



SATISFACTION OF IRAQI WOMEN REGARDING ANTENATAL CARE SERVICES APPLIED AT PRIMARY HEALTH CARE CENTERS IN BAGHDAD

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ABSTRACT

Background: Antenatal care is a combination of monitoring for problems in mother and fetus, Quality of health care can be accessed by satisfaction with the manner in which the service is delivered
Objectives: to assess women's satisfaction with the quality of antenatal care & to find if there is certain association between client satisfactions & other demographic
Methodology: A cross sectional study was conducted at 10 primary health care centers in Baghdad for 5 months period using a self-administered questionnaire, Chi-square test was applied looking for significance, 0.05 was considered as cut off point for level of significance. Results: (45%) of the participants were in the range of age 20-29 years, (65%) were housewives (35%) of the women were employee. Participants with secondary education were more than third of the women (38%) and higher education were less than fourth of the women (21%) There was significant association between the age, occupation and satisfaction of pregnant women regarding environmental, the housewives were satisfied more than employee with environmental aspect easy to access PHCC, Conclusions although the overall satisfaction with the quality of antenatal care was high, some aspects of provided ante natal care were inadequate, the present study showed that good communication with the clients significantly influence patient satisfaction. It was also evident that the older the lady was, the lower educated and housewives women were more satisfied. There was an obvious deficiency in the female health education which need continuous improvement in this field

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INTRODUCTION

The word 'antenatal' relates to any event or condition that occurs or exists in the embryo or the mother during the period between conception and delivery of the infant. Antenatal care, therefore, is the care of a pregnant woman and her fetus by health care staff from conception to the onset of labor. In addition to providing antenatal care, health professionals in the primary health care centers perform face-to-face education for all pregnant women on issues such as pregnancy, delivery, and the postpartum period, and also recommend a schedule for the next visits⁽¹⁾

The effectiveness of antenatal care is not only the aim but also improving maternal satisfaction with health care services. The knowledge about users' views is still very limited, especially in developing countries. The number of pregnant women in the developing countries receiving antenatal care during pregnancy has increased significantly since 1990 about 20 %.⁽¹⁾

Assuring and promoting quality in health care services continues to be a priority for any health care system. The

World Health Organization has emphasized the importance of quality in the delivery of health care, defined by the criteria of effectiveness, cost and social acceptability. Providing good quality health care is of critical importance for the future economic and social well-being of any country. An increase in the quality of health care can result in increased patient satisfaction. This will in turn promote the appropriate use of the health services.⁽²⁾

Many researchers are seeking evidence that outcomes of nursing care are of good quality and represent a cost-effective use of resources. It is important to assess certain dimensions of quality in relation to structure, process, and outcome. Health outcomes can be grouped into four categories: health status, health-related knowledge, health-related behavior, and satisfaction with the care. Satisfaction with care describes how satisfied consumers are with their overall experience with care provided by the agency or plan.^(3,4)

Patient satisfaction is considered an important indicator of the efficient utilization of health services, as it assesses an individual's attitude to health services received and the extent

to which these services meet the person's requirements and needs^(5,6)

In recent decades, determining the level of patient satisfaction has been found to be the most useful tool for getting patients' views on how to provide care. This is based on two major principles: patients are the best source of information on quality and quantity of medical services provided and patients' views are determining factors in planning and evaluating satisfaction.^(7,8)

High quality antenatal care is a fundamental right for women and one of the important factors to safeguard their health, help women maintain normal pregnancies and reduce the rate of maternal morbidity and mortality. It was reported that lack and poor quality of antenatal care contribute to maternal deaths. The way in which maternity care is provided is influenced by policies, availability and quality of services, and most importantly, the health-care-seeking behaviors of the women^(9,10)

One of the indicators of measuring quality of antenatal care is pregnant women's satisfaction which includes: percent of clients satisfied with the services received, perception of clients satisfied with the waiting time, percent of clients who felt that privacy was adequate for counseling/clinical examination. Their satisfaction with provided care should be assessed to provide clear image about the quality of provided care. So, more attention is needed for the pregnant women during antenatal care period⁽¹¹⁾.

Maternal and neonatal mortalities continue to occur at unacceptably high levels in Iraq. The maternal mortality ratio and neonatal mortality rate remained as high as 84 per 100,000 live births and 23 per 1,000 live births, respectively, in 2010 . These figures are significantly higher than developed countries with higher levels of antenatal care. For example the UK had a maternal mortality ratio of 12 and a neonatal mortality of 4 in 2010 . Even the neighboring Iran has a considerably lower maternal mortality ratio and neonatal mortality rate than Iraq (30 and 12.5, respectively) . In fact, Iraq is among the group of 68 countries that account for 97% of all maternal and child deaths globally. While neighboring Iran cut its maternal death rate by 22% between 2000 and 2010^(12,13,14)

Maternity care services are provided by all levels of the Iraqi health care system. The primary level, which includes a network of public primary health care centers (PHCCs), provides preventive services (antenatal care, growth monitoring and immunization) and curative services (treatment of ailments). Other services provided by some of these PHCCs but to lesser extend include promotion of breastfeeding, family planning and postnatal care. Some of these services particularly curative health services are also provided by the private sector through obstetricians' private clinics that are widely distributed mainly in urban areas⁽¹⁵⁾

Aim of the study is to

1. Assess women's satisfaction with the quality of antenatal care at the primary health care centers in Baghdad

To find if there is certain association between client satisfactions & other demographic variables (age, educational level, parity, occupation)

Subjects and Methods

Design: cross sectional study was conducted among 423 pregnant women.

Duration: 5 months starting from January 14th till June 15th 2015.

Setting: The study was conducted in ten PHCCs of family medicine in Baghdad at both districts (Alkarkh, Alrusafa) selected in convenient methods:

1. Al-Mansor PHCC/Alkarkh PHCC/Alrusafa
2. Al-Salam PHCC/Alkarkh PHCC/Alrusafa
3. Al-Salam Al-sakani PHCC/AlkarkhPHCC/Alrusafa
4. Abed-Saheb Dakhel PHCC/AlkarkhPHCC/Alrusafa
5. Al-huria PHCC/Alkarkh PHCC/Alkarkh
6. Bab_Almuadhem
7. Al-Mustanseria
8. Hay Oor
9. Al seleakh
10. Al-Zahraa

Sample size determination

The following assumption was used to calculate the sample size required for the study:

$$n = \frac{(Z_{\alpha/2})^2 (p (1 - p))}{E^2}$$

$$n = \frac{(1.96)^2 (05 (.5))}{(0.05)^2} \quad n=384$$

*Where n=number to sample.

$Z_{\alpha} = (1.96)^2$ for 95% confidence (i.e. $\alpha = 0.05$).

P = "best guess" for prevalence (e.g. ± 0.50).

e = maximum tolerable error for the prevalence estimate (e.g. ± 0.05)

The sample is further increased to 423, to account for contingencies such as non-response or recording error.

Data collection procedure

The participants were chosen with systemic random sampling (every fourth lady was chosen) two days per week . Data were collected using a self-administered (twenty one items) questionnaire, validated and evaluated by three professors of community medicine, from three medical colleges (Baghdad, Al-Kindy, and Al-Nahrain),

Statistical analysis

Data were introduced into personal computer and SPSS(Statistical Package for the Social Sciences),V.20 was used for statistical analysis. Satisfaction level was divided into good, fair and bad for each question . Chi-square test was applied looking for significance of difference and level of association between age, occupation ,and educational level regarding each question 0.05 was considered as cut off point for level of significance.

Ethical Considerations

- Permission was obtained from the Iraqi ministry of health by an Administrative order directed to PHCCs to facilitate the task of obtaining the information from participants.

- Oral consent was obtained by asking every participant if they want to answer the questions of the questionnaire after brief explanation of the general purpose of the study and it is objectives.

secondary were more than third of the women (38%) and higher education were less than forth of the women (21%).

The older age women were more satisfied with environmental aspect of PHCCs ,however, there was significant association between age and satisfaction specially regarding(easy to access PHCC, toilet easy to access and clean, Laboratory services and Ultrasound services) respectively.

There was a significant association between occupation and satisfaction of pregnant women regarding environmental aspect of PHCCs as shown in table (2) the house wives were satisfied more than employee with environmental aspect of

RESULTS

Socio-demographic characteristics

Data analysis showed that less than half of the women (45%)were in the range of age 20-29 years ,while Less than forth of the women (21%) were in the age20<years and more than third (34%) of the women were in the range of age (30-39)years.

Table -1 Association between age and satisfaction of pregnant women regarding environmental aspects of PHCCs

Tested variables	Level of satisfaction	Age						Total		P value of X ²
		<20years		20-29		30-39		N(400)	100%	
		N	%	N	%	N	%			
Easy to access PHCC	Good	60	73	151	83	120	88	331	83	0.014
	Fair	18	22	18	10	11	8	47	12	
	Bad	4	5	13	7	5	4	22	5	
Clean examination area	Good	68	83	143	79	120	88	331	83	0.157
	Fair	8	10	29	16	11	8	48	12	
	Bad	6	7	10	5	5	4	21	5	
Toilet easy to access and clean	Good	40	49	105	58	90	66	235	59	0.004
	Fair	33	40	41	23	26	19	100	25	
	Bad	9	11	36	20	20	15	65	16	
Comfortable waiting area	Good	72	88	163	90	117	86	312	78	0.895
	Fair	6	7	10	5	11	8	73	18	
	Bad	4	5	9	5	8	6	15	4	
Time offered for ANC	Good	49	60	115	63	96	71	260	65	0.515
	Fair	17	21	36	20	20	15	73	18	
	Bad	16	20	31	17	20	15	67	17	
Laboratory services	Good	50	61	140	77	122	90	312	78	<0.001
	Fair	18	22	23	13	10	7	51	13	
	Bad	14	17	19	10	4	3	37	9	
Ultrasound services	Good	61	74	142	78	122	90	330	83	0.035
	Fair	12	15	23	13	9	7	49	12	
	Bad	9	11	17	9	5	4	21	5	

Table -2 Association between occupation and satisfaction of pregnant women regarding environmental aspects of PHCCs

Tested variables	Satisfaction	Occupation of pregnant ladies						P value of X ²
		House wife		Employee		Total		
		N	%	N	%	N(400)	100%	
Easy to access PHCC	Good	228	88	103	74	331	83	0.001
	Fair	24	9	23	16	47	12	
	Bad	8	3	14	10	22	5	
Clean examination area	Good	225	87	106	76	331	83	0.04
	Fair	21	8	27	19	48	12	
	Bad	14	5	7	5	21	5	
Toilet easy to access and clean	Good	162	62	73	52	235	59	0.346
	Fair	61	23	39	28	100	25	
	Bad	37	14	28	20	65	16	
Comfortable waiting area	Good	206	79	106	76	312	78	0.03
	Fair	49	19	24	17	73	18	
	Bad	5	2	10	7	15	4	
Time offered for ANC	Good	177	68	83	59	260	65	<0.001
	Fair	43	17	30	21	73	18	
	Bad	23	9	44	31	67	17	
Laboratory services	Good	199	77	113	81	312	78	0.477
	Fair	37	14	14	10	51	13	
	Bad	24	9	13	9	37	9	
Ultrasound services	Good	217	83	113	81	330	83	0.79
	Fair	30	12	19	14	49	12	
	Bad	13	5	8	6	21	5	

More than two third of the women (65%) were housewives and more than third of the women (35%) were employee. Illiterate were less than tenth of the women (7%). Primary or able to read &write were nearly third of the women (33.5%), while

PHCCs , however, there was a significant association between occupation and satisfaction specially regarding(easy to access PHCC ,Clean examination area , Comfortable waiting area, Time offered for ANC) respectively

Table -3 Association between education and satisfaction of pregnant women regarding environmental aspects of PHCCs

Tested variables	Satisfaction	Educational level										P value of X ²
		Illiterate		primary		Secondary		Higher ed.		Total		
		N	%	N	%	N	%	N	%	N	%	
Easy to access PHCC	Good	26	93	115	86	120	78	70	83	331	83	0.018
	Fair	2	7	12	9	19	12	14	17	47	12	
	Bad	0	0	7	5	15	10	0	0	22	5	
Clean examination area	Good	25	89	116	87	119	77	71	85	331	83	0.104
	Fair	2	7	13	10	21	14	12	14	48	12	
	Bad	1	4	5	4	14	9	1	1	21	5	
Toilet easy to access and clean	Good	21	75	91	59	76	57	47	56	235	59	0.099
	Fair	6	21	31	20	36	27	27	32	100	25	
	Bad	1	4	32	21	22	16	10	12	65	16	
Comfortable waiting area	Good	21	75	107	80	124	81	60	71	312	78	0.044
	Fair	3	11	23	17	26	17	21	25	73	18	
	Bad	4	14	4	3	4	3	3	4	15	4	
Time offered for ANC	Good	21	75	97	72	100	65	42	50	260	65	0.044
	Fair	4	14	20	15	28	18	21	25	73	18	
	Bad	3	11	17	13	26	17	21	25	67	17	
Laboratory services	Good	25	89	126	94	112	73	49	58	312	78	0.001
	Fair	2	7	7	5	17	11	25	30	51	13	
	Bad	1	4	1	1	25	16	10	12	37	9	
Ultrasound services	Good	20	71	126	94	136	88	48	57	330	83	0.001
	Fair	5	18	5	4	11	7	28	33	49	12	
	Bad	3	11	3	2	7	5	8	10	21	5	

Table 4 Association between age and satisfaction of pregnant women regarding interpersonal aspects of antenatal health care services

Tested variables	Satisfaction	Age groups						Total		P value of X ²
		<20years		20-29		30-39		N	%	
		N	%	N	%	N	%			
Staff answer inquires	Good	60	73	138	76	120	88	318	80	0.029
	Fair	12	15	28	15	11	8	51	13	
	Bad	10	12	16	9	5	4	31	7	
Taking full history :	Good	54	66	140	77	117	86	311	78	0.014
	Fair	20	24	29	16	12	9	61	15	
	Bad	8	10	13	7	7	5	28	7	
Examination by doctors	Good	51	62	132	73	102	75	285	71	0.377
	Fair	18	22	28	15	18	13	64	16	
	Bad	13	16	22	12	16	12	51	13	
Respect and empathy	Good	40	49	100	55	81	60	221	55	0.039
	Fair	28	34	58	32	26	19	112	28	
	Bad	14	17	24	13	29	21	67	17	
Privacy and confidentiality	Good	44	54	110	60	95	70	249	62	0.146
	Fair	20	24	42	23	21	15	83	21	
	Bad	18	22	30	16	20	15	68	17	
Information about next vaccine date	Good	44	54	115	63	99	73	258	65	0.039
	Fair	19	23	37	20	24	18	80	20	
	Bad	19	23	30	16	13	10	62	15	
Informed about next visit date	Good	48	59	113	62	103	76	264	66	0.03
	Fair	18	22	36	20	22	16	76	19	
	Bad	16	20	33	18	11	8	60	15	
Competent staff	Good	47	57	120	66	100	74	267	83	0.062
	Fair	23	28	31	17	19	14	73	12	
	Bad	12	15	31	17	17	13	60	5	

The association between the age and satisfaction of pregnant women regarding interpersonal aspect of antenatal health care services was shown in table (4) the older women were more satisfied with interpersonal aspect of PHCCs however, the difference observed was statistically significant specially regarding (Staff answer inquires, the nurse take full history, Respect and empathy, Information about next vaccine date, Informed about next visit date) respectively.

Table (5) showed the association between the educational level of pregnant women regarding interpersonal aspect of PHCCs.

The lower educated women were more satisfied with interpersonal aspect of PHCCs than higher educated but there were no observed difference so statistically there was no significance.

There was also a significant association between occupation and satisfaction of pregnant women regarding interpersonal aspect of PHCCs as shown in table (6) the house wives were more satisfied than employee with interpersonal aspect of PHCCs. therefore the difference observed was statistically significant specially regarding (Staff answer inquires, the nurse

take full history, Examination by doctors ,Respect and empathy, Privacy and confidentiality, Information about next vaccine date, Informed about next visit date and Competent staff) respectively.

Health services received in the PHCC

Table (7) summarizes the various antenatal care services provided to the women during antenatal visit. Majority of clients (100%, 100%, 100%, 95.75%, 94.25%, 94.75%,

Table -5 Association between education and satisfaction of pregnant women regarding interpersonal aspects of antenatal health care services staff

Tested variables	Satisfaction	Educational levels								Total		P value of X ²
		Illiterate		Primary		Secondary		Higher ed.		N 400	% 100	
		N	%	N	%	N	%	N	%			
Staff answer inquires	Good	25	89	114	85	121	79	58	69	318	80	0.121
	Fair	2	7.1	13	9.7	20	13	16	19	51	13	
	Bad	1	3.6	7	5.2	13	8.4	10	12	31	7	
Taking full history :	Good	23	82	105	78	119	77	64	76	311	78	0.946
	Fair	4	14	18	13	24	16	15	18	61	15	
	Bad	1	3.6	11	8.2	11	7.1	5	6	28	7	
Examination by doctors	Good	22	79	100	75	108	70	55	65	285	71	0.679
	Fair	3	11	17	13	26	17	18	21	64	16	
	Bad	3	11	17	13	20	13	11	13	51	13	
Respect and empathy	Good	19	68	77	57	83	54	42	50	221	55	0.412
	Fair	7	25	31	23	48	31	26	31	112	28	
	Bad	2	7.1	26	19	23	15	16	19	67	17	
Privacy and confidentiality	Good	21	75	88	66	90	58	50	60	249	62	0.174
	Fair	5	18	30	22	34	22	14	17	83	21	
	Bad	2	7.1	16	12	30	19	20	24	68	17	
Information about next vaccine types	Good	19	68	89	66	99	64	51	61	258	65	0.948
	Fair	6	21	25	19	32	21	17	20	80	20	
	Bad	3	11	20	2	23	15	16	10	62	15	
Informed about next visit date	Good	20	71	91	68	102	66	51	61	264	66	0.87
	Fair	5	18	23	17	31	20	17	20	76	19	
	Bad	3	11	20	2	21	14	16	10	60	15	
Competent staff	Good	20	71	92	69	104	68	51	61	267	67	0.86
	Fair	5	18	22	16	29	19	17	20	73	24	
	Bad	3	11	20	2	21	14	16	10	60	9	

Table 6 Association between occupation and satisfaction of pregnant women regarding interpersonal aspects of antenatal health care services staff

Tested variables	level of satisfaction	Occupation of pregnant ladies						P value of X ²
		House wife		Employee		Total		
		N	%	N	%	N 400	% 100	
Staff answer inquires	Good	215	83	103	74	318	80	0.031
	Fair	31	12	20	14	51	12	
	Bad	14	5	17	12	31	8	
Taking full history :	Good	217	83	94	67	311	78	0.001
	Fair	31	12	30	21	61	15	
	Bad	12	5	16	11	28	7	
Examination by doctors	Good	200	77	85	61	285	71	<0.001
	Fair	41	16	23	16	64	16	
	Bad	19	7	32	23	51	13	
Respect and empathy	Good	162	62	59	42	221	55	0.001
	Fair	61	23	51	36	112	28	
	Bad	37	14	30	21	67	17	
Privacy and confidentiality	Good	189	73	60	43	249	62	<0.001
	Fair	38	15	45	32	83	21	
	Bad	33	13	35	25	68	17	
Information about next vaccine types	Good	171	66	87	62	258	85	<0.001
	Fair	63	24	17	12	80	11	
	Bad	26	10	36	26	62	4	
Informed about next visit date	Good	179	69	85	61	264	78	<0.001
	Fair	57	22	19	14	76	13	
	Bad	24	9	36	26	60	9	
Competent staff	Good	185	71	82	59	267	67	0.023
	Fair	44	17	29	21	73	18	
	Bad	31	12	29	21	60	15	

Table-7 Distribution of 400 pregnant ladies according to health services received in the PHCC

health services	yes		No	
	N	%	No	%
Registration	400	100	0	0
Record pulse	275	68.75	125	31.25
Record blood pressure	303	75.75	97	24.25
Measured height and weight	400	100	0	0
Have been asked about History of date of LMP	400	100	0	0
History of risk factors (alcohol ,smoking)	0	0	400	100
Physical examination (edema ,pallor ,abdomen)	333	83.25	67	16.75
PCV and Hb	383	95.75	17	4.25
Blood group	377	94.25	23	5.75
Urine test	379	94.75	21	5.25
Ultrasound scan in this centers	322	80.5	78	19.5
Dental care	307	76.75	93	23.25
(T.T injection)and vaccination.	389	97.25	11	2.75

97.25%) respectively were asked about Registration, Measured height and weight, Have been asked about History of date of LMP, performed PCV and Hb , Blood group, Urine test and received (T.T injection)and vaccination. Moreover, about three quarters of women (75.75%, 76.75%) respectively were asked about Record blood pressure and received Dental care.

More than three quarters of women (83.25%, 80.5%) respectively mentioned that their abdomen were examined and there lower limb and face were examined for edema, pallor and stated that their abdomen were be examined by ultrasound in this centers.

While less than two third of the women (68.75%) that their pulse were measured But there was no women (0%) Have been asked about history of risk factors (alcohol, smoking).

Health education session during PHCC visit

The majority of women (94.25%)were informed about the Important of Iron and folic acid during pregnancy .minority of women (16.25%,13.75%)respectively were received information About Important of Exercise during pregnancy and family planning with child spacing.

More than forth of the women (27.75%,28,25%) respectively were informed about Breast care and feeding and danger signs and symptoms in pregnancy. in addition more than one third of the women (37.5%) were informed about diet and nutrition during pregnancy

In addition the general satisfaction of the women were (73%), while satisfaction regarding environmental aspect were (77%) and regarding interpersonal aspect were (68%)

DISCUSSION

Ante natal care (ANC) is the key entry point of a pregnant woman to receive broad range of health promotion and preventive services which provide the health of the mother and the baby⁽¹⁶⁾.Quality of ANC is an important determinant of pregnancy outcome and has been designated one of the four pillars of safe motherhood, along with clean and safe delivery, essential obstetric care and family planning which could contribute to reduction of maternal mortality^(17,18).Patient satisfaction and dissatisfaction indicate patients' judgment about the strengths and weaknesses of the services⁽¹⁹⁾.

Satisfaction regarding environmental aspects of primary health care centers

It seems that the distance between the clients' homes and the centers played an important role on the follow up process because most of the women who attended antenatal clinic lived near from the centers. In the current study more than three quarters of the clients were satisfied with environmental aspect.

The relationship between socio demographic characteristics and clients 'satisfaction with environmental aspect the older, low educated, housewives women were more satisfied with environmental aspect , these results are similar to the study carried out in Basrah, Iraq which resulted in most of the clients were satisfied with environmental aspect of the health center (79.8%) also in Saudi Arabia which resulted in those who attended higher education reported the lower level of satisfaction of environmental aspect (23.1%)⁽²⁰⁾.The possible reason why women with higher level of education were dissatisfied was because women with a higher level of education are probably more vocal and information-seeking and know what to expect. This finding agrees with findings of a study in Malaysia⁽²¹⁾, and in South West Ethiopia⁽²²⁾ , that showed a higher overall patients' satisfaction with environmental aspect (87.5%),(85%) respectively.

Satisfaction regarding interpersonal aspects of antenatal health care services

In primary health care, provider-client interaction is a fundamental platform and critically affects service delivery. Interpersonal interaction affects the satisfaction of the patients about the provider's competency⁽²³⁾. In the present study, most of the health care providers were greeting the clients, asked clients about the cause of visits, their health problems and they listened carefully to the clients' complaints.

More than two thirds of the clients were satisfied with providerclient interaction, these results are congruent with the results of Hansen *et al.* (2008) who presented(82%)of the clients were satisfied with intepersonel aspects of antenatal health care services⁽²⁴⁾. In Basra a good percentage (59%) of participants were more satisfied when their providers spent more time with them and when their providers engaged them by listening to their problems, answering their questions and interest shown in their feeling⁽¹⁾

The relationship between socio demographic characteristics and clients' satisfaction with provider client interaction and quality of antenatal care provided to them was investigated in the present study. The older, low educated, housewives women

were more satisfied with client- provider interaction and with the quality of antenatal care. However, the expressed satisfaction in this study may be due to lack of client's knowledge about care they could expect at the antenatal clinic .In addition, the literature appears to support this in that older women expected less information from their doctors. These findings are in agreement with Al-azmi *et al* (2006), Al-Doghaither in Riyadh (2004) who found that the oldest group of respondents were more satisfied with the primary care services than younger^(25,26) in addition, Babic *et al* (2001)and in South West Ethiopia reported that less educated patients were generally more satisfied (80.7%)⁽²⁷⁾ and also in Basra Iraq Housewives were more satisfied than employees (87%)with the antenatal care schedule⁽¹⁾

Satisfaction regarding health services received in the PHCC

The study revealed that all of the clients were checked for registration weight and height and also have been asked about history of date of LMP , and this also reported by Mgawadere, (2009) and Montasser *et al* (2012)^(16,28), In addition, blood pressure was checked for majority of women(75.75%). This indicated that the health care providers screened for pre-eclampsia.

With regard to physical examination during the visit to the health Centre, our study resulted in a good satisfaction89.%, like a study at the primary health care centers of Shirvan Chardaval, Iran in 2005that revealed a total of 89.8% of the women had high satisfaction with the antenatal care services and satisfied with completeness of physical examination and competence of the provider⁽²⁸⁾ .In this study the majority of the clients performed basic investigations like blood and urine analysis in the health care centers this agree with result of study in Nigeria(95%)⁽²⁹⁾. These results may be attributed to more available resources at the primary health centers in Baghdad. Ultrasound examination was reported by more than three quarters of the clients. Regarding other health service like tetanus vaccine supply , our clients show their satisfaction about availability of it most of the time in the health center in about 97.25% ,this agree with result of study in Baghdad, Iraq(90%)⁽³⁰⁾also in Erbil city(87%)⁽³¹⁾ .

Satisfaction regarding health education session during PHCC visits

In general, health education and provision of information to women at antenatal care are not formally defined as job description of nurses and midwives in Iraq. Majority of clients of this study were unsatisfied with health education about importance of family planning and birth spacing methods, and general information regarding the benefits of breast feeding, and this may be due to shortage of time and absence of motivation or encouragement from the director on these health programs and lack of training course from time to time about the importance of female health education to improve health status and to get positive outcome. Another study from Iraq similarly reported poor provision of health education at antenatal care units in PHCCs in Erbil city as only 23.7% of visiting women received education about care for the breast feeding⁽³²⁾. A study from Duhok governorate of Iraqi Kurdistan region also reported poor provision of health education in the PHCCs and peoples' poor perception and understanding of the existing health education messages⁽³³⁾. In neighboring Jordan, a study reported poor use of health education sessions at PHCCs by clients and the clients not

usually recommending these sessions to others as the sessions were not meeting the specific health education needs of the Clients⁽³⁴⁾. A study from Iran revealed that clients' satisfaction was lowest with provision of health education at PHCCs than other primary care services⁽³⁵⁾. A study from Egypt also reported poor satisfaction (<30%) with health education methods at antenatal care services⁽²⁹⁾

Iron supplementation we reported by large proportions of clients, These are in agreement with Tran *et al*(2011) , Mgawadere (2009) who found that about80% of the women received iron supplementation and Khadr (2009) who found that 64% received iron^(36,16,37) .

Regarding education about nutrition received during this period of women life, our study revealed that (37.5%) were satisfied with the education about diet and nutrition. this result is consistent to a study carried out in Iran at 2007⁽²⁸⁾ , 39.8% of them only were very satisfied. Regarding education about danger signs and symptoms in pregnancy this study revealed that (28.25%) were satisfied, this result is consistent to a study in Mgawadere, (2009)⁽¹⁶⁾ that showed70% of the studied group was not provided any information on how to recognize and proceed when danger symptoms or signs appear.

The overall clients' satisfaction in this study with the quality of ante natal care services provided to them was relatively high(73%), this result is supported by other studies which were carried out by Al-azmi *et al* (2006), Al-Eisa *et al* (2005) and Al-Faris *et al.*, (1996), that showed a higher overall patients 'satisfaction with Riyadh health centers (90%),^(26,38,39) and Thailand (71.8%)⁽⁴⁰⁾ In a study carried out in Turkey at 2004 regard the level of satisfaction of pregnant women toward public health center, the result reveal that they were somewhat satisfied⁽⁴¹⁾.The result of this survey, in general, agree with many previous studies carried out in different places in Iraq For example, a previous studies carried out in Basra, that reported a wide range of satisfaction95% with various components of antenatal care⁽¹⁾ and this result coincide with result of study done in Baghdad, Iraq^(24,31) that ranging their result 80.35% with overall satisfaction, the reason of this satisfaction due to provider pay attention and enjoy caring to them and appeared to be skillful and treated them with respect correspondingly⁽⁴²⁾ the performance or quality of the product/services leads to the increase of satisfaction; while quality below expectations causes dissatisfaction⁽⁴³⁾

CONCLUSIONS

Generally, most of the pregnant women were satisfied with the service that they had received. Also they were satisfied with multiple aspects of care in the health center in the form of clinical examination, laboratory investigation, treatment of existing condition, appointment system, education about Important of Iron and folic acid during pregnancy, supplements of the health center and equipment supply, privacy and response to their inquiry and the health care centers.

It can be concluded from the results of the present study that although the overall satisfaction with the quality of antenatal care was high, some aspects of provided ante natal care were inadequate. In addition, the present study showed that good communication with the clients significantly influence patient satisfaction. Therefore, health care providers should work towards improving the communication skill of their professionals along with having technically competent work. It

is also evident that the older, the lower educated and housewives women were more satisfied. There was an obvious deficiency in the female health education which need continuous improvement in this field.

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