ASSESSMENT OF HEALTHCARE STANDARDS AND CLINICAL PRACTICES IN MATERNAL CARE

Doaa Ali Kareem AL-Fatlawi [1], Atheer Kadhim Ibadi[2]

[1]Department of Community Health Technologies, College of Health and Medical Technologies/Kufa, Al-Furat Al-Awsat Technical University, Kufa, Iraq
[2]Department of Pharmacy, Kufa Institute, Al-Furat Al-Awsat Technical University, 31001 Kufa, Al-Najaf, Iraq, atheerkadhimibadi@yahoo.com, kin.ath@atu.edu.iq

Abstract
Background: Improving access, availability, and quality of care services in hospitals is likely to reduce maternal mortality and morbidity and preserve the health of women. The World Health Organization seeks a world where every pregnant woman and newborn receives quality care. The current study aimed to evaluate the quality of medical services during and after childbirth in government and private hospitals in Al-Najaf city. Methods: A case-control study is conducted on 376 respondents divided into two groups (case & control), was 188 women who attended two selected private Hospitals as a case, 94 from each private hospital and 188 women who attended two selected public hospitals as control, 94 from each public hospital, a structured questionnaire uses for data collection to compare medical care and services that were provided for women during and post-delivery between those hospitals. Results: The total number of respondents was 376 women divided into two groups of hospitals. The age range was 15-40 years, and the mean ± std. were (25.957 ± 5.938) for governmental hospitals respondents as (control) and 25.361 ± 4.667 for private hospitals respondents as (case group). The results of assessing the services that provided to women during delivery in selected hospitals were (96.8%) of women were asked about vaginal bleeding, and 85.6% asked about the rupture of membranes only they are from the important signs of delivery. In comparison, in the case group, only 36.7% were asked about vaginal bleeding, and almost all women in both groups received the services of checking the fetal heart sound and uterine and vaginal examination and the support from the healthcare providers during delivery. In contrast, the results of assessing the services in the post-delivery period in case and control groups were 100% of women who received checking of vital signs in the control groups and 99.5% of women in the case group and neglected the providing of other important services during this critical period in both groups. Conclusion: This study showed these hospitals have apparent gaps in available some services that must be provided for women during and post-delivery and how to give priority to dealing with critical cases without discrimination, giving the rights to equality in dealing with and providing services, preserving their dignity as a human rights and there were gaps in providing integrated services to women during these critical periods to achieve the goal of reducing the maternal morbidity and mortality
Keywords: Assessment, Maternal care, Labour, Post–labour, Hospital, Medical services

I. INTRODUCTION

Each minute around the world, 380 women become pregnant, 190 face undesired or unplanned pregnancies, 110 women have pregnancy-related complications, 40 women experience unsafe abortions, and one woman dies [1]. Maternal mortality is considered an important indicator in measuring maternal health [2]. The maternal mortality refers to the death of a woman during pregnancy or within 42 day in the period of post- delivery [3]. The period of delivery and post-delivery consider the most crucial periods for survival, in which the high percentage of women and newborn deaths are the highest occurring [4]. In Iraq, the maternal mortality rate increased in 2020 to 900 per 100,000 compared to 2018; the ratio was 830 per 100,000[5]. Also the majority 99% of women deaths are from causes can be prevented that occurring in countries with low- and middle-income [6]. Most maternal deaths can be prevented by providing health care services to avoid or control on the pathological complications by using skilled care before, during and after delivery [7]. Therefore, the services have been available and provided for the mother and her newborn to prevent and reduce maternal and newborn death in all over the world [8]. The global Sustainable Development Goals targets to determine priority maternal mortality reduction, with a global average maternal mortality target of less than 70 per 100,000 live births and a supplementary national target that no country should have a maternal mortality rate greater than 140 per 100,000 live births by 2030, so the quality of health care services is critical to the achievement of the Sustainable Development Goals and to achieving the Global Strategy for Women's health. WHO has elaborated a global vision in which "every pregnant woman and newborn receives quality care throughout pregnancy, childbirth and the post-delivery period" under the umbrella of universal health coverage[9]. The WHO, in collaboration with UNICEF and UNFPA, made a network of care is defined as a collection of public and/or private health facilities and health workers deliberately interconnected to promote multi-disciplinary teamwork and collaborative learning to provide comprehensive, equitable, respectful, person-centered care from home/community to primary and tertiary levels, this aim to improve maternal and newborn outcomes especially in low- and middle-income settings and improvement the coverage of lifesaving interventions for maternal health have not consistently translated into reductions in mortality from preventable conditions[10].

The women's care service during pregnancy, childbirth, and postpartum is defined as integrated health supervision for

women to provide protection, care, and enhance the health of the mother, fetus, and newborn child. These services are provided at the primary health care level and in hospitals affiliated with the public and private sectors. These services are offered free of charge and equally without discrimination between the women [11]. Because the pre-postpartum periods are critical for saving the lives of women, this study is designed to assess Healthcare Standards and Clinical Practices in Maternal Care, evaluate the quality of these standards and practices post–delivery among women between government and private hospitals selected for this study in AL-Najaf City.

MATERIALS AND METHODS

Study settings

This research was done in Al-Najaf Al-Ashraf, one of Iraq's holiest cities. The data of estimated services provided for women during and post-delivery were obtained from the women during and post-delivery that were admitted to the selected public and private hospitals in Al-Najaf city, and the hospitals from which the samples were collected, which include: **1. The public Hospitals are (**Al-Zahraa Teaching Hospital and Al-Furat Al-Awsat Teaching Hospital**) 2. The Private Hospitals are (**Al-Hayat private hospital and AL-Ameer Private Hospital**).**

Study design

A Case-Control study was conducted to achieve the objective of this study in the form of a comparison between selected governmental and private hospitals to assess the healthcare standards and clinical practices as medical services provided for women during and post-delivery in these hospitals.

Study sample

The study sample included the women admitted to the hospitals involved in this study. 376 respondents were divided into two groups (case & control), selected using simple random sampling. According to previous studies [12], the study sample was 188 women during and post-delivery as cases who attended selected private Hospitals, 94 from each private hospital and 188 women during and post-delivery as control who attended selected public hospitals, 94 from each public hospital. The sample size is calculated based on previous studies by using the single population proportion formula (n=[Z a/2*P(1-P)] /d2) considering the following assumptions: proportion of women who receive services during and post-delivery 33.5%, 95% confidence level(CI), 80% power one-to-one ratio, and 5% margin of error (absolute level of precision), 10% dropout rate was added.

Data Collection

For data collection to assess the quality of services provided in selected hospitals for women during and post-delivery, a structured questionnaire was designed based on MNH QI (Maternal and Neonatal Health Quality Improvement) standards By the Iraqi Ministry of Health in cooperation with UNICEF. This questionnaire was used to obtain information from women during and post-labour to evaluate the services provided to them in the hospitals selected for the study during and post-natural delivery and the extent of their satisfaction with the quality of these services. The questionnaire included in this study included five main parts the following are: (Sociodemographic Characteristics of Women during and after Delivery, Obstetrics Characteristics of Women, The medical and surgical history of women, evaluation of medical services quality during delivery and Evaluation of medical services quality post-delivery).

Statistical Analysis

Statistical Package for the Social Sciences (SPSS) version 28 was used to analyze the data. Descriptive statistics were calculated for selected numerical and categorical variables for descriptive data.

Ethical Consideration:

- ❖ Al-Najaf Health Directorate was permitted to do this work.
- ❖ Written consent was taken from all participants.

Results

The questionnaire was used to assess the quality of medical services provided to women during and post-delivery in selected hospitals. It was applied to the women who were admitted to selected government and private Hospitals, and the results of the assessment as in the following tables:

Table(1): The distribution of respondents in both study groups according to sociodemographic characteristics.

Variables		Governmental		Private		P.value
		Freq.	Perc.	Freq.	Perc.	
Age Groups	15-24 Y	78	41.5	98	52.1	*0.004
	25-34 Y	94	50.0	84	44.7	
	35-44 Y	16	8.5	6	3.2	
Residency	Urban	133	70.7	170	90.4	**0.001
	Rural	55	29.3	18	9.6	
Education levels	Illiterate	39	20.7	0	0.0	**0.001
	Read & Write	19	10.1	1	.5	
	Primary	51	27.1	55	29.3	
	Secondary	47	25.0	59	31.4	
	Tertiary	19	10.1	31	16.5	
	Diploma	4	2.1	18	9.6	
	Bachelor	9	4.8	22	11.7	
	Master	0	0.0	2	1.1	
Family Income	More than sufficient	3	1.6	1	.5	**0.001
	Sufficient	164	87.2	187	99.5	

	Not Sufficient	21	11.2	0	0.0	
Occupation	Housewife	174	92.6	141	75.0	**0.001
	Governmental employee	6	3.2	22	11.7	
	Privat works	8	4.3	25	13.3	

***T test, significant at 0.05.**

**Mann-Whitney U, significant at 0.05

Table 1 shows that 52.1 of the women in the cases group in the selected private hospitals were aged 15-24 years. However, 50% of women in the control group in the selected governmental hospitals were aged 25-34 years. As for geographical location, the majority of women in both private and governmental hospitals were from urban areas. According to education level, most women in private hospitals had a secondary education level (31.4%), and 27.1% were women with a primary education level in governmental hospitals. While, according to family income, the majority of women had sufficient family income in both groups, the cases group in the private hospitals(99.5%), (87.2%), the control groups in the governmental hospitals and the majority of women were housewives in both case and control groups, (75%) in private hospitals, and 92.6% were in the control group in the governmental hospitals.

Table (2) Shows the distribution of respondents in both study groups according to past obstetrical history and habits.

Variables		**Governmental**		**Private**		**P.value**
		Freq.	Perc.	Freq.	Perc.	
Smoking status	Yes	2	1.1	0	0.0	**0.157
	No	186	98.9	100	100.0	
Blood group matching	Yes	175	93.1	186	98.9	**0.004
	No	2	1.1	0	0.0	
	Not Sure	11	5.9	2	1.1	
Pregnancy No.	First	52	27.7	73	38.8	**0.001
	Second or more	136	72.3	115	61.2	
Delivery No.	First	54	28.7	96	51.1	**0.001
	Second or more	134	71.3	92	48.9	
Abortion	Yes	63	33.5	54	28.7	**0.317
	No	125	66.5	134	71.3	
Stillbirth	Yes	23	12.2	11	5.9	**0.031
	No	165	87.8	177	94.1	

**Mann-Whitney U, significant at 0.05.

Table two shows the high percentage of no-smoking habits among women of both case and control groups, with (100%) no smoking women in private hospitals and (98.9 %) in governmental hospitals. As for blood group matching between spouses, the Table shows the high percentage in both case and control groups were yes, the answer blood group matching with (98.9%) in cases groups in the private hospitals, and 93.1% in the control group (governmental hospitals). According to the pregnancy number, the Table shows the majority of women had secondary or more pregnancies in both cases (61.2%) and control groups (72.3%). Regarding the delivery number, the majority (71.3%) of women had secondary or more deliveries in the control group, and (51.1%) of women had their first delivery in the cases group. According to the obstetrical history of abortion, the high percentage were women with no history of abortion in both case and control groups, and the history of stillbirth in women were no history of stillbirth in both case and control group, with (94.1%) in the case group and (87.8%) in control group.

Table (3) Distribution of respondents in both study groups according to current and past medical and surgical history.

Medical and surgical history	***Governmental***		***Private***		****P.value***
	Current	Past	Current	Past	
	Yes Freq\%	Yes Freq\%	Yes Freq\%	Yes Freq\%	
Hypertension	24(12.8)	22(11.7)	3(1.6)	3(1.6)	0.001
Diabetes	14(7.4)	14(7.4)	7(3.7)	6(3.2)	0.116
Cardiovascular diseases	9(4.8)	9(4.8)	10(5.3)	10(5.3)	0.814
Sickle cell anemia	7(3.7)	7(3.7)	0(0.0)	0(0.0)	0.008
Thalassemia	4(2.1)	4(2.1)	0(0.0)	0(0.0)	0.045
Kidney disease	9(4.8)	8(4.3)	1(0.5)	1(0.5)	0.010
Epilepsy	5(2.7)	5(2.7)	0(0.0)	0(0.0)	0.025
Liver disease	3(1.6)	3(1.6)	0(0.0)	0(0.0)	0.082

Tuberculosis	3(1.6)	4(2.1)	0(0.0)	0(0.0)	0.082
Thyroid diseases	4(2.1)	3(1.6)	1(0.5)	1(0.5)	0.117
Drug allergy	11(5.9)	10(5.3)	3(1.6)	3(1.6)	0.030
Blood transfusion or donation	6(3.2)	6(3.2)	1(0.5)	1(0.5)	0.057
Blood clotting does not fall within the normal range	14(7.4)	17(9.0)	14(7.4)	16(8.5)	1.000
Previous surgeries	14(7.4)	14(7.4)	0(0.0)	0(0.0)	0.001

**Mann-Whitney U, significant at 0.05.

The results of Table 3 showed that hypertension was a high percentage among the women in the control group of the governmental hospitals (12.8%) current and (11.7%) in the past. While among women in the cases, the group of private hospitals was 1.6%. Diabetes results were higher among the control group in governmental hospitals than in the cases group of private hospitals, with (7.4%) for both current and past diabetes in women of the control group, (3.7%) for current diabetes and (3.2%) for past diabetes in women of cases group. The distribution of cardiovascular disease results showed the majority among women in the cases group than in the control group, with (5.3%) for both current and past diabetes in the case group and (4.8%) for both current and past diabetes in the control group. According to the skill cell anemia, the results were higher among women in the control group of the governmental hospitals, with 3.7% more than the case group of private hospitals (0.0%). The results of thalassemia disease were (2.1%) in women of the control group and (0.0%) in women of the case group. Also, the blood clotting does not fall within the normal range, had high distribution among women in both case and control groups, and was made of previous surgery, which had distribution in women in the control group with 7.4% and 0% in the case group.

Table (4) Distribution of respondents in both study groups according to time and duration of checking when they arrived at the hospital, delivery room

Times to do medical checking	Periods	Governmental	Private	*P.value
When you arrived at the hospital, how long did you wait before a health worker examined you?	No waiting	80(42.6)	51(27.1)	0.001
	≤ 30 M	103(54.8)	137(72.8)	
	≥ 30 - 60 M	3(1.5)	0(0.0)	
	≥ 1 H	2(1.1)	0(0.0)	
When you arrived at the delivery room, how long did you wait before a health worker examined you?	No waiting	187(99.5)	187(99.5)	1.000
	≤ 30 M	1(0.5)	1(0.5)	
	≥ 30 - 60 M	0(0.0)	0(0.0)	
	≥ 1 H	0(0.0)	0(0.0)	
What is the period between one examination and another in the delivery room?	No waiting	3(1.6)	1(0.5)	0.001
	≤ 30 M	80(42.6)	187(99.5	
	≥ 30 - 60 M	105(55.8)	0(0.0)	
	≥ 1 H	1(0.5)	0(0.0)	

*T-test, significant at 0.05.

This Table shows the results of the time they waited before checking when they arrived at the hospitals and the delivery room and the duration between checking the progress of delivery. The results show the majority of women in both governmental and private hospitals waited (≤30 minutes) before they were first examined when they arrived at the hospitals, with(54.8%) in control group and 72.8% in case group, the recommendation of the MNH QI standard the time of waiting when arrived at the hospital before a health worker examined the woman should be directly in emergency cases or less 30 minute in normal cases, despite this, there were rates of waiting 30 or more than minute due to official procedures before entering the delivery room in governmental and private hospitals as shown in the Table. According to the time of waiting at the delivery room before being examined, the results show almost all pregnant women were examined immediately upon entering the delivery room, without waiting time in both control and case groups, with a percentage (99.5 %) in both hospitals, as was directed in the MNH QI standard. In the period between one examination and another in the delivery room, the results show a high percentage in the control group of governmental hospitals (55.8 %) waited for ≥ 30 - 60 M between one and another examination, and this is contrary to what is stipulated in the MNH QI standard. At the same time, the high percentage in the case group, 99.5%, waited for ≤ 30 M in private hospitals, and it is compatible with the recommendation of the MNH QI standard.

Table (5) Evaluation of medical services quality during delivery for study groups

Does the healthcare provider ask you about	**Gover.**	**Priv.**	**P.value**
	Yes(Frq.\%)	**Yes(Frq.\%)**	
Vaginal bleeding	182(96.8)	69(36.7)	0.001
Rupture of membranes	161(85.6)	8(4.3)	0.001

Convulsions	0(0.0)	1(0.5)	0.317
Severe headache and/ blurred vision	4(2.1)	1(0.5)	0.177
Severe abdominal pain	2(1.1)	1(0.5)	0.536
Respiratory difficulties	3(1.6)	1(0.5)	0.315
Fever	4(2.1)	1(0.5)	0.177
Details regarding the "bag of water."	7(3.7)	1(0.5)	0.023
Whether she feels the baby's movements	3(1.6)	12(6.4)	0.018
Does the health care provider check about …	**Yes(Frq.\%)**	**Yes(Frq.\%)**	**P.value**
Fetal heart rate every half hour	185(98.4)	186(98.9)	0.653
Uterine contractions every half hour	184(97.9)	175(93.1)	0.027
Records temperature every two hours	9(4.8)	2(1.1)	0.275
Records Blood Pressure every four hours	8(4.3)	13(6.9)	0.156
vaginal examination (four hours or less according to the evolution of labour, such as Graphs of cervical dilation and Descent of the head/buttock	176(93.6)	187(99.5)	0.002
Labour Support	**Yes(Frq.\%)**	**Yes(Frq.\%)**	**P.value**
Family member/friend allowed to remain with woman constantly during labour and birth	19(10.1)	188(100.0)	0.001
At least one staff member (Midwife/Nurse) present during labour and birth	185(98.4)	188(100.0)	0.082
present by side as much as possible	176(93.6)	187(99.5)	0.002
Encouraging, praising and /or reassuring	183(97.3)	187(99.5)	0.100
encouraging and helping with walking	118(62.8)	183(97.3)	0.001
offering oral fluids intake	168(89.4)	187(99.5)	0.001
encouraging voiding as needed	167(88.8)	187(99.5)	0.001
helping with relaxation techniques (deep breathing, etc.)	175(93.1)	186(98.9)	0.007
Ensured privacy	186(98.9)	167(88.8)	0.001
Explained labour progress	60(31.9)	46(24.5)	0.001
Overall, are you satisfied with the support you received from health professionals during labour?	185(98.4)	187(99.5)	0.315
Would you recommend this health facility to your family or friends?	181(96.3)	186(98.9)	0.092
Human rights and respectful maternity care	**Yes(Frq.\%)**	**Yes(Frq.\%)**	**P.value**
Abdominal pressure applied during birth	167(88.8)	188(100.0)	0.001
Overall, do you feel the staff treated you with respect? Have they respected your wishes, culture, and religion?	184(97.9)	188(100.0)	0.045
Were you offered pain relief medications during labour?	4(2.1)	2(1.1)	0.411

The results of this Table show the evaluation of medical services quality during delivery for study groups; this Table includes four main topics, and everyone includes many sub-indicators; the women were asked about the services provided in the hospitals during the period of delivery. According to the results of the topic one of asking the women by the healthcare provider about important signs of delivery, which include (Vaginal bleeding, Rupture of membranes, Convulsions, Severe headache and/ blurred vision, Severe abdominal pain, Respiratory difficulties, Fever, Details regarding the "bag of water", Whether she feels the baby's movements) the high percentage of results were almost only asked about the vaginal bleeding with percentage (96.8%) and (85.6%) about the rupture of membrane in governmental hospitals and neglecting to ask about other important signs. In contrast, in private hospitals, there was major negligence from the healthcare provider when asking about these important signs of delivery, as shown in the above Table. The two topics of checking the women by the healthcare provider (Fetal heart rate every half hour, Uterine contractions every half hour, Records temperature every two hours, Records Blood Pressure every four hours, vaginal examination (four hours or less according to the evolution of labour, such as Graphs of cervical dilation and Descent of the head/buttock) the results show that the majority of women in both case and control groups were checked of fetal heart rate every half hour, uterine contractions every half hour and vaginal examination (four hours or less according to the evolution of labour) by the healthcare provider in both governmental and private hospitals with high percentage, while in both groups of hospitals, there was major negligence in term of regular checking of pressure and temperature. While the results of the topic of labour support, almost all women in both groups received support during delivery from healthcare providers, only allowed family members/friends to remain with the woman constantly during labour and birth not provided in governmental hospitals. The results of topic four, which includes human rights and respectful maternity care the results show that the percentage of abdominal pressure applied during birth was (88.8%) in governmental hospitals, and 100% of the majority of women in both groups felt satisfied with what was provided by respect. However, both groups of hospitals did not provide pain relief medications during labour, as shown in the above Table.

Table (6) Evaluation of medical services quality post-delivery for study groups

Does the health care provider monitor the mother for the following …	**Yes(Frq.\%)**	**Yes(Frq.\%)**	**P.value**
If the care provider encouraged you to stay for at least 24 hours after birth (Normal Vaginal Delivery)	1(0.5)	188(100.0)	0.001
If you and your baby remain in skin-to-skin contact and are not separated for routine procedures (weighing, bathing, dressing) for a minimum of one hour (irrespective of feeding choice) and until after the first feed	5(2.7)	188(100.0)	0.025
If they encouraged you to initiate breastfeeding within one hour after birth.	187(99.5)	1(0.5)	0.001
If they monitored you for two-six hours after the birth	188(100.0)	4(2.1)	0.001
If they checked the vital signs	188(100.0)	187(99.5)	0.317
Ensuring that you pass urine within 6 hours	187(99.5)	188(100.0)	0.317
Does the health care provider ask you about this as a Rapid initial assessment conducted at first contact?	Yes(Frq.\%)	Yes(Frq.\%)	P.value
Heavy vaginal bleeding	178(94.7)	187(99.5)	0.006
Respiratory difficulty	4(2.1)	1(0.5)	0.177
Fever	71(37.8)	1(0.5)	0.001
Severe headache/blurred vision	2(1.1)	0(0.0)	0.175
Severe abdominal pain	11(5.9)	1(0.5)	0.003
If the health care provider Counseling mother on self-care at home after delivery	Yes(Frq.\%)	Yes(Frq.\%)	P.value
Giving Health education materials to teach you how to care for yourself at home	17(9.0)	0(0.0)	0.001
Nutrition (intake of animal proteins, green vegetables, fats, carbohydrates, fruits and vitamins)	119(63.3)	0(0.0)	0.001
Importance of taking enough fluids, 2–3 liters of water daily	109(58.0)	0(0.0)	0.001
Personal and environmental hygiene	90(47.9)	0(0.0)	0.001
Ensuring adequate rest and sleep	93(49.5)	0(0.0)	0.001
Family planning and birth spacing	93(49.5)	0(0.0)	0.001
Importance of Exclusive Breastfeeding for six months	96(51.1)	0(0.0)	0.001
Need for two other postnatal routine visits: during the first week after delivery and again at six weeks	96(51.1)	0(0.0)	0.001
Does the healthcare provider explain to you & your husband (or another family member) the need to come to the health facility when the following danger signs are observed:	Yes(Frq.\%)	Yes(Frq.\%)	P.value
Excessive vaginal bleeding	91(48.4)	0(0.0)	0.001
Dizziness	81(43.1)	0(0.0)	0.001
Severe headache	72(38.3)	0(0.0)	0.001
Convulsions	27(14.4)	0(0.0)	0.001
Severe abdominal pains	74(39.4)	0(0.0)	0.001
Fever	75(39.9)	0(0.0)	0.001
Foul-smelling vaginal discharge	15(8.0)	0(0.0)	0.001
Blurred vision	15(8.0)	0(0.0)	0.001
Bowel and urinary dysfunction	12(6.4)	0(0.0)	0.001
Heart palpitations/excessive tiredness/dyspnoea	83(44.1)	0(0.0)	0.001
Does the health care provider counsel you or your husband on the baby's care in the following?	Yes(Frq.\%)	Yes(Frq.\%)	P.value
Importance of Exclusive Breastfeeding	95(50.5)	0(0.0)	0.001
Positioning and attachment of the baby to the breast	85(45.2)	0(0.0)	0.001
Completion of immunization	91(48.4)	0(0.0)	0.001
Protecting the baby from infection through hand washing and personal hygiene	24(12.8)	0(0.0)	0.001
Care of the umbilical cord	16(8.5)	0(0.0)	0.001
Provider recommends another visit for the mother and baby within a week of delivery	92(48.9)	0(0.0)	0.001
Breathing difficulties: (rapid breathing, retractions and grunting	84(44.7)	0(0.0)	0.001
Cyanosis	91(48.4)	0(0.0)	0.001

Convulsions/Spasm & Jitteriness	62(33.0)	0(0.0)	0.001
Fever/ Hypothermia	84(44.7)	0(0.0)	0.001
Poor suckling/feeding	91(48.4)	0(0.0)	0.001
Vomiting/Diarrhoea	80(42.6)	0(0.0)	0.001
Redness/swelling / Purulent eye	14(7.4)	0(0.0)	0.001
cord discharge	10(5.3)	0(0.0)	0.001
Yellow discoloration of eyes, skin or mucous membranes	90(47.9)	1(0.5)	0.001

Table 6 shows the results of the evaluation of medical services quality post-delivery for study groups, which include five topics, and every topic includes many sub-indicators. The results of this Table were the high percentages of services provided for the women post-delivery in the control group in governmental hospitals, which include encouraging the mothers to initiate breastfeeding within one hour after birth (99.5%) and 100% received the service the monitoring for two-six hours post-delivery and the service of checking the vital signs, and ensuring that mother pass urine within 6 hours with (99.5%), according to ask the women in period post-delivery by the healthcare provider about the important signs for initial assessment the high percentage was asked about the presence of heavy vaginal bleeding with (94.7%) and neglected the ask about other important signs. While the healthcare provider provided counseling for the women in the period post-delivery, there was major negligence in giving counsel to the mothers about self-care at home, about the danger signs that require going to any health institution if the mother exposed any of them and about the danger signs that a newborn may be exposed to and importance of visiting health institutions if they occur as the results that show in the Table. While the results of the assessment of the services provided for the women post-delivery, in the case group in private hospitals, which include a high percentage of encouraged women to stay for at least 24 hours after birth (100%) percentage, checked the vital signs (99.5%) and ensuring that women pass urine within 6 hours (100%) and asking the women by the health care provider about presence heavy vaginal bleeding (99.5%) only these services that provided for women (case group) in the period post-delivery in the private hospital and lack of provision of other services to women in the post-delivery period, as shown in the above Table.

Discussion

This study of assessment the quality of medical services that provided to the women during and post-delivery in selected hospitals provides a snapshot of the quality of maternal care services at the hospitals of government and private sectors in AL-Najaf AL-Ashraf city in 2023-2024, Overall, findings indicate that nearly these hospitals have the human resources, equipment, medicines and supplies necessary for quality care during and post-delivery , However, while resources are in place for basic and advanced care, there are apparent gaps in available of some services such as in knowledge and practice of high-impact interventions that require little to no resources to perform, including asking the staff about the previous and current medical history of pregnant women as an assessment of the condition and to give priority to special cases of pregnant women, as well as allowing a family member to stay beside the pregnant woman during delivery to support and encourage her, also during the assessment it was found that the mother was not informed and consented when taken any of the medical interventions during delivery in most cases ,also a basic point in maternity care is not being worked on that the skin-to-skin thermal care and support for early initiation of breastfeeding, and lack of providing counseling by the staff to the mothers on how to take care of themselves in the post-delivery period and on the danger signs that must go to any health institution when the mother exposed to any of them , also the mothers are not encourage to stay in the hospital for 24 hours post –delivery ,according to the national guide (MNH QI standard) but in more of cases stay for (4-6 hours or less) although Postnatal period is the most crucial period for survival in which the majority of maternal and newborn deaths are the highest[13] , According to the World Health Organization , later to an uncomplicated vaginal birth in a health facility, mothers should receive care in the facility for at least 24 hours after birth[14]. So, this study is an important step in closing the gap in information on the quality of maternal care in hospitals of AL-Najaf AL-Ashraf city by highlighting these gaps in maternity care so the public and private health sectors need to improve services provided for pregnant women and mothers.

The results of the assessment of medical services quality provided during and post-delivery in governmental and private hospitals by the women who were admitted to the study hospitals, as mentioned in Table (1), show that the distribution of respondents according to age groups for both groups (case and control) the majority of women with age (25-34 years) with 94% percentage in control group, while the majority of women with age(15-24 years) with 98% percentage in case group this was because pregnant women of young age, especially with their first pregnancy, have a fear of experiencing childbirth in public sector hospitals and turn towards private sector hospitals because of what is promoted in society as preferable in terms of providing services to the mother and newborn. The majority of women in both private and governmental hospitals were from urban areas (70.7%) in the control group and 90.4% in the case group; due to this, hospitals are in the city center, and there are hospitals closer to rural areas than study hospitals. The majority of women in the case group were at secondary education level (31.4%), and 27.1% were women with primary education level in the governmental hospitals. Through the questionnaire presented to the women, most women had not completed their studies and didn't have jobs or occupations, so the majority had limited or insufficient family income. According to Table (2), the results show the majority of women in both groups were non-smokers and had blood matching with their husbands, while the majority of women had secondary or more pregnancies in both case and control group, with (61.2%) in cases group of private hospitals and (72.3%) in control group of governmental hospitals. Regarding the delivery number, the majority (71.3%)

of women were secondary or had more delivery in the control group and (51.1%) of women were the first delivery number in the cases group.

According to the obstetrical history of abortion, the high percentage were women with no history of abortion in both case and control groups. The history of stillbirth in women was no history of stillbirth in either case and control group, with (94.1%) in the case group and (87.8%) in the control group. The results show that the rate of second or more pregnancies is the highest in the case group and, at the same time, that the percentage of first delivery was the highest. This is because there were women in the case group who suffered from the loss of their first pregnancy due to miscarriage, so the second pregnancy was considered a first birth for them. The Table (3) show the results of Distribution of respondents in both study groups according to current and past medical and surgical history, the majority of women in the control group had high blood pressure with percentage (12.8%) and diabetes, blood clotting does not fall in the normal range and make previous surgeries with percentage (7.4%), these rates were higher for disease and previous surgery in control group, while in case group the high percentage of disease were the blood clotting does not fall in the normal range with (8%) and the percentage of cardio vascular disease was (5.3%), from these results , it is clear that priority and special attention must be given to these women who suffer from these diseases which cause a greater risk during and post-delivery, conversely ,the reality of services in public and private hospitals was not at the required level, especially in blood pressure measurement services, which is required according to the recommendation of the ministerial guide the pregnant women should have her blood pressure measured every two hours regularly and follow up intensively on these cases, but there was negligence even in asking the pregnant women about her medical history before giving birth. According to the results of the assessment, the medical services provided for women during delivery are shown in Table 5; there were gaps in providing services with the appropriate quality to work on improving maternal health and reducing the mortality rate. What concerns services before entering the birth room, where the woman must be asked about all the signs of childbirth that occur to her, but a high percentage of questions were only about the presence of bleeding or the rupture of membranes, and that is only in public hospitals, while private hospitals neglect to ask about these signs and rely directly on the midwife's examination. There was an examination of uterine contractions and examination of the fetal pulse at high rates in both groups, but the importance of measuring temperature and blood pressure, as they were measured only once or neglected without measuring.

Regarding support during childbirth, no one was allowed to enter the delivery room with the pregnant woman for support unless it was in the private ward in public hospitals, unlike private sector hospitals, as shown in the results, there was support from the health staff for pregnant women, and almost all women were satisfied with the services provided to them during delivery with some women complaining about the poor services provided to them. According to the results of the assessment, the quality of services offered to women post-delivery is high. There was a significant failure in providing integrated services in the postpartum period in both the public and private sectors to ensure that the mother benefits sufficiently to ensure her health after her discharge from the hospital, especially in terms of providing correct health counsel on how to take self-care after giving birth, encouraging breastfeeding, and how to care for the newborn child as the results that show in Table (6).

Conclusions

According to the assessment of the services provided during and post-delivery for women in selected hospitals, there were many gaps in providing quality services commensurate to preserve maternal health and eliminate preventable causes that lead to increased maternal morbidity and mortality, despite nearly all these hospitals having the human resources, equipment, medicines, and supplies necessary for quality care during and post-delivery, however, the result of this assessment shows that the government sector is more advanced in providing maternity care services than the private sector.

References

1. Kachhwaha, K. P., & Jain, M. (2019). A Study of Causes and Factors Responsible for Maternal Mortality in a Tertiary Care Institute of Central Gujarat. Journal of Gynecology and Obstetrics, 7(4), 100.

2. Sajedinejad S, Majdzadeh R, Vedadhir A, Tabatabaei MG, Mohammad K. Maternal mortality: a cross-sectional study in global health. Global Health. 2015 Feb 12;11:4. Doi: 10.1186/s12992-015-0087-y. PMID: 25889910; PMCID: PMC4353673.

3. Warren C, Daly P, Toure L, Mongi P. Opportunities for Africa's newborns: Postnatal care. 2006. In.; 2015.

4. Abbasi, S., & Younas, M. (2015). Determinants of Maternal Mortality in Pakistan. Journal of Midwifery and Reproductive Health, 3(3), 430-432

5. Albankaldawli. Trend in maternal mortality estimates by the World Health Organization, UNICEF, and theWorldBank2000-2020
https://data.albankaldawli.org/indicator/SH.MMR.DTHS?locations=IQ}

6. World Health Organization. World health statistics 2016: Monitoring health for the SDGs. Geneva: World Health Organization; 2016Ope, B. W. (2020). Reducing maternal mortality in Nigeria: addressing maternal health services' perception and experience. Journal of Global Health Reports, 4, e2020028

7. World Health Organization. World health statistics 2016: Monitoring health for the SDGs. Geneva: World Health Organization; 2016

8. Souza JP, Gulmezoglu AM, Vogel J, Carroli G, Lumbiganon P, Qureshi Z, et al. Moving beyond essential interventions for reduction of maternal mortality (WHO Multicountry Survey on Maternal and Newborn Health): a cross-sectional study. Lancet 2013;381:1747–55

9. World Health Organization, Care in normal birth: a practical guide. Technical working group. 1997 Jun;24(2):121-3.

10.WorldHealthOrganization.why-we-need-to-focus-on-quality-care-for-women-and-newborns
https://www.who.int/news/item/04-05-2021.

11. World Health Organization, Care in normal birth: a practical guide. Technical working group. 1997 Jun;24(2):121-3
12. Limenih MA, Endale ZM, Dachew BA. Postnatal Care Service Utilization and Associated Factors among Women Who Gave Birth in the Last 12 Months Prior to the Study in Debre Markos Town, Northwestern Ethiopia: A Community-Based Cross-Sectional Study. International Journal of Reproductive Medicine. 2016;2016:7095
13. World Health Organization. Postnatal care for mothers and newborns highlights from the WHO 2013 guidelines. Geneva: WHO; 2015.
14. World Health Organization. WHO recommendations on postnatal care of the mother and newborn. Geneva: World Health Organization; 2014.