



Companionship as a method to reduce anxiety in pregnant women hospitalized during their third trimester

El acompañamiento como método para reducir la ansiedad en embarazadas ingresadas en el tercer trimestre

Acompanhamento como método para redução da ansiedade em gestantes internadas no terceiro trimestre

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 Natalia Barrio-Forné¹

 Ángel Gasch-Gallén²

¹ Hospital Universitario Miguel Servet, Zaragoza, Spain.

² Universidad de Zaragoza, Zaragoza, Spain.

ABSTRACT

Objective: The aim of this study was to study the association between pregnancy-related anxiety in women, screened during the third trimester, and companionship during their hospitalization. **Method:** A case-control study was conducted in which 80 pregnant women over the age of 18 years, at 28 weeks and beyond, and without any diagnosed physical and/or health conditions took part. They were divided into 20 cases and 60 controls. Anxiety was measured using State-Trait Anxiety Inventory (STAI) and specific variables were recorded. A descriptive bivariate analysis was performed to compare the chosen variables by means of the chi-squared, Kruskal-Wallis H and Mann-Whitney U tests. **Results:** Companionship was associated with a reduction in state and trait anxiety ($p = 0.038$ in both dimensions) during hospitalization. Women of the Roma (Gitano) ethnicity developed the most anxiety ($p = 0.019$) and primiparous women were at four times greater risk. **Conclusion:** The absence of support from a person of trust during hospitalization, together with ethnicity and primiparity, contributed to increased symptoms of anxiety in pregnant women hospitalized during their third trimester. Therefore, involvement by their close social circle is essential for the prevention and/or reduction of anxiety in this population.

DESCRIPTORS

Anxiety; Pregnancy; Family Relations; Social Support; Surveys and Questionnaires.

Corresponding author:

Natalia Barrio Forné
Hospital Universitario Miguel Servet
Calle Padre Manjón 13-15, 2^oC
CP 50010 – Zaragoza, Spain
nata_barrio@hotmail.com

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INTRODUCTION

The scientific literature highlights the fact that anxiety is developed more frequently in women, and a prevalence of approximately 60%⁽¹⁾ has been observed. Pregnancy is one of the stages at which they are most vulnerable⁽²⁾.

Certain socio-demographic characteristics may influence the onset of this mental disorder during pregnancy. It has been shown that pregnant women who are self-employed⁽³⁾, older⁽⁴⁾ and from developing countries⁽⁵⁾ present the greatest risk of suffering from anxiety during this period. This may be due to a feeling of insecurity caused by economic instability in a business during the post-partum period⁽³⁾, low self-confidence⁽⁶⁾, limited access to health care and limited knowledge on how to deal with health issues⁽⁵⁾. An increase has also been observed in married women⁽³⁾, a factor associated with social support. This condition is also linked to companionship during labour and can also be a conditioning factor for economic resources in certain cultures⁽³⁾.

All these socio-demographic variables lead to the understanding that insecurity in any facet increases the likelihood of anxiety developing during pregnancy.

The most studied obstetric precedents related to anxiety are parity and a history of previous miscarriages. It is believed that multiparous women have a greater likelihood of developing anxiety owing to possible negative experiences prior to their current pregnancy⁽²⁾ and/or problems in their interpersonal relationships with their children and partner resulting from the arrival of the new member of the family⁽⁷⁾.

It has also been shown that previous miscarriages may cause feelings of insecurity about ability to conceive⁽²⁾.

The relationship with other variables, such as weeks of gestation, was studied. It was seen that women in their pre-term gestation period – prior to 37 weeks – have higher levels of anxiety owing to the likelihood of having to face a premature delivery⁽²⁾.

Labour can be affected, given that the raised levels of adrenaline in the blood produced by anxiety reduces uterine activity, which can lengthen the duration of labour more than expected⁽⁸⁾. These factors justify the importance of detecting anxiety by means of screening systems.

In order to prevent or reduce levels of anxiety, the best solution is companionship⁽⁹⁾. Anxiety is believed to be the product of low self-esteem, and therefore supportive companionship may contribute to improving the mental health of the future mother, increasing her self-confidence and self-assurance, in addition to helping maintain health in the post-partum period⁽⁹⁾ and building strong bonds with the person providing that support, particularly if it is provided by her partner⁽¹⁰⁾.

It is believed that the person providing the companionship is also a determining factor. It has been demonstrated that the support given by the family and by the partner has a positive influence on anxiety⁽⁷⁾. However, in cases where there was proven to be dissatisfaction with the partner

relationship, there was a greater risk of suffering from an anxiety disorder⁽⁷⁾.

Despite the importance of this conditioning factor, few studies have analysed the influence of companionship on pregnant women hospitalized in their third trimester. It is necessary to gauge the effect of this support and the characteristics of pregnant women who are more predisposed to developing anxiety in order to define the role of the nurse and midwife in this area and to address the gap in the literature.

The aim of this study was to study the association between pregnancy-related anxiety, screened during the third trimester, and the companionship provided by family and social networks during hospitalization.

METHOD

STUDY DESIGN

A retrospective observational analytical case-control study was conducted.

POPULATION

Pregnant women at between 28 and 41 weeks who were hospitalized at the Maternity and Children's Hospital in Zaragoza, Spain, between March and November 2018 were selected.

SELECTION CRITERIA

The following criteria were applied: absence of diagnosed physical or mental health conditions during or prior to the pregnancy; absence of addictions to legal or illegal drugs; absence of diagnosed foetal conditions during the pregnancy, such as small-for-gestational-age (SGA) foetuses, foetal growth restriction (FGR) and chromosome abnormalities. This information was obtained from the patients' medical records. Any pregnant women who did not meet the inclusion criteria and who did not correctly complete the State-Trait Anxiety Inventory (STAI) to evaluate anxiety levels upon admission were excluded from the study.

SAMPLE DEFINITION

Convenience sampling was performed to obtain three controls for every case.

DATA COLLECTION

The time stipulated for recruiting the population for the study was a six-month period between March and November 2018. An information search was performed in two stages. The first stage involved selecting patients admitted to the Maternity and Children's Hospital according to the inclusion criteria.

Once their inclusion was confirmed, the second stage involved providing them with the STAI to screen for anxiety. This self-report questionnaire was administered during their admission to the maternity ward. The questionnaires were

then checked to ensure they had been correctly completed and all items had been suitably scored.

All the data were stored on an ad-hoc table specifically created by the lead researcher and were processed exclusively for statistical analysis. The information was encrypted in such a way as not to be associated with any participants.

DATA PROCESSING AND ANALYSIS

The dependent variable was anxiety, measured using the STAI. This instrument was developed by Spielberger in 1970 and adapted for use in Spanish by the same author in 1982⁽¹¹⁾. Research was conducted in Spain in 2011 and 2014 to update the validation of this method for the detection of anxiety symptoms⁽¹¹⁾. The instrument consists of two scales, state anxiety and trait anxiety, that measure anxiety symptoms at a given moment and anxiety as a personal characteristic, respectively⁽¹¹⁾.

The obtained scores were interpreted according to the author's instructions⁽¹²⁾. Each of the scales comprises 20 items, rated on a Likert-like scale between 0 and 3 points, while the range of scores for each of the two scales is 0–60. The obtained scores are grouped by ranges in order to classify them. The state anxiety ranges are defined as follows: scores between 0 and 14 points are classified as a low level of anxiety; scores between 15 and 19 show an average trend; scores between 20 and 22 are medium; scores between 23 and 31 are above average; and scores between 32 and 60 show high risk. For trait anxiety, scores between 0 and 16 are specified as low risk; scores between 17 and 23 show average trend; scores of 24 and 25 points are average; scores between 26 and 32 are above average; and scores between 33 and 60 show high risk. In order to assess the presence or absence of anxiety, scores below average in either of the two scales are considered to show absence of anxiety, and scores equal to or higher than average in either of the two scales are considered to show presence of anxiety.

The independent variables were the individuals providing companionship and the weeks of gestation before being taken to the labour ward. Companionship was classified according to its presence and absence throughout the hospitalization period. For pregnant mothers attended by a companion, a second variable was subsequently classified associated with this companionship in order to ascertain who was providing it: a family member, partner or other individuals. The last option could refer to healthcare professionals, friends, neighbours, doulas, etc. The weeks of pregnancy information was obtained from the patients' medical records at the time the questionnaire was completed and classified by full weeks of gestation as preterm pregnancy for women between 28 and 34 weeks, late-preterm pregnancy for women between 35 and 36 weeks, and full-term pregnancy for women between 37 and 41 weeks.

Other variables were included, such as age, employment status (active, inactive, housewife), country of origin and

ethnicity. Parity, obtained from medical records, was also taken into account, and classified as primiparous or multiparous, and number of miscarriages.

The SPSS v.20 statistics software package was used to perform the statistical analysis. The distribution of these two values was previously verified via the Kolmogorov-Smirnov test. A descriptive study was then made in relation to anxiety to find frequencies and percentages, and to calculate measures of central tendency, such as the mean, and measures of dispersion (range and standard deviation).

A second calculation was made of frequencies, percentages, means and measures of dispersion according to the presence or absence of a companion during hospitalization.

This was followed by a bivariate study with socio-demographic and anxiety (state and trait) variables. The relationship between the (state and trait) anxiety variable and the variables resulting from the comparison of means was studied. The Mann Whitney U test, Kruskal-Wallis H test and odds ratio (OR) were used in the study of socio-demographic and obstetric variables and their relationship with anxiety.

ETHICAL ASPECTS

After presentation of the aims of the research and the procedures to be implemented, this study was approved by the Clinical Research Ethics Committee of Aragon (Ceica) Document No. 11/2017. Consent was also granted by the head of the Department of Obstetrics and the medical director of the Maternity and Children's Hospital of Zaragoza.

Subsequently, in the second stage of data collection, the participants were informed about the study, enabling any queries to be resolved, and their signed consent was requested. The confidential nature of the information was highlighted, with the assurance that personal information would only be used by the lead researcher and would never be reflected or associated with any of the participants.

RESULTS

The mean age of all the participants was 33.35 years ($SD = 28.63-38.07$), of whom 75.0% were of Spanish origin and 78.8% in active employment. Of the participants, 11.3% worked in administrative roles, 10.0% worked as sales assistants and professional cleaners, respectively, and 7.5% were medical professionals. However, 16.3% did not give their occupation. Of the 80 participants, 40 claimed to hold university degrees. The companions of 40.0% of the participants were their partners, while 22.5% were also accompanied by a family member. In addition, 65.0% stated that they were married (Table 1).

In relation to obstetric characteristics, 53 were primiparous women. Of these, 28.3% had previously been pregnant on one or more occasions, although the result had been miscarriage. Of the chosen population, 33.8% were multiparous, 81.5% of whom were expecting their second child. The mean gestational age was 38 weeks (Table 1).

Table 1 – Socio-demographic variables of the population by presence or absence of anxiety – Zaragoza, Spain, 2018.

	With anxiety	Without anxiety
Age		
18–24	1 (5%)	3 (5.1%)
25–31	4 (20%)	17 (28.2%)
32–38	14 (70.0%)	33 (55%)
39–45	1 (5.0%)	7 (11.7%)
Country of origin		
Spain	13 (65.0%)	47 (78.3%)
Romania	2 (10.0%)	6 (10.0%)
Dominican Republic	2 (10.0%)	1 (1.7%)
Other countries	3 (15.0%)	6 (10.2%)
Ethnicity		
White	15 (75.0%)	55 (91.7%)
Roma	2 (10.0%)	2 (3.3%)
Other ethnicity	3 (15.0%)	3 (5.0%)
Employment		
Unemployed	1 (5.0%)	8 (13.3%)
Active	16 (80.0%)	47 (78.4%)
Housewife	3 (15.0%)	5 (8.3%)
Occupation		
Healthcare professional	7 (35.0%)	20 (33.4%)
Services sector	6 (30.0%)	24 (40.0%)
Secondary school teacher	-	3 (5.0%)
Engineer	1 (5.0%)	1 (1.7%)
IT specialist	-	2 (3.3%)
Accountant/business consultant	1 (5.0%)	2 (3.3%)
NR*	5 (25.0%)	8 (13.3%)
Companion		
	Yes: 5 (25.0%)	Yes: 22 (36.7%)
	No: 15 (75.0%)	No: 38 (63.3%)
Type of companion		
	Partner: 2 (40.0%)	Partner: 3 (13.64%)
	Partner and family member: 3 (60.0%)	Family member and partner: 19 (86.36%)
Gestational age		
28–34	2 (10.0%)	7 (11.7%)
35–36	-	6 (10.0%)
37–41	18 (90.0%)	47 (78.3%)
Parity		
Primiparous	11 (55.0%)	42 (70.0%)
Multiparous	9 (45.0%)	18 (30.0%)
Previous miscarriages		
0	3 (15.0%)	37 (61.7%)
1–2	13 (65.0%)	17 (28.3%)
3–4	4 (20.0%)	6 (10.0%)

*NR = no response

After verifying normality by means of the Kolmogorov-Smirnov test, values of $p = 0.000$ were observed for both state and trait dimensions, therefore suggesting that the distribution was different from normal.

In the observational study of socio-demographic variables, companionship was observed to be associated with the values obtained in the two STAI dimensions,

significantly increasing the risk of pregnant women unattended by a companion suffering from anxiety during their hospitalization. When a further study was made of the individual providing companionship, no significant influence was noted.

In terms of ethnicity, an association was found with values in the trait dimension (Table 2).

Table 2 – Association between anxiety and socio-demographic and obstetric variables – Zaragoza, Spain, 2018.

	STAI State		STAI Trait	
	Parameter	P*	Parameter	P*
Maternal age	$U^{\dagger} = 380$	0.705	$U^{\dagger} = 449.5$	0.062
Country of origin	$H^{\ddagger} = 0.283$	0.595	$H^{\ddagger} = 0.497$	0.481
Ethnicity	$H^{\ddagger} = 0.291$	0.589	$H^{\ddagger} = 6.321$	0.018 [§]
Roma-White	-		-	0.044 [§]
Roma-other ethnicities	-		-	0.004 [§]
White-other ethnicities	-		-	0.061
Employment	$H^{\ddagger} = 1.553$	0.213	$H^{\ddagger} = 0.019$	0.890
Occupation	$H^{\ddagger} = 0.085$	0.771	$H^{\ddagger} = 1.473$	0.225
Companion	$OR^{\ast} = 4.295$	0.038 [§]	$OR^{\ast} = 4.306$	0.038 [§]
Type of companion	$OR^{\ast} = 0.273$	0.601	$OR^{\ast} = 3.084$	0.079
Primiparous	$OR^{\ast} = 1.197$	0.274	$OR^{\ast} = 2.135$	0.144
Multiparous	$OR^{\ast} = 1.556$	0.212	$OR^{\ast} = 1.556$	0.212
Gestational age	$U^{\dagger} = 391$	0.817	$U^{\dagger} = 604.5$	0.868
Parity	$OR^{\ast} = 4.079$	0.043 [§]	$OR^{\ast} = 0.342$	0.559
Previous miscarriages	$U^{\dagger} = 323$	0.217	$U^{\dagger} = 545.5$	0.383

* p = significance level, $^{\dagger}U$ = Mann Whitney U test, $^{\ddagger}H$ = Kruskal-Wallis H test, $^{\ast}OR$ = odds ratio, $^{\S}p < 0.05$

Consequently, a post-hoc test was performed within the Kruskal-Wallis test to see whether there was a statistical relationship between groups. Significant differences were found to exist between pregnant Roma women in comparison with the other ethnicities, with values of $p = 0.044$ found in relation to the White ethnic group and $p = 0.004$ in relation to other minority ethnicities.

When the relationship between the obstetric variables and anxiety was studied, there was observed to be an association between parity and state anxiety, with primiparous women developing four times more anxiety (Table 2).

DISCUSSION

The main aim of this work was to study the relationship between labour companionship and anxiety. This study observed the influence exerted by the social support received, mostly provided by family members and partners, although this social figure was not shown to be a determining factor in the onset or reduction of anxiety symptoms.

These results concur with those of other studies asserting that a low level of social support provided to pregnant women leads to worse mental health⁽¹³⁾. A number of researchers assert that support is mostly provided by the partner⁽⁹⁾, by assisting to reduce anxiety and to properly manage feelings⁽¹⁴⁾.

This data on companionship also differed from those found in a 2015 study where it was shown that the presence of the pregnant woman's mother helped to reduce anxiety symptoms owing to the advice and contributions given by this figure regarding the pregnancy, particularly in younger women⁽¹⁵⁾.

It is also important to know the satisfaction with the support received, given that the most recent studies consider the quality of the support given to influence the well-being of the expectant mother⁽¹⁶⁾. Therefore, future studies are needed in order to observe this factor.

Socio-demographic and obstetric variables may influence the companionship provided during the hospitalization of pregnant women. The women recruited for this study were mainly of White Spanish ethnicity. Anxious personality traits increased according to ethnicity, corroborating that anxiety develops differently in different populations, as occurred in the case of the Roma ethnicity.

The studies that dealt with these variables considered this point as part of a broader concept, asserting that women from developing countries have higher levels of anxiety⁽⁵⁾, noting through individual interviews that concerns about pregnancy and labour increase. These considerations refer to the fact that differences in cultural customs⁽¹⁷⁾ may influence

the process of labour accompaniment and, therefore, the onset of anxiety during hospitalization.

The pregnant women who continue to work during their third trimester presented the most anxiety symptoms, although this could not be statistically proven. Other studies, on the other hand, agreed that unemployment could be considered a mediator for the onset of pregnancy-related anxiety⁽³⁾.

Anxiety was seen to increase in the group consisting of women at a gestational age of between 37 and 40 weeks. Most of the studies showed that anxiety increased in the group before 37 weeks, a time when expectant mothers faced the possibility of a premature delivery⁽¹⁸⁻¹⁹⁾, remaining at higher levels until the end of the pregnancy owing to their fear of childbirth⁽²⁾.

These results showed that primiparous women present higher anxiety state than multiparous women. A number of studies have combined this fact with the appearance of fear of childbirth, making it more common in this group⁽²⁰⁾. The main factors that trigger this fear, and consequently causing anxiety symptoms, are uncertainty⁽²¹⁾ and lack of awareness.

This study showed a greater incidence of anxiety in women who had suffered from previous miscarriages. The authors who verified this fact asserted that a history of prior miscarriages had a negative effect on women during their the current pregnancy owing to the uncertainty caused⁽²⁾. This fact confirms the importance of psychological treatment after a pregnancy loss⁽²²⁾.

These data shed light on the role of nurses and particularly of midwives in providing a more pleasant setting for pregnant women. Companionship during hospitalization reduces the impact of fears and feelings of uncertainty that arise, particularly for populations that are more prone to them, making this method an effective tool for the prevention and/or reduction of pregnancy-related anxiety.

As healthcare professionals, one should encourage support from pregnant women's partners and family members, facilitating their companionship and making them a part of the labour process through continuous reporting, with

explicit consent granted by the expectant mother. This enables to assist them to sustain their links with their social network, providing security for patients and, consequently, reducing or preventing the onset of anxiety symptoms.

The main limitation of this study was sample size, and it is therefore necessary to continue research along these lines in order to increase the number of participants and gauge the influence of satisfaction with the social support received.

CONCLUSION

It has been shown that anxiety is based mainly on pregnant women's insecurity. This quality is reflected in the variables that have been statistically verified in this study.

It has been corroborated that companionship influences anxiety, with its incidence increasing when it is lacking. This means that involvement of pregnant women's close circle must be encouraged in order to prevent or reduce its onset.

Moreover, the circumstances surrounding pregnant women must be taken into consideration, such as their cultural customs and obstetric history. It has been observed in this study that women of the Roma ethnicity have a greater predisposition to develop a more anxious personality in relation to other cultures, and therefore their view of the pregnancy and the evolution of their labour should be taken into account in order to ensure greater satisfaction with the process.

Lack of experience and lack of awareness are two factors commonly found with primiparous women, which means that their anxious state increases significantly in the last stage of the pregnancy. One way in which to increase knowledge and awareness is through the collaboration of family or a person from the social group to which they are connected. Having a person of trust at hand helps raise pregnant women's security and, together with the provision of a greater amount of objective and truthful information by the nurse and/or midwife, reduces the uncertainty that leads to the onset of anxiety.

RESUMEN

Objetivo: El objetivo de este estudio fue examinar la asociación entre la ansiedad gestacional, cribada durante el tercer trimestre, y el acompañamiento durante el ingreso en el hospital. **Método:** Se llevó a cabo un estudio observacional casos-control en el que participaron 80 grávidas, divididas en 20 casos y 60 controles, mayores de 18 años, de 28 o más semanas, sin patologías físicas y/o psíquicas diagnosticadas. Se midió la ansiedad con el instrumento STAI y se recogieron las variables seleccionadas. Se realizó un análisis descriptivo y bivariado, comparando las variables escogidas mediante Chi-Cuadrado, Kruskal Wallis y Mann-Whitney. **Resultados:** El acompañamiento en Estado y Rasgo ($p = 0,038$ en ambos) influye en la disminución de la ansiedad durante la hospitalización. Las mujeres de etnia gitana desarrollaron más ansiedad ($p = 0,019$) y las primíparas obtuvieron un riesgo 4 veces mayor. **Conclusión:** La falta de una persona de confianza durante el ingreso colabora en el aumento de los síntomas ansiosos, así como la etnia y la primiparidad, por lo que la implicación del círculo social cercano es indispensable para la prevención y/o disminución de la ansiedad en esta población.

DESCRIPTORES

Ansiedad; Embarazo; Relaciones Familiares; Apoyo Social; Encuestas y Cuestionarios.

RESUMO

Objetivo: O objetivo deste estudo foi examinar a associação entre ansiedade gestacional, rastreada durante o terceiro trimestre, e monitoramento durante a admissão hospitalar. **Método:** Foi realizado um estudo observacional caso-controle no qual participaram 80 gestantes, divididas em 20 casos e 60 controles, maiores de 18 anos, 28 ou mais semanas, sem diagnóstico de patologias físicas e/ou mentais. A ansiedade foi medida com o instrumento STAI e as variáveis selecionadas foram coletadas. Foi realizada análise descritiva e bivariada, comparando as variáveis escolhidas por meio do Qui-Quadrado, Kruskal Wallis e Mann-Whitney. **Resultados:** O monitoramento do estado e do traço ($p = 0,038$ em ambos) influencia a diminuição da ansiedade durante a hospitalização. As mulheres

ciganas desenvolveram mais ansiedade ($p = 0,019$) e as primíparas tiveram um risco 4 vezes maior. **Conclusão:** A falta de uma pessoa de confiança durante a internação contribui para o aumento dos sintomas de ansiedade, bem como a etnia e primiparidade, portanto, o envolvimento do círculo social próximo é essencial para a prevenção e/ou redução da ansiedade nesta população.

DESCRITORES

Ansiedade; Gravidez; Relações Familiares; Apoio Social; Inquéritos e Questionários.

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