ORIGINAL ARTICLE

Adjustment disorder resulting from childbirth: evaluation of signs and symptoms in postpartum women

Transtorno de adaptação decorrente do parto:
avaliação de sinais e sintomas em puérperas

Quézia Tenorio Ferreira[1], Luiziane Souza Vasconcelos de Lima[2], Leonardo Xavier de Lima e Silva[2], Delmilena Maria Ferreira Aquino[2], José Flávio de Lima Castro[2]

ABSTRACT

This is an analytical cross-sectional study aimed to evaluate the presence of signs and symptoms of Adjustment Disorder in postpartum women in a public maternity hospital in Recife, as well as to discuss factors related to this disorder. Data were collected using two instruments: one for sociodemographic information and the Impact of Events Scale. Of the 151 women in the postpartum surveyed in this study, 12 (7.94%) scored positive for signs and symptoms of Adjustment Disorder resulting from childbirth. These signs and symptoms were chiefly associated with feelings of sadness and disinterest in life prior to delivery, undesired route of delivery, absence of companion during delivery, unplanned or minimally planned pregnancy, cesarean section or vaginal delivery with episiotomy as the current form of childbirth and quality of care provided by the medical professional. It was found that the use of Impact of Events Scale can help screen, monitor and support postpartum women with signs of Adjustment Disorder.

Descriptors: Adjustment Disorders; Postpartum Period; Natural Childbirth; Cesarean Section; Obstetric Nursing.

RESUMO

Estudo transversal analítico, que objetivou avaliar a presença de sinais e sintomas de Transtorno de Adaptação em puérperas de uma maternidade pública do Recife, bem como, evidenciar fatores relacionados a este transtorno. Para a coleta de dados foram utilizados dois instrumentos: um sobre dados sociodemográficos e a Escala de Impacto de Eventos. Das 151 puérperas pesquisadas, 12 (7,94%) apresentaram escore compatível com a presença de sinais e sintomas de Transtorno de Adaptação decorrentes do parto, estando associados principalmente a: presença de sentimento de tristeza e desinteresse pela vida anteriores ao parto, via de parto final não desejada, ausência de acompanhante durante o parto, relato de nenhum ou pouco planejamento de gestação, cesárea ou parto vaginal com episiotomia como tipo de parto atual, e assistência prestada pelo profissional médico. Verificou-se que o uso da Escala de Impacto de Eventos pode contribuir na triagem, acompanhamento e suporte adequado das puérperas identificadas com indícios de Transtorno de Adaptação.

Descritores: Transtornos de Adaptação; Período Pós-Parto; Parto Normal; Cesárea; Enfermagem-Obstétrica.

[1]Secretariat of Health of Recife – Recife (PE), Brazil. E-mail: queziatferreira@hotmail.com

[2]Federal University of Pernambuco – Recife (PE), Brazil. E-mail: luiziane.lima@gmail.com, leopsixavier@gmail.com, delmilena_@hotmail.com, flaviocastro20@hotmail.com

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INTRODUCTION

According to the World Health Organization (WHO), particularly the International Code of Diseases 10 (ICD-10), adjustment disorder (AD) is a state of subjective suffering and emotional disturbance that hinders social performance and functioning[1]. It characteristically occurs during a period of adaptation to an important existential change or a stressful event, whether traumatic or not, and results in a depressive reaction or disturbance of emotions and behavior for a long or short time[2].

Until 1987, the Diagnostic and Statistical Manual of Mental Disorders (DSM) defined AD as having a transient diagnosis that does not exceed six months; however, the fourth edition of the DSM published in 2011, stated the disorder could be chronic[3]. Among the events that can trigger AD, pregnancy, childbirth and the postpartum period can be perceived as frightening, stressful and often traumatic experiences[2]. This traumatic perception of childbirth arises when a woman believes there is a serious or significant threat to her life (e.g., early or unexpected obstetric complications, emergency cesarean section), to the life of her child (e.g., premature childbirth, stillbirth) or when her expectations for delivery are not met[4].

The postpartum period, in turn, involves the emotional and physical changes of pregnancy that tend to intensify and generate profound social, psychological and physical alterations in women, which increases their risk of suffering psychiatric disorders; therefore, this stage in women's lives should be closely evaluated[5].

According to the author, the postpartum period is divided into immediate (1st to the 2nd hour after delivery), mediate (2nd hour after delivery to 10th day), late (11th to 45th day after delivery) and remote (from the 45th day) and it is characterized as an active phase of the pregnancy-postpartum cycle[4]. Moreover, this period is a critical moment during which the female reproductive organs and organism readjust after pregnancy and childbirth and return to the prepregnant state[6].

Women suffering from AD related to childbirth have intrusive thoughts and images after the event, such as the perceived need for hospital care when they see severe blood loss; avoidance of stimuli associated with the traumatic event, such as not appearing for hospital consultations or refusal to share childbirth experiences with others; lessening of the effect with bouts of bad mood; and negative thoughts and beliefs about themselves, others or the world, expressed in phrases such as "I will die" or "I am not a good mother"[4,5]. These signs and symptoms of AD can typically impair daily functioning and severely interfere in the social relationships of women affected by this disorder[7].

Childbirth can trigger AD, which may, consequently, harm the health of mothers and newborns and affect the relationship of postpartum women with the people around them and between mother and child[2,4,5]. Therefore, it is necessary to conduct early investigations and ensure supportive interventions or even referrals for postpartum women who report an emotional disorder or show signs of AD.

A fundamental role of health workers who provide care to women in the pregnancy-postpartum cycle is to closely observe the mental and emotional state of these women and provide them with all the information they need regarding the events occurring around them[8].

From this perspective, this study aimed to evaluate the presence of signs and symptoms of AD in postpartum women who delivered their babies at a public maternity hospital in Recife, PE, Brazil, and identify some factors possibly related to this disorder.

METHOD

This is an analytical cross-sectional study[9] linked to the city hall of Recife, which manages four public maternity hospitals, including the maternity hospital where data from the first stage of the interview were collected. This hospital has an average of 200 births/month, of which approximately 80% are normal vaginal deliveries and approximately 20% are cesarean sections. Around 32% of the normal vaginal deliveries are assisted by obstetric nurses[10].

The study population of 200 women in the postpartum was established from the monthly average of births. Based on a simple sample calculation and because this study addresses a phenomenon with a different frequency of occurrence, the estimated prevalence was 50%, the confidence interval was 95% and the sampling error was 5%. A simple random sample was made up of 132 postpartum women who met the inclusion criteria (admission to joint accommodation in May and June 2017 and acceptance to participate in the interview) and the exclusion criteria (childbirth care at another unit, neonatal loss and a medically diagnosed cognitive impairment that hinders communication).

In view of the losses that would occur during data collection in the second stage (application of the Impact of Events Scale — IES), a safety margin of 30 additional interviews was established in the first stage, resulting in 162 postpartum women. In the second stage, as predicted, IES could not be applied to 11 of the 162 women (6.8% loss) because they did not answer the telephone or because their number did not exist, among other reasons. Therefore, the final sample consisted of 151 women.

Data were collected in two stages, the first of which occurred from May to July. After explaining the objective of this research to the women in the mediate postpartum and obtaining two copies of their written informed consent, data were collected to identify and characterize the participants. To collect these data, a form created by the authors of this

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article and based on previous studies[3,8] was used. The form contained questions regarding sociodemographic, health and obstetric profiles and childbirth care satisfaction rates.

Also, in the first stage of data collection, the researchers sought to create awareness among the interviewees regarding the importance of research continuity so they would participate in the second stage. The second stage occurred within 60 days after delivery by telephone to obtain answers to the 15 items of the IES[11], in which the delivery event was stated as the stressor. The telephone interview technique obtains faster results than questionnaires (especially those sent by mail), however, it requires extensive preparation of the researchers in the construction of questions and training of interviewers; moreover, proactive telephone support effectively reduces postpartum depressive symptomatology[12].

The period between the first and second stage of the research was determined by considering the time needed to effectively reduce/eliminate the hormonal influence of the postpartum period (remote postpartum) and ensure the signs and symptoms of AD were more visible for future diagnosis[7].

The IES, already translated and validated for use in Brazil[11], has been widely used in research related to postpartum depression[12], among other studies. The scale consists of 15 items that measure the presence and frequency of symptoms of intrusion (questions 1, 4, 5, 6, 10, 11 and 14) and avoidance (questions 2, 3, 7, 8, 9, 12, 13 and 15) after the occurrence of traumatic events, which, in this study, were situations occurring or experienced during childbirth. Using the Likert scale of the test, the women answered how they felt about each of the questions using four frequency attributes: never, rarely, sometimes and always.

Because the IES is self-applied, it was verbally adapted for the telephone interviews. The interviewers asked the interviewees the questions verbally in the second-person singular, "you", and changed the terms "of this" and "this" to "moment of delivery".

The score for each of the IES questions was never= 0, rarely= 1, sometimes= 3 and always= 5; moreover, the cut-off limit, according to the criteria proposed in the most recent IES classification, was a score greater than 25, meaning that individuals who reach this score may present signs of AD related to the stressful event[13]. Therefore, in the present study, the postpartum women with scores higher than 25 were instructed to seek a specific professional evaluation.

The data obtained in the first and second stages of collection were entered into a spreadsheet and, soon after, transferred to Statsoft Statistica software version 8.0, using descriptive statistics (frequency distribution, means and standard deviations). In addition, bivariate Pearson correlations were used among the variables, including impact level of childbirth event. To evaluate the internal consistency of the IES, Cronbach's alpha was used. In the inferential analysis,

the analyses of IES score variances were used, based on grouped interests (cesarean section vs. normal vaginal delivery; delivery with and without episiotomy; delivery assisted by obstetrician vs. obstetric nurse), which were selected from the results of other studies conducted on this subject[14]. A stepwise linear regression model was also prepared to identify which variables could predict IES scores. For all the tests applied in this study, 5% was considered statistically significant.

The study was approved by the Research Ethics Committee (CEP) of the Municipal Health Department of Recife (CAAE No. 66359617.9.0000.5201), observing the ethical precepts established in Resolution No. 466/12 of the Ministry of Health (MS) for research with human beings and COFEN Resolution No. 564/2017, which reformulates the Code of Ethics of Nursing Professionals.

RESULTS

Of the 151 postpartum women who participated in this study, 37.7% had finished elementary school, 59% had finished or were still at high school and only 3.3% were studying for or had obtained a university degree. Regarding family income, 43.7% of the women earned up to one minimum wage, 43.7% earned between one and two minimum wages and 12.6% earned between two and three minimum wages. In relation to marital status, 37.7% of the women were single, 11.3% were married and 51% lived with a partner.

Regarding living situation, 76.8% of the participants said they lived with a spouse and/or children, 13.2% said they lived with relatives, 7.9% said they lived with a spouse and/or children and relatives and 2.1% of the women reported they lived alone. In terms of occupation, 62.9% reported they were homemakers, 7.3% said they were students and 19.8% did some form of paid work. Of the 151 women, 59.6% said they were actively religious. All the postpartum women were at habitual risk and their mean age was 24.3 years (min. 18, max. 39, SD=5.25).

Table 1 shows the percentages of the obstetric variables. As can be seen, almost half (46.3%) of the women in the sample were primiparous, while 25.8% of the women had given birth surgically in the current delivery and 35.7% of the multiparous women had given birth via cesarean section in the previous delivery. The alleged prevalent reasons for the current surgical delivery were failure progression and other reasons not supported by national and global health guidelines (47.4% and 34.2%, respectively), such as cephalopelvic disproportion, non-reassuring fetal heart rate and macrosomia (data confirmed in the patients' medical records).

As for whether the pregnancies had been planned, the sample was also very equitable since 45% of the women said they had not planned their pregnancy. Moreover, almost all

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the women (98.6%) said they had received prenatal care and around two-thirds of these women (62.9%) approved the

Table 1. Obstetric characterization of the women. Recife, PE, Brazil, 2017.

Variables	N	%
Parity and abortion		
1st delivery without a history of abortion	63	41.7
1st delivery with a history of abortion	7	4.6
2 or more deliveries without history of abortion	66	43.8
2 or more deliveries with history of abortion	15	9.9
Previous delivery		
Cesarean section	30	35.7
Normal vaginal with episiotomy	30	35.7
Normal vaginal without episiotomy	24	28.6
Current delivery		
Cesarean section	39	25.8
Normal vaginal with episiotomy	19	12.6
Normal vaginal without episiotomy	93	61.6
Reason for the current cesarean section*		
Emergency	5	13.1
Progression failure	18	47.4
Requested	2	5.3
Reasons not supported by WHO	13	34.2
Pregnancy planning		
Yes	62	41.1
No	68	45.0
More or less	21	13.9
Prenatal		
Yes, it was good	95	62.9
Yes, it was reasonable	42	27.8
Yes, but it was bad	12	8.0
None	2	1.3
Participation in talks		
Yes, once	18	11.9
Yes, more than once	19	12.6
Did not attend	14	75.5
Current delivery assisted by		
Obstetric or resident nurse	59	39.1
Obstetrician	92	60.9
Presence of companion		
Yes	104	68.9
No	47	31.1

Note: *One of the reasons was lost.

received care; however, the majority (75.5%) reported they had not attended prenatal talks. Regarding delivery, medical professionals had assisted most of the women (60.9%), which was confirmed in the patients' medical records, and a companion was allowed to be present in 68.9% of the cases.

Table 2 shows the values of the psychological variables related to delivery. For almost 69% of women, the final delivery route was initially desired and 52.3% said they were satisfied with the care received during delivery. Regarding symptoms of sadness or lack of interest in life in the two weeks prior to delivery, 89.4% of the women reported they had not experienced any of these two symptoms; however, 13 of the 151 postpartum women reported a higher frequency of these symptoms.

In relation to the IES results, means and correlations, the values attributed to each study participant were calculated using the already established criteria[13]. The internal consistency of the 15 items that make up the scale — calculated using Cronbach's alpha — was 0.86, while for the dimensions avoidance and intrusion, the obtained indices were 0.81 and 0.75, respectively. According to the literature, these values are considered acceptable and consistent[11], showing the test was also consistent in the sample of this study. The responses of each item were scored using a four-point Likert scale, ranging from 1 to 4 (never to always), while the total score was established as described in the Method section.

Thus, the overall mean of IES scores among the participants was 9.3 (min. 0, max. 29, SD=8.40, N=151), well below the 25-point threshold, from which signs of stress due to the impact of the event should be considered[13].

Table 2. Psychological characterization of the women. Recife, PE, Brazil, 2017.

Variables		N	%
Initially desired final delivery route	Yes	104	68.9
	No	47	31.1
Satisfaction with childbirth assistance	None	4	2.7
	A little	12	7.9
	More or less	31	20.5
	A lot	79	52.3
	Totally	25	16.6
Sadness in the last two weeks	Yes	13	8.6
	No	135	89.4
	More or less	3	2.0
Disinterest in life in the last two weeks	Yes	13	8.6
	No	135	89.4
	More or less	3	2.0

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Table 3 shows a matrix of product-moment correlations for the sociodemographic, obstetric, psychological variables (satisfaction and states of sadness and disinterest in life) and IES scores to investigate the degree of bivariate associations among them. Thus, the IES score was negatively related to satisfaction with obstetric care (r=-0.24, p<0.05), presence of a companion during childbirth (r=-0.24, p<0.05), pregnancy planning (r=-0.23, p<0.05), age and education (both, r=-0.20, p<0.05) and desired delivery route (r=-0.18, p<0.05), and positively related to feelings of sadness and disinterest in life in the last two weeks before delivery (r=0.31, p<0.05). These results reveal a trend toward a higher incidence of AD among the participants who were sadder and more disinterested in life in the two weeks before delivery, among those who were younger, those who had less schooling, those who had planned less for the current pregnancy, those with lesser presence of a companion in childbirth and the lowest satisfaction with the obstetric care received. No significant correlation was found between the IES score and declared income, religious activity, participation in prenatal care talks and the evaluation of prenatal care itself.

When considering the 12 women included in the AD criterion[13], the variables that correlated most with stress, in order of intensity, continue to be feelings of sadness and disinterest in life in the previous two weeks (r=0.33, p<0.05), initially desired delivery route (r=-0.33, p<0.05), presence of a companion during delivery (r=-0.28, p<0.05)) and pregnancy planning (r=-0.25, p<0.05). In addition, when these women were divided by occupation (homemaker or not), a significant difference was detected in relation to being in the AD group, with greater presence of the homemakers in the group (Mann Whitney U, Z=2.76, p<0.01).

Additionally, a multiple linear regression analysis was performed to verify which variables could predict the indicative AD score. This resulted in a statistically significant model $F_{(4.146)}=9.946$; p<0.001; $R^2=0.214$], with the following predictors: feeling of sadness and disinterest in life in the last two weeks ($\beta=0.276$; t=3.661; p<0.001), presence of a companion ($\beta=-0.240$; t=-3.260; p=0.001), education ($\beta=-0.159$; t=-2.143; p=0.034) and satisfaction with assistance during childbirth ($\beta=-0.162$; t=-2.120; p=0.035). This result points to the influence of a prenatal health variable

Table 3. Matrix of product-moment correlations between sociodemographic, obstetric, psychological and Impact of Events Scale score variables.

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Age											
2. Religiously active (1–0)	0.20*										
3. Education (1–6)	0.18*	0.07									
4. Income (1–4)	0.27*	0.00	0.37*								
5. Pregnancy planning (0–2)	0.20*	0.11	0.24*	0.24*							
6. Prenatal care (1–3)	0.07	0.13	0.24*	0.15*	0.07						
7. Participated in talks (0–2)	0.09	-0.07	0.34*	0.17*	0.45*	0.27*					
8. Presence of companion (1–0)	0.06	-0.06	0.07	-0.06	-0.06	-0.01	0.05				
9. Desired delivery route (1–0)	0.15	-0.09	0.05	-0.01	-0.15	0.09	0.05	0.69*			
10. Satisfaction with childbirth assistance (0–4)	0.19*	0.09	0.13	0.19*	0.11	0.17*	0.18*	-0.05	0.12		
11. Feelings of sadness/ disinterest (0–2)	-0.22*	-.17*	-0.03	-.20*	-.24*	-0.09	-.18*	0.03	-0.02	-0.24*	
12. IES score (1–4)+	-0.20*	-0.03	-0.20*	-0.05	-0.23*	0.02	-0.12	-0.24*	-0.18*	-0.24*	0.31*

Note: *p<0.05. Education: 1-Illiterate... 6-Finished university; Income: 1-Up to one minimum wage... 4-More than 5 minimum wages; Pregnancy planning: 0-Unplanned, 1-More or less planned, 2-Fully planned; Prenatal: 1-None, 2-Yes, but not approved, 3-Yes and approved. Participation in prenatal talks: 0-None, 1-Minimal participation, 2-Full participation; Satisfaction with assistance: 0-Dissatisfied... 4-Very satisfied; Feeling of sadness and disinterest in life in the last two weeks: 0-Never... 2-Often; IES score: 1-Never, 2-Rarely, 3-Sometimes, 4-Always; Religiously active: 0-No, 1-Yes; Presence of companion: 0-No, 1-Yes; Desired delivery route: 0-No, 1-Yes.
+The answer scale was adapted to ensure compatibility with the other variables, especially the continuous variables. Thus, instead of using the scores 0, 1, 3 and 5, the scores 1, 2, 3 and 4 were used.

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(morbid state prior to delivery), followed by two delivery care variables, namely guarantee of a companion and satisfaction with the care itself, in addition to a sociodemographic variable (education). These findings seem to suggest that care in the pregnancy-postpartum cycle has some impact on the onset of signs and symptoms of AD. However, as the predictor coefficients and the coefficient of determination proved relatively low, these relationships should be confirmed in studies with more experimental designs.

In order to compare groups regarding the AD index, the mean score of women in the IES, shown in Graph 1, according to the health worker who provided care during delivery, and the analysis of unidirectional variance, the result of which was $F(1.149=15.120, p<0.0015)$, shows that the mean number of women assisted by obstetricians is more relevant.

The other compared groups refer to the type of delivery, where the analysis of variance with the mean scores of women in the IES also showed a significant difference Current effect: $F(2.148)=12.846, p=.00001$, as presented in Graph 2. Thus, a difference was observed (via Scheffé's post hoc test, $p<0.05$) between the women who delivered via cesarean section and those who delivered vaginally with episiotomy, the latter of which had the lowest mean.

DISCUSSION

The literature has revealed that some factors, such as low level of schooling and low income, influence the autonomy and decision-making capacity of women regarding their bodies and childbirth, and affect the mother's psychological state during the pregnancy-postpartum cycle. Relationship elements (family structure, marital and family relationship, violence and support network) and contextual elements (pregnancy planning, stressful events and migration) may trigger depression and anxiety, especially considering the complex and multidetermined nature of these phenomena[14]. In the present study, between income and education, only the latter showed an association, albeit small, with the AD index measured using the IES.

Religion, in turn, is cited as a protective factor against the onset of depressive disorders; that is, the higher the religiosity the lower the frequency of depression. In summary, religion potentially helps people cope with internal or external demands, losses and difficulties[15]. In the present study, however, this variable was not so relevant although it was also related to the AD index.

Regarding the results of obstetric variables, it is worth mentioning that Brazil is known worldwide for the high prevalence of cesarean sections. In general, these numbers have dropped in Brazil, but they are still above the recommendations of national and global health agencies. The World Health Organization (WHO)[16] recommends a rate of 10% to 15% for cesarean sections. This recommendation is based on studies that indicate rates higher than 15% do not reduce maternal mortality or improve health outcomes for mothers and infants[17,18].

The close percentages found in the women who classified prenatal care as good (62.9%) (Table 1) and those who classified childbirth care as very satisfactory (52.3%) (Table 2) are corroborated by a cross-sectional study[19],
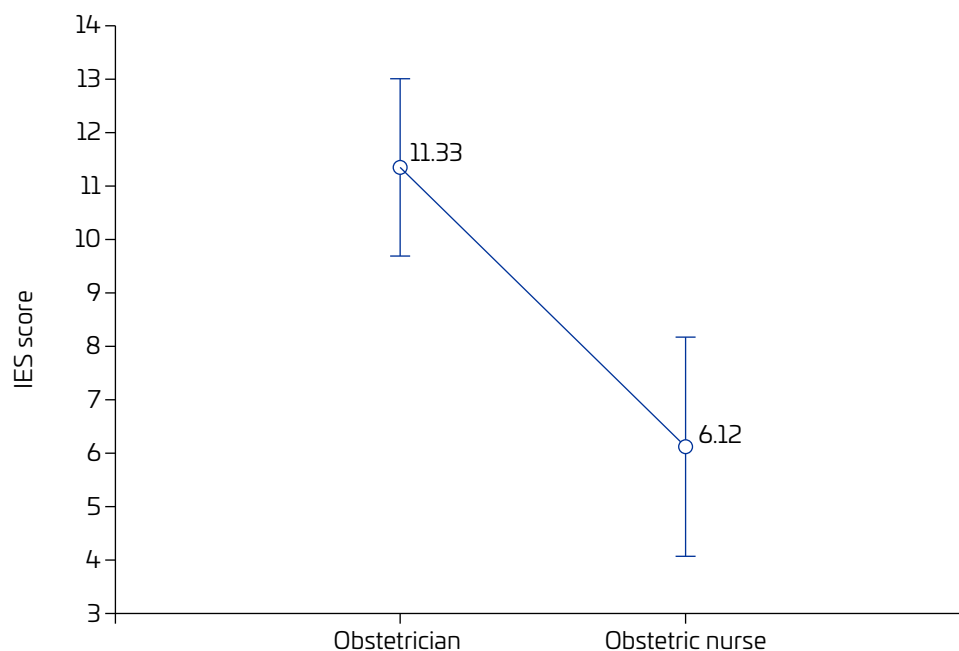
Graph 1. Impact of Events Scale score according to childbirth care.

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with 482 women interviewed, which related satisfaction with the care received during delivery to respectful communication during prenatal care and the continuity of care provided by primary care workers. Prenatal care is an important tool in the construction of women's empowerment because it allows them to actively participate in decision-making during delivery, which modifies the way they perceive, analyze and assess the assistance received during this process[20].

These authors[20] also mention prenatal care as a relevant means to identify probable pre-existing psychological damage or any damage that may arise during pregnancy, thus enabling the continuity of care to remedy the problem or minimize its damage. In this sense, it is worth noting that the morbid state of women in the two weeks prepartum proved to be the most important predictor of the Adjustment Disorder index, evaluated in the present study using the IES. In addition to quality prenatal care, the professional and the techniques used during delivery care also influence the patient's way of evaluating the care received during childbirth.

The results of Graph 1 (comparison of the mean scores in the IES according to the professional who assisted delivery) support the efforts of the Ministry of Health to increasingly include obstetric nursing in the field of delivery care since the women who received assistance through continuity care models, led by midwives/nurses, were less likely to experience interventions and were more likely to be satisfied with the care received[21].

Ratifying the results obtained in this research, the women with higher IES scores also tended to be without a companion of their choice during childbirth (Table 3). The literature[22] reveals that women who receive continuous support during labor and delivery (emotional support, information on the progress of labor and advice on coping techniques, comfort measures), either from the hospital staff or from someone of their choice (midwife, family or friends), are more likely to have a spontaneous vaginal delivery, shorter labor time, less chance of needing analgesia and less likely to negatively classify feelings about the delivery experience. Positive psychological reflexes are also observed when continuous support is provided in relation to depressive symptomatology, thus reducing the chances of postpartum depression. The benefits of this assistance go beyond the parturient since they have a positive effect on the extrauterine life of the newborn and reduce the risk of low 5-minute Apgar scores[21,22].

In 2005, Law no. 11.108/2005[23] established the right of parturients to have a companion during labor, childbirth and the immediate postpartum in view of the need for physical and emotional support. This corroborates the findings of the present study that indicate the importance of a companion as one way to protect women against emotional damage and the onset of AD.

The results of this research also revealed cesarean surgery is related to higher IES scores (Graph 2). Corroborating this finding, a cross-sectional study[24], conducted in primary care units in Paraná in which AD was evaluated in postpartum women, concluded that women who underwent cesarean section had a higher risk of developing AD than the women in the vaginal delivery group. This finding was also pointed out
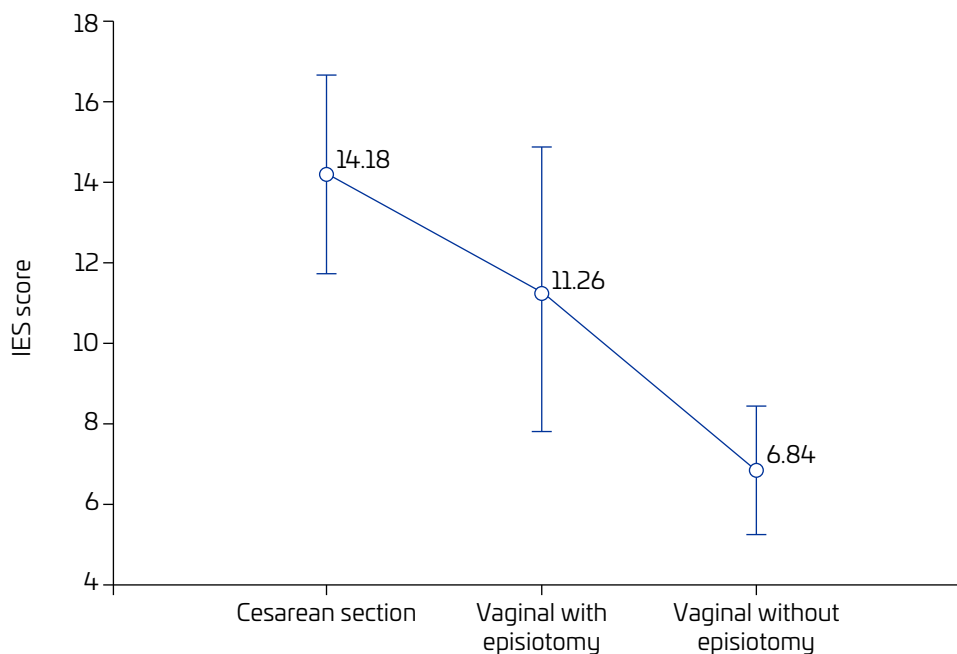
Graph 2. Impact of Events Scale score according to route of delivery.

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in a study published in the journal Cochrane[21] that points to unnecessary interventions during childbirth as a risk factor for the onset of posttraumatic stress disorders, such as AD.

Graph 2 also reveals that the postpartum women who delivered vaginally with episiotomy had higher score means than those who delivered vaginally without episiotomy. Reinforcing this data, a study[25] on the use of episiotomy in modern medicine found that, in several obstetric conditions such as macrosomia, fetal suffering, occiput posterior, shoulder dystocia and instrumental delivery, episiotomy has no benefits and is often associated with considerable damage, such as pain, greater need for analgesics and severe perineal tears. Therefore, in the absence of benefits and with a potential for harm, such a procedure should be abandoned, thereby reducing episiotomy rates to a percentage of less than 15%. Consequently, obstetricians and maternity services should adjust their target rates according to the characteristics and experiences of delivery of the assisted population.

CONCLUSION

The findings show that the use of psychometric scales, such as IES, can support screening, follow-up and the adequate provision of care to women when identifying evidence of AD, which may result in more complex disorders. Despite the evident benefits of IES, the use of this instrument for evaluation purposes must be accompanied by a deeper investigation into the individual history of each woman since, as shown in this study, a higher IES score may reflect an emotional or psychological alteration existing before pregnancy or triggered by pregnancy.

The crossing of variables used with the IES scores of each participant allowed a better analysis of possible risk factors for the appearance of AD signs in the postpartum period. The variables worth highlighting are cesarean section, vaginal delivery with episiotomy, little or no planning for pregnancy, delivery care provided by the medical professional and absence of a companion during.

Similarly, psychological factors, when negatively affected (giving birth by unwanted route and dissatisfaction with the care received during childbirth), also increased the risk of AD in the postpartum period. In addition, participation in prenatal talks, being older and having more years of schooling (variables commonly associated with greater empowerment) were negatively associated with postpartum stress, as evaluated by the scale used. Such aspects should be further explored using other methodological designs in future studies.

Despite the low incidence of postpartum women who exhibited signs of AD in the present study, the results suggest some elements that, once improved, could reduce postpartum stress rates. In summary, it seems that assistance based on continuous and less interventionist care may have a positive effect on the affective memory of women in the postpartum period. It is worth highlighting, that the identification of signs and symptoms of AD in postpartum women was extremely important because it allowed the authors to advise these women to seek adequate psychological support. This recommendation ensures the women receive the appropriate therapy since AD can only be diagnosed by a medical or psychological professional.

One of the limiting factors of the present study was the fragility of an accurate evaluation, consisting of only a few responses (psychometric), although they were associated with data in medical records, considering the complexity of encompassing the universe of postpartum women. Therefore, it would take more time (longitudinal study) and resources to fully understand the experiences of these women (e.g. interview) and obtain more precise elements, which are determinant for the early intervention of possible psychiatric disorders. Moreover, the low education of the interviewees may have limited their understanding of the content in the scale, although it was applied verbally over the telephone.

This study, however, should support the creation of strategies for nursing care during the prenatal and postpartum periods that improve the evaluation of the psychological state of women. In addition, the present study can encourage other researchers to conduct new studies with greater coverage of the researched area and new methodological designs.

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