2	44

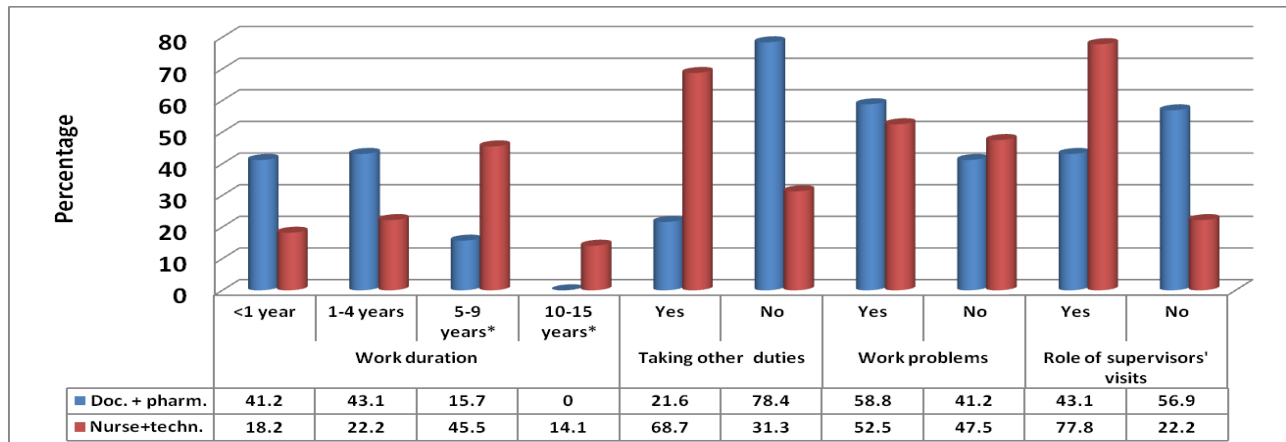**Figure (5): Mother's comment of health care according to the cause of attending to a Pediatric clinic**
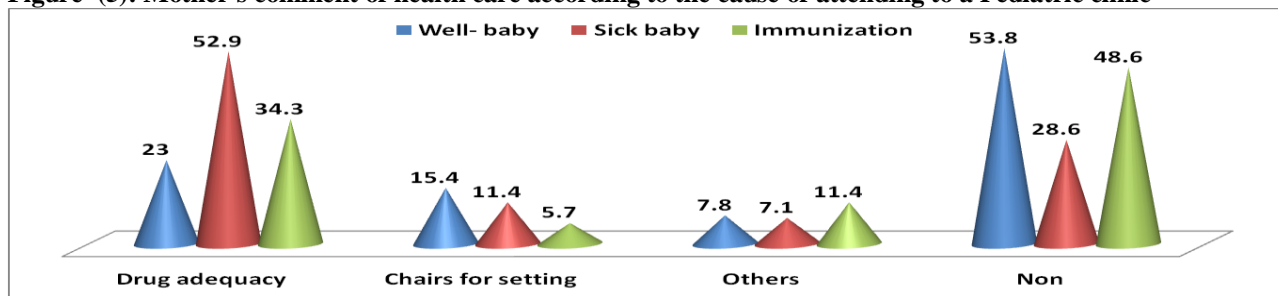
Table (6): Personal and work characteristics of the studied heath care providers in the MCH centers.

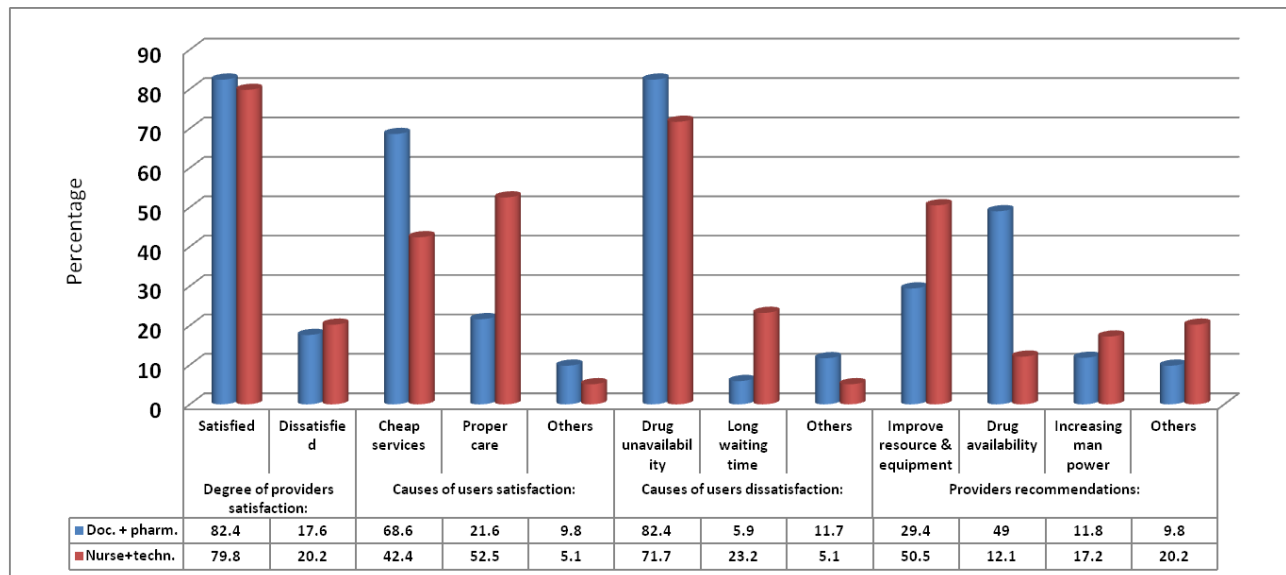| Variables	Number (n=150)	Percent
Age (years):		
<25	40	26.7
25-34	50	33.3
35-44	34	22.7
45-55	26	17.3
Gender:		
Females	139	92.7
Males	11	7.3
Type of work:		
Doctor	37	24.7
Pharmacist	14	9.3
Nurse	94	62.7
Technician	5	3.3
Duration of work (year):		
the<1	44	29.3
1-4	47	31.3
5-9	51	34.0
10-15	8	5.3
Receiving training course(s):		
Yes	109	72.7
No	41	27.3
Duration of training courses (n=69):		
One week	56	37.3
Two weeks	48	32.0
Three weeks	13	8.7
One month	33	22.0
Type of training course(s) (n=69):		
Practical	22	14.7
Theoretical	32	34.6
Both	76	50.7
Benefits of training courses (n=69):		
Complete	91	60.7
Partial	59	39.3

Table (7: Distribution of health care providers according to their knowledge about quality and quality program application in relation to receiving training course(s).

Variables	Receiving training course(s)				Total (n=150)		X2	P-Value
	Yes (n= 109)		No (n= 41)					
	N	%	N	%	N	%		
Awareness about quality:								
Yes	30	27.5	13	31.7	43	28.7	0.26	0.613
No	79	72.5	28	68.3	107	71.3		
Awareness about quality application program:								
Yes	11	10.1	5	12.2	16	10.7		
No	48	44.0	13	31.7	61	40.7	1.88	0.391
Don't know	50	45.9	23	56.1	73	48.6		

Figure (8): Distribution of the studied health care providers according to their work duration, taking other work duties, presence of work problems and their opinions in the role of supervisors' visits in improving work performance in the MCH centers in relation to providers' job.

	<1 year	1-4 years	5-9 years*	10-15 years*	Yes	No	Yes	No	Yes	No
	Work duration				Taking other duties		Work problems		Role of supervisors' visits	
Doc. + pharm.	41.2	43.1	15.7	0	21.6	78.4	58.8	41.2	43.1	56.9
Nurse+techn.	18.2	22.2	45.5	14.1	68.7	31.3	52.5	47.5	77.8	22.2

Figure (9): Description of health care providers' degree of satisfaction, causes of users' satisfaction and dissatisfaction from providers' point of view and providers' recommendations to improve the work in the MCH centers in relation to provider's job.

	Satisfied	Dissatisfied	Cheap services	Proper care	Others	Drug unavailability	Long waiting time	Others	Improve resource & equipment	Drug availability	Increasing man power	Others
	Degree of providers satisfaction:		Causes of users satisfaction:			Causes of users dissatisfaction:			Providers recommendations:			
Doc. + pharm.	82.4	17.6	68.6	21.6	9.8	82.4	5.9	11.7	29.4	49	11.8	9.8
Nurse+techn.	79.8	20.2	42.4	52.5	5.1	71.7	23.2	5.1	50.5	12.1	17.2	20.2

4. Discussion

The current study aimed to assess the quality of care provided by maternal and child health services in MCH centers, assess the level of mother's ' satisfaction with MCH care and assess the services' providers of care in the MCH centers in Zagazig city. This study revealed that the small proportions of mothers were illiterate and most of them were medium or higher education. As regards mother's job, the most of mothers were house wives. Regarding time spent in examination; 39.5% of cases spent 5-9 minutes, 33.3% spent <5 minutes and 27.2% spent >10 minutes, and the majority of mothers have waiting time less than 15 minutes. The present results disagreed with Camps (1992) who clarified that 2/3 of the clients were illiterates and 1/4 was medium or higher education, and 79.0% of the clients have no work experience. The high percent of housewife users may be explained; the centers working hours are for the morning shift only, which compatible with this group of users. Mother satisfaction was significantly positive among patients with long-term visits than among those with first-time visits. In the same line with the current results Whittaker (1993) confirmed that a short consultation time did not allow correct diagnosis or management of the condition for which patients presented.

The majority of mothers were satisfied might reflect a low expectation level owing to their lifelong experience of spending a short time with health care providers or that the expectations of patients are directed on a priority basis towards other elements of care (e.g. the provision of medicaments or the provider's politeness). Another study conducted by Taman (2000) who noticed that 76.7% of users regarded the clinic as the primary source of care. Waiting time is a significant predict of patient intent to return for additional clinic care. This was supported with a study by Gurdal *et al.,* 2000 who reported that 21.8%, 52.7% and 25.5% of case spent <5, 5-9 and >10 minutes in examination, respectively. This similar with (Aldana *et al.,* 2001) reported that the expectations of users were far from reality. Thus, the average waiting time clients would be satisfied with was 10.6 +0.3 min. Half the clients considered 8 min the maximum time they could wait in order to be satisfied, whereas only 25% would accept 12 min. Waiting time expectations did not vary significantly among mothers presenting for different services offered by MCH centers. Also Uzochukwu *et al.* (2004) found that the participants requested that efforts should be made to reduce the waiting time, together with increasing the number of staff in the health centers.

The current study revealed that the mean QSs of the ante natal care, immunization, well baby and sick baby were 66.2%, 75.6%, 72.9% and 68.4%, respectively. As regard the average quality score of the structures of the studied clinics, was reported fair score, 70.8%. On the same line, Hammouda (2000) found that the quality scores of the children clinics' were 49.3%, 61.3%, 55.06% and 61.4%, respectively. Study results were higher than these results. The differences may be explained by the policy of the MOHP that depends on the construction of new centers and get red of the old as a result of its quality assurance project. Result was similar to Shaker (2005) as he showed that QS percent of structures of the most of the developed MCH facilities in Qalyobia governorate was fair, 66.3%. This result comes in disagreement with Stinson (1991) who addressed the importance of health facility resources as a key component of the quality of health care; the inadequate supply of medical equipment is known to negatively affect the quality of care provided and the utilization of health centers.

Also Morgan and Reynolds (1995) who found that there is no enough chairs and/or desks for doctors and nurses in every pediatric clinic, this interfere with performance of work. Also, there was lack of special beds or place for examination, this make the physician to examine children on desk and this may increase the hazards of infection in addition to difficult for doing examinations. The essential primary equipments and instruments as thermometers, weighing scales and pediatric sphygmometers are not present in adequate numbers.

As regard the performance assessment, the mean QSs percent of the ante natal, immunization, well baby and sick baby clinics were 59.8%, 73.8%, 63.5% and 56.3%, respectively. As respect the average QS of the studied clinics performance was reported a fair score, 63.4%. This also was asserted by Hammouda (2000) who found that the QSs percent of these clinics were 45.0%, 56.9%, 45.1% and 51.0%, respectively. As respect the average QS of the studied clinics performance was reported a fair score were 49.5%. Again, this result was close to Shaker (2005) who reported that the QSs percent were 70.7%.

The present study revealed that the most of the mothers had good care at the center, also, most patients were satisfied with different aspects of care, the highest average mean percent scores were competence of doctors in diagnosis and treatment (81.1%), Politeness of doctors (69.8%), Politeness of nurses (60.6%), child examination by the doctors (65.9%), efficacy of nurses (87.8%). Similar study conducted by Gurdal *et al.* (2000) showed that the lowest average mean percent score was inadequacy of drugs, 44.8%. However, the most prominent complaints of the patient were disorganizing service system and slowness of investigations. On the same line Taman (2000) who showed results less than ours; courtesy of doctors (71.1%), competence of doctors in

diagnosis and treatment (69.9%), courtesy of nurses (57.4%) and child examination by doctors (60.8%). Moreover Aldana *et al.* (2001) found that study highlights the gap between the notion of patient satisfaction as an element representative of quality of care and high quality health care from a professional point of view. Thus, the most powerful predictor for client satisfaction with government health services was the provider's behavior towards the patient, particularly respect and politeness. This aspect was much more important than the provider's technical competence (characterized by elements such as explaining the nature of the problem, physical examination, and giving advice).

Also Zoller *et al.*(2001) reported that the most important indicators of outpatient clinic care quality were getting better, getting service and care when needed and having diagnosis and treatment options explained moreover, This similar with Oermann *et al.* (2006) who found that the teaching activities had a favorable affect on patient satisfaction with received care. Also, individualization of care, orientation of patient, informational effectiveness and safety procedures were important factors affecting patient satisfaction. Lastly, Poole *et al.*(2007) stated that although satisfaction with clinic care was high, the overall and specific, few respondents felt that provision of information about their condition was perceived to be poor, particularly by the elderly.

According to findings of the current study the drug adequacy was the most common recommendation according to cause of attending to maternal clinic, followed by chairs for setting Meanwhile, 24.9% of the users had no recommendations. Regarding the drug adequacy, the highest percents were found among users of immunization clinic, followed by users of child birth services clinic and ante natal clinic. Our results are in agreement with the findings of Kanji *et al.* (1992) demonstrated that only 12% of clients obtained their prescribed drugs. According to some reports, provision of health care is expected to respond directly to patients' preferences and demands as medical treatment is enhanced by greater patient satisfaction. However, Ahmed *et al.* (1996) showed that about 89% of patients from BI health centers obtained their prescribed drugs. Oermann *et al.* (2006) who found that the aspect of care, which dissatisfying the users and had the lowest average mean percent scores was inadequacy of drugs These findings contrast with the findings of Msamanga *et al.* (1993) who found that the 80% of patients in public health facilities could not get their prescribed drugs available.

In the present study, the knowledge of health care providers about quality and quality application program in relation to receiving training course. As regard the quality awareness, the majority of providers had no idea about quality in health care and 48.6% of them don't know if there is quality application program in the MCH centers or not. This may be explained, the quality system not yet introduced in Zagazig city at the time of this study and the providers didn't take any courses about quality in health care in their training courses. The present results agreed with Miller *et al.*(1991) who reported that a relation between the quantity of supervision and the number of served users. Also Rizk (1997) reported that 37.0% of his health care providers taking other work duties.

As regards, degree and causes of users' satisfaction and dissatisfaction from providers' point of view and providers' recommendations to improve the work in the centers. The causes of users' satisfaction from providers' point of view, cheap service and proper care were the commonest causes of satisfaction respectively. Regarding causes of dissatisfaction, drug deficiency was the commonest cause. As regard recommendations, adequacy of drugs was the most common recommendation; also increasing the resources and equipments was the most common recommendation of the nurses and technicians. This result coincided with Fitzpatrick (1991) who stressed that the efficacy of medical treatment is enhanced by greater patient satisfaction. Consequently, patient satisfaction is undoubtedly a useful measure, and to the extent that it is based on patients' accurate assessments, it may provide a direct indicator of quality care. Similar study conducted by Msamanga *et al.*(1993) who reported that the availability of appropriate medication at the first point of contact with the health care system is probably one of the most important components of the quality of primary health care, and therefore a primary determinant of utilization. On the same line Newman *et al.*(1998) found that lack of users' satisfaction with outpatient care was due to long waiting times, lack of physical examinations and failure to receive prescribed medications.

Moreover, Akin and Hutchinson (1999) emphasized that the level of satisfaction with MCH services offered in health centers and perceived quality of care based on availability of prescribed drugs, observed physical condition of the facilities and providers' behaviors were high. This is good as "improved quality of services increases the likelihood of a facility being used". Also Speizer and Bollen (2000) stressed that shortage of health workers was perceived as an indicator of low quality of care. Additionally, Uzochukwu *et al.*(2004) pointed that the most important causes of users' dissatisfaction were the absence of a doctor for all the services, poor staff attitude for all the services, distance for all services

except curative, and lack of drugs for curative services. Very few gave cost and long waiting hours as a reason. Also these results were in accordance with the study done by Awadalla *et al.*(2009) who reported that the most common causes of dissatisfaction were long waiting time and improper environment.

Conclusions

Quality is rapidly becoming a global issue and of concern to both the providers and the users of health care services. Also, the issue of client t satisfaction and dissatisfaction has become a topic of increasing importance in health care. Competence of health team diagnosis and treatment of children and courtesy of doctors and nurses had the highest average mean score among aspects of care in satisfying the users (mothers). Drug adequacy was the most important recommendation of the users. Training courses get benefits to the providers and help them in providing a good quality of health care. Awareness about quality was low among the providers. The main cause of users' dissatisfaction from providers' point of view was drug unavailability. Quality, QA and TQM must become a continuous and integral part of the provision and management of services. The situation should be examined periodically in a formal manner and system supporting activities should be started (e.g. research, guidelines, resources, etc.).

Corresponding Author:
Eman Shokry Abd Allah[1]
Departments of [1]Community Health Nursing
Faculty of Nursing, Zagazig University
emanshokry2012@yahoo.com

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