ISSN NO: 2770-2936
Date of Publication:14-03-2023

# Assessment of quality of life for affected women singleton pregnancies in Iraq and the diagnosis of pregnancy complications

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**Abstract**

**Introduction:** Uterine rupture occurs when the integrity of the uterine wall is lost. The most common risk factor is having had previous uterine surgery, such as a caesarean section. Uterine rupture is not very frequent, but it is a complication of pregnancy or childbirth that in more serious cases (complete or catastrophic uterine rupture) can cause death of both mother and fetus. **Objective:** This paper aims to study the assessment of quality of life for affected women singleton pregnancies in Iraq and the diagnosis of pregnancy complications. **Patients and Methods:** In this study, a descriptive cross-sectional study was applied to study assessment of quality of life for affected women singleton pregnancies in Iraq and the diagnosis of pregnancy complications from 4$^{th}$ July 2021 to 11$^{th}$ June 2022. Data were collected for 90 patients different hospitals in Iraq, where the patients were divided into two groups, the first group of patients, which included women singleton pregnancies patient which included (50), and the second group, control group, which include (40) patients. A statistical study was conducted for women singleton pregnancies patient using the SPSS program. **Results and Discussion:** Uterine rupture occurs when the uterus ruptures because of pressure during pregnancy, labor or delivery. The uterus can rupture in some or all of its layers, compromising the oxygen supply to the fetus and causing severe bleeding in the mother. Also, Uterine rupture occurs most frequently along the scar line in women who have had previous caesarean sections. Other predisposing factors include congenital uterine abnormalities, trauma and other surgical procedures, and other surgical procedures such as myomectomy or open maternal-fetal surgery where This study relied on the Apgar score distribution of women singleton pregnancies patient, where it was divided into two types of degree and Apgar 5 min < 5 and contained 15 with 30% for the group of women singleton pregnancies patient, but the control group included 27 with 67.5% while Apgar 1 min < 5 was 35 and 70% for the singleton pregnancies patient group and 13, which represented 32.5% with the total number of cases. **Conclusion:** The incidence of uterine rupture is increasing due to the increase in vaginal deliveries after previous cesarean sections. Our study concludes that the control group was more successful and superior to singleton pregnancies patient group, as a result of what the results of the study showed in evaluating the patients' quality of life as well as the complications affecting both groups.

**Keywords:** Uterine rupture; Vaginal; Caesarean section; Diabetes; and Foul-smelling urine.

## Introduction

Uterine rupture occurs when the integrity of the uterine wall is lost. The most common risk factor is having had previous uterine surgery, such as a caesarean section [1]. Uterine rupture is not very frequent, but it is a complication of pregnancy or childbirth that in more serious cases (complete or catastrophic uterine rupture) can cause death of both mother and fetus [2]. Therefore, in the face of an obstetric emergency involving a rapid deterioration in the health of the mother and fetus, early diagnosis and treatment is essential. Combined

ISSN NO: 2770-2936
Date of Publication:14-03-2023

with advances in medical care measures, it has led to a significant decrease in the maternal mortality rate in our region [3]. Uterine rupture occurs when the uterus ruptures as a result of pressure during labor or delivery [4]. The uterus may rupture in some or all of its layers, because the uterus contains oxygen and embryos and explodes in the mother [5]. Uterine rupture often causes the baby to move toward the mother's belly when it's time to give birth [6]. Uterine rupture is more common in women who undergo TOLAC (testing of labor after cesarean) or VBAC (vaginal delivery after cesarean). Generally, this is caused by the breaking of scar tissue from previous cesarean sections or uterine or abdominal surgeries during labour [7]. In US studies, the frequency of uterine rupture is highly variable, and while some authors report a spontaneous rupture of 1 per 2,000 births, others suggest a frequency of 8 per 1,000 births in African countries [8]. In developed countries, uterine rupture accounts for 0.02-0.08% of all deliveries [9]. In any case, according to the Department of Obstetrics and Gynecology of the University Hospital Virgen de las Nieves Granada, uterine rupture intact is very rare, and is estimated to occur between 1/5700 and 1/20000 pregnancies [10]. Most uterine ruptures occur in cases of previous scarring [11]. In fact, the incidence of uterine rupture is increasing due to the increase in vaginal deliveries after previous caesarean sections [12]. It currently ranges from 0.3 to 1% and is 0.78% in women who had attempted vaginal delivery after caesarean section [13]. Regarding the risk of recurrence, if the uterus has already been ruptured, there are Spanish studies that indicate an increased risk of uterine rupture from 22 to 100%, and it is higher when the lesion affects the bottom of the uterus [14]. Obstetric complications refer to the disorders and disorders that occur during pregnancy, childbirth, and labour, as well as in the early neonatal period. Examples of such complications include prenatal drug exposure, inadequate maternal nutrition, minor physical abnormalities (or AFMs, indications for neurodevelopmental disorders occurring in the late first trimester), and obstetric complications. Birth complications can have long-term effects on the baby, including exacerbation of problem behaviors. Research has identified links between birth complications and later human aggression and suggests that birth complications may cause aggression by affecting brain development [15,16]. Abundant documentation indicates that prenatal exposure to alcohol and other drugs has a long-term effect on babies [17]. In addition to its association with cognitive deficits, fetal exposure to alcohol is associated with social impairments, such as attachment disorders and emotional dysregulation in childhood (increased anger, aggression, and distractibility during early childhood), inappropriate sexual behavior, legal problems, depression, suicide, and poor childcare during adulthood [18, 19]. Additionally, similar deficits have been observed in children exposed to methadone and cocaine [20]. Although it was not initially clear whether these effects occurred independently of prenatal alcohol exposure and other risk factors, preliminary results from a well-designed study suggest that prenatal cocaine exposure is independently associated with alcohol problems [21,22]. French studies indicated that external behaviors (related to absorption problems) in children at the age of 6 years. Based on the German study, children exposed to cigarette smoke before birth are also at increased risk for problem behaviors and deviant behavior, as some research indicates that this risk is specific to aggression [23,24]. This paper aims to study the assessment of quality of life for affected women singleton pregnancies in Iraq and the diagnosis of pregnancy complications.

**Patients and methods**

In this study, a descriptive cross-sectional study was applied to study assessment of quality of life for affected women singleton pregnancies in Iraq and the diagnosis of pregnancy complications from 4$^{th}$ July 2021 to 11$^{th}$ June 2022. Data were collected for 90 patients different hospitals in Iraq, where the patients were divided into two groups, the first group of patients, which included women singleton pregnancies patient which included (50), and the second group, control group, which include (40) patients. A statistical study was conducted for women singleton pregnancies patient using the SPSS program. In this study was conducted the demographic results of women singleton pregnancies patient for both groups, which included age between 20-40 years, BMI, for both <30, <30, chronic diseases, which included blood pressure, diabetes, obesity, heart disease, other disease, as well as hospital level, which contained level 1, level 2, and level 3, education for each of low, middle, high, parity for groups 0, 1, ≥ 2, foetal presentation, which included cephalic, abnormal lies, unknown, delivery method, which represents two types of operations: vaginal and caesarean section as you can see in **Table 1**. **In Figure 1**, it is applied distribution of Apgar degree for women singleton pregnancies patient, which was based on the Apgar score, as it was applied to both groups, and the Apgar score was divided according to classification, where one of them was Apgar 1 min < 5 and Apgar 5 min < 5. Furthermore, it has

ISSN NO: 2770-2936
Date of Publication:14-03-2023

designed with Pregnancy complications for women singleton pregnancies patient as conducted for both groups in Oxytocin augmentation, Epidural analgesia, Non-reassuring FHR patterns, Labor induction, Cephalopelvic disproportion, and Malpresentation as can be seen in **Table 2**. as well as the quality of life, this study is conducted into the both groups pregnancy patients and control patients where it has assessed the quality-life for women singleton pregnancies patient which carried out all these items pain, fever, exhaustion, wanting to use the bathroom a lot, pressure in your lower abdomen, and foul-smelling urine as can be clear in **Table 3**. Moreover, this data has been settled under logistic evaluation of affected parameters of 'women singleton pregnancies patient 'analysis where data included these items age, BLOOD PRESSURE which contained DIABETES, OBESITY, PAIN, FEVER, and EXHAUSTION as well as BMI (MEAN ±SD) which contain two classifications >30 and <30 can be seen in **Table 4**.

**Results**

**Table 1-** The demographic results between the control patient group and women singleton pregnancies patient group.

| **ITEMS** | **WOMEN PATIENTS (N=50)** | **CONTROL (N=40)** | **P-VALUE** |
|---|---|---|---|
| **AGE** | **N%** | **N%** | |
| 20-25 | 12 (24%) | 8 (20%) | 0.0435 |
| 25-30 | 22 (44%) | 18 (45%) | 0.0437 |
| 35-40 | 16 (32%) | 14 (35%) | 0.0462 |
| **BMI (MEAN ±SD)** | **N%** | **N%** | |
| >30 | 34±2.6 | 37±3.3 | 0.447 |
| <30 | 25±3.4 | 32±2.4 | 0.0417 |
| **CHRONIC DISEASES** | **N%** | **N%** | |
| BLOOD PRESSURE | 14 (28%) | 11 (27.5%) | 0.0486 |
| DIABETES | 16 (32%) | 10 (25%) | 0.0341 |
| OBESITY | 8 (16%) | 9 (22.5%) | 0.0366 |
| HEART DISEASE | 7 (14%) | 6 (15%) | 0.0463 |
| OTHER DISEASE | 5 (10%) | 4 (10%) | 0.0498 |
| **HOSPITAL LEVEL** | **N%** | **N%** | |
| LEVEL 1 | 16 (32%) | 13 (32.5%) | 0.04988 |
| LEVEL 2 | 22 (44%) | 16 (40%) | 0.0455 |
| LEVEL 3 | 12 (24%) | 11 (27.5%) | 0.0475 |

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| **EDUCATION** | **N%** | **N%** | |
|---|---|---|---|
| LOW | 22 (44%) | 8 (20%) | 0.0332 |
| MIDLLE | 17 (34%) | 13 (32.5%) | 0.0485 |
| HIGH | 11 (22%) | 19 (47.5%) | 0.0255 |
| **PARITY** | **N%** | **N%** | |
| 0 | 9 (18%) | 6 (15%) | 0.0472 |
| 1 | 16 (32%) | 13 (32.5%) | 0.0495 |
| ≥ 2 | 25 (50%) | 21 (52.5%) | 0.0495 |
| **FOETAL PRESENTATION** | **N%** | **N%** | |
| CEPHALIC | 35 (70%) | 25 (62.5%) | 0.0415 |
| ABNORMAL LIES | 11 (22%) | 9 (22.5%) | 0.0496 |
| UNKNOWN | 4 (8%) | 6 (15%) | 0.04225 |
| **DELIVERY METHOD** | **N%** | **N%** | |
| VAGINAL | 42 (84%) | 35 (87.5%) | 0.0475 |
| CAESAREAN SECTION | 8 (16%) | 5 (12.5%) | 0.04233 |

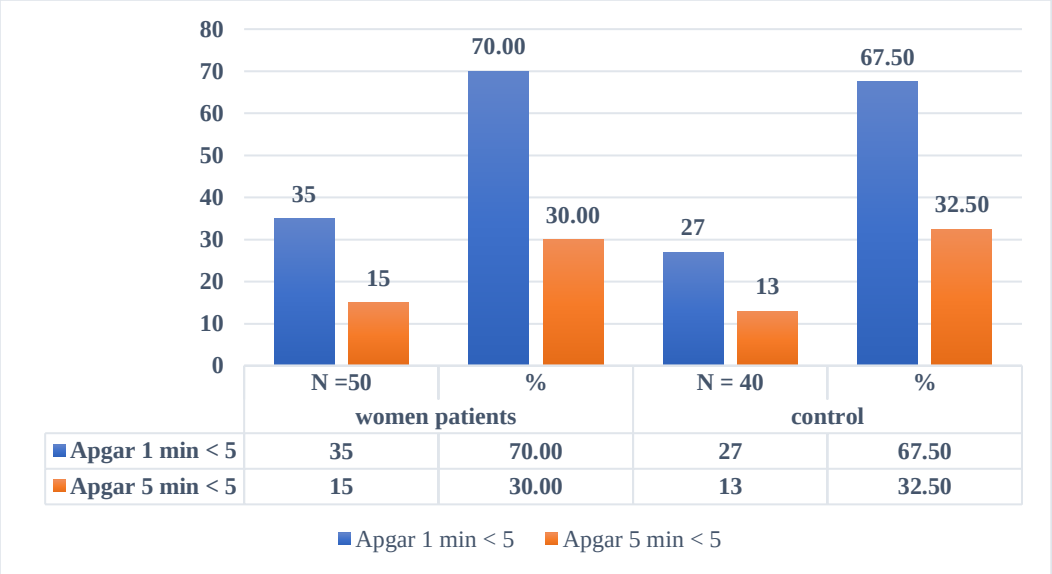


**Figure 1-** Distribution of Apgar degree between the control patient group and women singleton pregnancies patient group.

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**Table 2-** Pregnancy complications between the control patient group and women singleton pregnancies patient group.

| ITEMS | WOMEN PATIENTS (N=50) | CONTROL (N=40) | P-VALUE |
|---|---|---|---|
| Oxytocin augmentation | 17 (34%) | 12 (30%) | 0.0462 |
| Epidural analgesia | 10 (20%) | 2 (5%) | 0.0377 |
| Non-reassuring FHR patterns | 5 (10%) | 6 (15%) | 0.0422 |
| Labor induction | 9 (18%) | 12 (30%) | 0.034 |
| Cephalopelvic disproportion | 2 (4%) | 3 (7.5%) | 0.0431 |
| Malpresentation | 7 (14%) | 5 (12.5%) | 0.0485 |

**Table 3-** Assessment of quality-life for women singleton pregnancies patient.

| ITEMS | WOMEN PATIENTS (N=50) | CONTROL (N=40) | P-VALUE |
|---|---|---|---|
| Pain | 55±4.5 | 49.3±3.5 | 0.0423 |
| Fever | 52±3.2 | 42±2.1 | 0.0388 |
| Exhaustion | 45±5.3 | 36.7±4.3 | 0.0357 |
| Wanting to use the bathroom a lot | 33±6.4 | 26.6±4.6 | 0.0382 |
| Pressure in your lower abdomen | 31±2.4 | 22.5±4.4 | 0.0412 |
| Foul-smelling urine | 29±4.7 | 18.5±6.2 | 0.0344 |

**Table 4-** Logistic Evaluation of affected parameters of 'women singleton pregnancies patient 'analysis.

| ITEMS | WOMEN PATIENTS (N=50) | CONTROL (N=40) | P-VALUE |
|---|---|---|---|
| **AGE** | | | |
| 20-25 | 0.72 (0.66-1.5) | 0.76 (0.67-1.9) | 0.0427 |
| 25-30 | 1.67 (0.78-1.87) | 1.5 (0.86-1.8) | 0.0425 |
| 35-40 | 1.43 (1.2-1.9) | 1.24 (0.88-1.57) | 0.0443 |
| BLOOD PRESSURE | 1.84 (1.67-2.7) | 2.3 (1.5-6.7) | 0.0452 |
| DIABETES | 1.43 (1.27-1.8) | 1.32 (1.3-2.6) | 0.0426 |
| OBESITY | 5.34 (2.2-6.7) | 1.5 (0.7-2.7) | 0.0373 |
| PAIN | 1.5 (1.36-1.8) | 1.35 (1.1-2.5) | 0.0453 |
| FEVER | 1.35 (0.67-1.8) | 1.25 (0.75-1.45) | 0.0431 |
| EXHAUSTION | 1.44 (0.75-1.66) | 1.33 (0.852-1.3) | 0.0486 |
| **BMI (MEAN ±SD)** | | | |
| >30 | 0.62 (0.65-1.5) | 0.743 (0.66-1.6) | 0.0437 |
| <30 | 0.64 (0.64-1.4) | 0.786 (0.64-1.54) | 0.0454 |

ISSN NO: 2770-2936
Date of Publication:14-03-2023

**Discussion**

Uterine rupture occurs when the uterus ruptures because of pressure during pregnancy, labor or delivery. The uterus can rupture in some or all of its layers, compromising the oxygen supply to the fetus and causing severe bleeding in the mother [25,26]. Where the included study was presented on the two groups, which includes the women singleton pregnancies patient group and the control group, where this study found that most of the infected cases were concentrated in the ages between 25-30 years, and the BMI was for >30 34 ± 2.6 for the women singleton pregnancies patient group and 37 ± 3.3 for the control group with 0.447 for p-value, while <30 25 ± 3.4 for singleton pregnancies patient and 32 ± 2.4 for control group, where also chronic diseases were more likely for singleton pregnancy patients, which included blood pressure the most affected and included 14 (28%) for singleton women pregnancies group and 11 (27.5%) for the control group with a P-VALUE 0.0486. In addition, the study of the demographic table showed that the second level of hospital level had the highest infection rate (16 (32%) for singleton pregnancies women group and 13 (32.5%) for the dominant group), and the least infection cases were the first level and it included (16) 32% for the singleton pregnancies group and 13 (32.5%) for the control group. the level of education is also considered influential in the person who wants to undergo surgery [27], as the class included low, and it was 22 (44%) for the singleton pregnancies group and 8 (20%) for the control group with a P-value of 0.0332. Besides, our study found a PARITY score of ≥ 2, which showed 25 (50%) for the singleton pregnancies group and 21 (52.5%) for the control group with a P-value of 0.0495. Otherwise, this paper showed that foetal presentation, which includes cephalic, which included 35 (70%) for the women singleton pregnancies group and 25 (62.5%) for the control group. in addition to foetal presentation, it was shown in the demographic table that vaginal included the most affected cases of caesarean section, which included 42 (84%) of the women singleton pregnancies group and 35 (87.5%) of the control group with p-value 0.0475. Uterine rupture occurs most frequently along the scar line in women who have had previous caesarean sections [28]. Other predisposing factors include congenital uterine abnormalities, trauma and other surgical procedures, and other surgical procedures such as myomectomy or open maternal-fetal surgery [29]. Uterine rupture has been linked to perinatal death and Apgar scores less than 5 at 1 and 5 minutes [30,31]. This study relied on the Apgar score distribution of women singleton pregnancies patient, where it was divided into two types of degree and Apgar 5 min < 5 and contained 15 with 30% for the group of women singleton pregnancies patient, but the control group included 27 with 67.5% while Apgar 1 min < 5 was 35 and 70% for the singleton pregnancies patient group and 13, which represented 32.5% with the total number of cases. Uterine rupture is a serious complication. Complications of uterine rupture depend on the time that has passed between diagnosis and delivery. For this reason, it is essential that medical professionals manage the labor process, quickly diagnose uterine lacerations, and discharge promptly. According to a study conducted by A. Leung's morbidity, neonates have been found in cases of uterine rupture when delivery occurred after more than 18 minutes of prolonged estrus. Uterine rupture can lead to fetal complications such as birth asphyxia and neonatal death. When uterine rupture occurs, approximately six percent of babies die. This study found that pregnancy complications in singleton pregnant women patients had a slight convergence between the women singleton pregnancies patient group and the control group, as the results of this data showed that oxytocin augmentation included the cases most exposed to complications and it was 17 (34%) for the women singleton pregnancies patient group and 12 (30%) for the control group with a p-value of 0.0462 and the least exposed to these complications is cephalopelvic disproportion, and 2 (4%) for the group of women singleton pregnancies patient and 3 (7.5%) for the control group with a p-value of 0.0431. As for assessment of quality-life for women singleton pregnancies patient, where it was found that the control group showed superiority and great success than the group of women singleton pregnancies patient, which this study showed that the rate of evaluation of pressure in your lower abdomen and foul-smelling urine was much better than singleton pregnancies patient group, where it showed 22.5 ± 4.4, 18.5 ± 6.2. as this Logistic Evaluation conducted that the control group has more successful, and these parameters and complications has affected on group of women singleton pregnancies patient. [33]

**Conclusion**

The incidence of uterine rupture is increasing due to the increase in vaginal deliveries after previous cesarean sections. It currently ranges from 0.3 to 1% and represents 0.78% in women who had attempted vaginal

ISSN NO: 2770-2936
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delivery after caesarean section. Regarding the risk of recurrence, if the uterus has already been ruptured, there are studies that indicate an increased risk of uterine rupture from 22 to 100%, and it is higher when the lesion affects the bottom of the uterus, and this was confirmed by our study where the complications were more affecting the group of women singleton pregnancies patient. Our study concludes that the control group was more successful and superior to singleton pregnancies patient group, as a result of what the results of the study showed in evaluating the patients' quality of life as well as the complications affecting both groups.

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