
World Health Organization Quality of Life Questionnaire in Women with Placenta Accreta Spectrum: A Single Center Hospital Based Study

Sherif Badran¹, MD, Ezzat Hamed¹,
MD, Bishoy atef¹, MBBCH, Ahmed
A. Mohamed¹MD
¹Department of Obstetrics and
Gynaecology, Assiut University,
Assiut, Egypt

Abstract

Background: Placenta accreta spectrum (PAS) has serious fetal and maternal outcomes. Short-term morbidities of placenta PAS are well defined, but little is known about long-term outcomes and quality of life (QoL).

Aim: This study aimed to evaluate the World Health Organization Quality of Life Questionnaire (WHOQOL) in women with PAS.

Methods: This is a cross-sectional study. All women with a confirmed diagnosis of PAS were included. The study was conducted in an outpatient maternal clinic, Assiut University Hospital, Assiut, Egypt, between October 2020 and October 2021. All participants underwent detailed clinical and obstetric evaluation. WHOQOL score was measured in those patients at short and long-term postpartum follow-up.

Results: A total of 80 women were eligible for our study. The mean age of recruited women was 30.86 ± 4.68 years. A total of 38 (47.5%) women developed different forms of complications. Both groups with/without complications showed significant improvement in different domains of the score at the 12th month of follow-up. At baseline, women with complications had significantly lower environment domain. Also, baseline social relationships had a significant positive correlation with the frequency of parity and cesarean section (CS).

Conclusion: Pregnant women complicated by PAS had significant improvement in WHOQOL- domains after 1 year of follow-up. Domains of WHOQOL weren't greatly affected by complications of PAS. Future research at several centers is necessary to confirm these findings.

Synopsis:

Keywords: placenta accrete spectrum, quality of life, questionnaire, hysterectomy

Corresponding author:

Ahmed Aboelfadle Mohamed,
MD
Assistant Professor of Obstetrics
and Gynaecology
Faculty of Medicine
Assiut University, Egypt, Postal
code: 71515
Email: ahmedaboelfadle@aun.
edu.eg
Tel: +201003078415
Office: +201028807092
ORCID ID: 0000-0001-6931-3134

INTRODUCTION

An aberrant placental attachment to the uterus is known as placenta accreta spectrum (PAS). Massive obstetric bleeding, the requirement for an urgent hysterectomy, admission to an intensive care unit, protracted hospitalization, and even maternal mortality are among the severe and frequent short-term morbidities of PAS. (1).

It is a matter of a multidisciplinary team; such cases should be delivered in excellence centers of birth that significantly improve the outcome and decrease the comorbidities. Short-term complications are well discussed in the literature however long-term complications and its effect on the quality of life especially in complicated cases with peripartum hysterectomy, sterility, sexual problems, and posttraumatic stress disorder are less investigated (2).

Long-term complications may be attributed to several factors; extensive surgical dissection with relatively long operative time may lead to extensive adhesions, scarring, nerve fiber entrapment or even denervation. Patient psychology and mental health affected by hysterectomy, sterility and her neonatal outcome (3).

Quality of life was assessed by the world health organization (WHO) quality of life-BREF (WHOQOL-Bref) questionnaire. This questionnaire could be used in the whole population and corresponds with the subjective character of QoL. It contains 26 items, divided into four domains (physical health, psychological health, social relationships, and environment) and a general QoL facet (4).

Medical counselling is the corner stone in daily practice, however there is lack of information for care provider about long-term risk and complications despite rapid rise in PAS (5). Thus, we aimed to describe the quality of life in women with PAS by using WHO questionnaire.

Materials and methods

This study was approved by Medical Ethics Committee of the Institutional Review Board of The Faculty of Medicine Assiut University, Egypt (IRB no 17101345, 26/01/2021). Informed consent was obtained from all participants according to the declaration of Helsinki. The study was registered at Clinical trial.gov (NCT04583540, 12/10/2020).

Study setting and design.

This is a cross-sectional study which was conducted at Assiut Woman's Health Hospital, Assiut, Egypt in the period between October 2020 and October 2021.

Patients' selection

Inclusion criteria

All women (aged 18-45years old) with confirmed diagnosis of PAS above 36 weeks of gestation with the following criteria: peripartum hysterectomy for PAS, complicated cesarean section (CS) without hysterectomy were recruited.

Exclusion criteria :

We excluded women with; emergency CS before confirming PAS diagnosis, preterm delivery (before 36 weeks in case of PAS), and peripartum hysterectomy for any cause other than PAS, other medical diseases that affect the quality of life, and/or postpartum depression.

Methodology

All included women were invited to hospital visit for detailed history and clinical examination. Moreover, abdominal ultrasound was performed for full fetal assessment, and duplex examination for placental invasion.

WHO questionnaire to assess Qol

After 6-8 weeks and 12 months postpartum face to face interview was conducted in the health center and the copy of WHOQOL-BREF scoring was fulfilled by patients.

The WHOQOL-Bref questionnaire was utilized to assess health status and produces a quality-of-life profile using four domain scores; the four domain scores denote an individual's perception of quality of life in each domain. Domain scores were scaled in a positive direction (i.e., higher scores denote higher quality of life).

Sample size calculation

A Sample size was calculated using G power program version 3.1.3. To detect a significant difference in mean value of quality of life between two independent groups under the study (placenta accreta developed post-partum complication and those who do not), and based on the next parameters one tailed, effect size 0.8 (largest effect size), alpha error 0.05, and power 0.95, a total of 80 women were enrolled.

Statistical analysis

Data were collected and analyzed by using SPSS (Statistical Package for the Social Science, version 20, IBM, and Armonk, New York). Quantitative data were expressed as mean \pm SD and compared with Student t test (different two means) and paired t test (between baseline and follow data). Nominal data were expressed as number (n) and percentage (%). Chi2 test was implemented on such data. Baseline and follow up WHOQOL domains were compared by paired t test. Level of confidence was kept at 95% and hence, P value was considered significant if < 0.05 .

The mean scores were calculated and compared between women by pregnancy outcomes. Continuous variables were presented as mean \pm SD and were compared to assess for significance between groups using independent t- test and one way analysis of variance.

Results

Baseline data of studied patients (table 1):

Mean age of enrolled women was 30.86 \pm

4.68 years old. A total of 38 (47.5%) women developed different forms of complications as urinary bladder injury (28.7%), ureteric injuries (2.7%), hysterectomy (15%), re-hospitalization (5.2%), and other complications (1.3%).

Baseline and follow up WHOQOL scoring based on complications (table 2):

Both groups based on complications had no difference as regards to baseline and follow up different parameters of WHOQOL scoring with except for significantly lower environment among those women with complications (31.97 \pm 2.03 vs. 33.02 \pm 2.12; $p= 0.02$).

Baseline and follow up WHOQOL scoring in patients in each separate group based on complications (tables 3-4):

In each separate group either with or without complications, there was significant improvement in different parameters of WHOQOL questionnaire, physical health, psychological health, social relationship, and environment.

Correlation of baseline WHOQOL with other variables (table 5):

Social relationship had significant positive correlation with number of previous CS ($r= 0.26$, $p= 0.01$) and parity ($r =0.32$, $p< 0.001$). All other correlations were insignificant ($p> 0.05$).

Discussion

It is important to note that although women with PAS differed substantially from women without PAS in their obstetric outcomes, demographics were similar and not significantly different between groups (5). In our study, we used WHOQOL-BREF survey for quality-of-life assessment in women with PAS. This is the first study to use WHOQOL-BREF survey on PAS patients.

In WHOQOL-BREF scoring the lowest scores were on the social relationship domain

(10.5%) followed by psychological health (19.7%), environmental health (22.9%) then physical health (25.7%).

Correlation between WHOQOL score with different demographic or obstetric characteristics of participants as (maternal age, gravidity, parity, gestational age, and number of previous cesarean section) showed no differences in quality of life with exception of; Social relationship domain in WHOQOL-BREF survey had positive correlation with previous cesarean section ($r(p) = 0.26 (0.01)$) and parity ($r(p) = 32 (< 0.001)$).

Our results reported that mean parity of our participants were three or more; this is the same as reported by Tuzović et al. who considered the multiparity as a significant risk factor for development of PAS (6). Uterine surgery is still the main risk factor for development of PAS, The CS reported in about 100 % of our study participants with mean number of previous CS 3 or more.

Betran et al. reported a high CS rate reaching about 52 % (7), the fact that the CS is the most common risk factor for development of PAS was proved in many previous studies keeping us in the same way (8-11).

In our study, we found that (56.3%) of placenta Previa accrete women had anterior situated placenta, while the remaining PAS women (43.7%) had a placenta previa centralis. This with agreement with the study of Kumari et al. who found that most of PAS women had anterior placenta (12). A higher number of anterior placentae previa in our study may be a result from higher rate CS.

This study showed that women who had a pregnancy complicated by PAS, WHOQOL-BBRE domains are higher in the long term compared to the immediate postpartum period. During follow up, there was significant improvement in all parameters of WHOQOL scoring in comparison to baseline data.

As we mentioned above, this is the first study that evaluated the QoL in women with PAS by using WHOQOL scoring system. And yet, the study had some limitations; relatively small sample size and conducted in single center, recall bias might have been introduced since the questionnaire was completed at 6th week and 1 year after childbirth.

A further drawback was the absence of a control group. However, it is challenging to determine what makes a good control group given the special features of PAS. Other studies used complicated cesarean section as a control which is not fair as PAS patient suffer from long-term complications, however we suggest using patient who underwent peripartum hysterectomy for other reasons other than PAS as control as they also suffer from loss of fertility, long hospital admissions and family separation.

Because this was an exploratory study and the power to detect potential differences between the groups was low, care should be used when interpreting the findings. However, the results could be used as an indication for future research. Further trials should be conducted with larger sample size, more pregnancy outcomes, and different control groups with longer periods of follow up.

Conclusion

It seems that women with a pregnancy complicated by PAS, reported significant improvement almost in all domains at long-term follow-up as been evaluated by WHOQOL scoring system.

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Legends of Tables

Table 1: Baseline characteristics of the studied patients

	N= 80
Age (years)	30.86 ± 4.68
Range	21-40
Class	
18-24 years	7 (8.8%)
25-34 years	52 (65%)
> 34 years	21 (26.3%)
Gestational age (weeks)	36.83 ± 0.65
Previous cesarean section	3 (1-6)
Parity	3 (1-7)
Type of placenta previa	
Anterior	45 (56.3%)
Centralis	35 (43.8%)
Bladder injury	23 (28.7%)
Ureteric injuries	2 (2.7%)
Hysterectomy	12 (15%)
Intensive care unit	14 (17.5%)
Other complications	1 (1.3%)
Re-hospitalization	4 (5.2%)
Outcome	
Complicated cases	38 (47.5%)
No- complicated cases	42 (52.5%)

Data expressed as mean (SD), frequency (percentage). N: number

Table 2: Baseline and follow up WHOQOL scoring based on complications.

	Complications		P
	Yes (n= 38)	No (n= 42)	
Baseline			
Physical health	25.45 ± 2.85	25.92 ± 3.06	0.47
Psychological health	19.47 ± 1.94	19.97 ± 1.89	0.24
Social relationship	10.50 ± 1.08	10.59 ± 1.17	0.70
Environment	22.84 ± 1.82	23 ± 2.08	0.72
Follow up			
Physical health	32.42 ± 1.75	32.90 ± 1.54	0.19
Psychological health	26.18 ± 1.43	26.28 ± 1.53	0.76
Social relationship	13.84 ± 1.02	13.92 ± 1.02	0.70
Environment	31.97 ± 2.03	33.02 ± 2.12	0.02

Data expressed as mean (SD). P value was significant if < 0.05. N: number; **WHOQOL**: world health organization-quality of health

Table 3: Baseline and follow up WHOQOL scoring in patients with complications.

	Baseline	Follow up	P value
WHOQOL scoring.			
Physical health	25.45 ± 2.85	32.42 ± 1.75	< 0.001
Psychological health	19.47 ± 1.94	26.18 ± 1.43	< 0.001
Social relationship	10.50 ± 1.08	13.84 ± 1.02	< 0.001
Environment	22.84 ± 1.82	31.97 ± 2.03	< 0.001

Data expressed as mean (SD). P value was significant if < 0.05. **WHOQOL**: world health organization-quality of health

Table 4: Baseline and follow up WHOQOL scoring in patients without complications.

	Baseline	Follow up	P value
WHOQOL scoring.			
Physical health	25.92 ± 3.06	32.90 ± 1.54	< 0.001
Psychological health	19.97 ± 1.89	26.28 ± 1.53	< 0.001
Social relationship	10.59 ± 1.17	13.92 ± 1.02	< 0.001
Environment	23 ± 2.08	33.02 ± 2.12	< 0.001

Data expressed as mean (SD). P value was significant if < 0.05. **WHOQOL**: world health organization-quality of health

Table 5: Correlation of baseline WHOQOL with other variables

	Age	Cesarean section	Parity	Gestational age	Transfused units
WHOQOL scoring.					
Physical health	-0.14 (0.18)	0.03 (0.77)	-0.08 (0.47)	0.09 (0.42)	0.01 (0.91)
Psychological health	-0.09 (0.39)	0.05 (0.60)	-0.03 (0.77)	0.04 (0.40)	0.03 (0.97)
Social relationship	0.12 (0.26)	0.26 (0.01)	0.32 (< 0.001)	0.08 (0.47)	0.01 (0.89)
Environment	-0.19 (0.07)	0.06 (0.57)	-0.09 (0.42)	-0.02 (0.85)	-0.06 (0.57)