Spanish validation and factor structure of the Prenatal Distress Questionnaire Revised (NuPDQ)

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**ABSTRACT**

**Background:** Due to an absence of maternal stress being measured in routine prenatal care by clinicians, prenatal stress has become a serious problem which is associated with poorer obstetric outcomes, as well as worse maternal and infant health. For that reason, the aim of this study was the translation, validation and adaptation of Prenatal Distress Questionnaire Revised (NuPDQ) in a Spanish sample.

**Methods:** Three-hundred and seventy-one pregnant women were assessed using the NuPDQ, the Prenatal Distress Questionnaire, Perceived Stress Scale and the Connor–Davidson Resilience Scale. The NuPDQ was translated into Spanish by the backtranslation method and administered to participants.

**Results:** A confirmatory factor analysis revealed the established unidimensional structure to be a poor fit to data with the Spanish version. An exploratory factor analysis suggested a five-factor structure with 14 items. The instrument had good reliability, convergent and discriminant validity psychometric properties.

**Conclusions:** The five-factor 14-item NuPDQ is useful to assess pregnancy-specific stress in Spanish pregnant women. It may be appropriate to use this instrument in order to identify pregnant women with high pregnancy-specific stress to try to prevent negative consequences derived from those high levels.

**Introduction**

Pregnancy is a stressful event in a woman’s life, the impacts of such stress having implications for the woman herself or her baby (Duthie & Reynolds, 2013). A number of studies have demonstrated that stress during pregnancy is not the same as general population stress, so it has been called pregnancy-specific stress (Alderdice et al., 2012; Lobel et al., 2008).

On the one hand, pregnancy-specific stress is comprised of childbirth and medical complications worries, body changes worries, concerns about future baby health or the ability to become a mother (Alderdice et al., 2012). On the other hand, physiological
activation and consequences are different from general stress, being related to more potentially negative pregnancy outcomes (DiPietro et al., 2004; Alderdice & Lynn, 2009; DiPietro et al., 2002; Lobel & Dunkel Schetter, 2016).

Pregnancy-specific stress has been related to impoverished postpartum maternal mental health, higher postpartum depression risk and inability to care for the newborn (Field, 2010; Caparros-Gonzalez et al., 2017; Robertson et al., 2004). Further, there are some newborn negative outcomes associated with higher pregnancy-specific stress levels, such as premature birth, low weight at birth and a poorer infant neurodevelopment (Graignic-Philippe et al., 2014; Lobel et al., 2008; Roesch et al., 2004).

Consequently, it is important to use assessment tools to identify pregnancy-specific stress, as generic stress assessment tools will not reflect endocrine, psychological and individual characteristics of pregnancy (Nast et al., 2013).

Two assessment measures have been widely used to evaluate pregnancy-specific stress due to their generally acceptable psychometric characteristics, these being the Prenatal Distress Questionnaire (PDQ; Yali & Lobel, 1999) and its revised version, Prenatal Distress Questionnaire Revised (NuPDQ; Lobel, 1996; Yali & Lobel, 2002). However, only the PDQ is already validated for its use in Spain (Caparros-Gonzalez et al., 2019).

Despite the fact that NuPDQ was originally designed to be used as an interview, it has invariably been used as a self-report instrument, reporting a good reliability index in its original version (Coussons-Read et al., 2012; Lobel et al., 2008; Magriple et al., 2008; A. Staneva et al., 2016). It has been used in a wide range of studies and is considered an appropriate instrument due to its reliability and convergent, concurrent and predictive validity (Ibrahim & Lobel, 2020). To the best of our knowledge, only one study has shown the factor structure of the NuPDQ, as a unidimensional instrument (Yüksel et al., 2011).

The aim of this research was the translation, adaptation and validation of NuPDQ in a Spanish sample of pregnant women.

**Material and methods**

**Participants**

Three-hundred and eighty-six women were recruited from Health Centres between 1 October 2017 and 13 September 2018.

Inclusion criteria were being pregnant, over 18 years old and being born in Spain. Exclusion criteria were having medication treatment, any medical or psychological condition or being a high-risk pregnancy.

**Instruments**

Prenatal Distress Questionnaire Revised (NuPDQ; Lobel, 1996; Yali & Lobel, 2002). The original version contains 17 items in a Likert scale (0 = not at all; 2 = very much) and another item with a yes/no response. Every item asked “Are you feeling bothered, upset, or worried at this point in your pregnancy” about pregnancy issues, such as maternal and baby health, body changes, abilities to take care of the baby, etc. Despite being developed to be used in different points of pregnancy (nine items for the entire period, three more for the second trimester and five more for the third trimester), it has been widely
used as an integrated single measure of prenatal distress. In that way, the instrument offers more information than using only the items of each trimester. Besides, it has good psychometric properties (0.82 > $\alpha$ < 0.88) (Alderdice et al., 2012; Lobel et al., 2008; Yali & Lobel, 1999, 2002).

The following instruments were used to evaluate convergent and discriminant validity.

The *Prenatal Distress Questionnaire* (PDQ; Caparros-Gonzalez et al., 2019; Yali & Lobel, 1999) has been used to assess pregnancy-specific stress. It assesses specific worries and concerns that pregnant women experience about labour, medical problems, physical symptoms, childbirth, relationships, body changes and the baby’s health using a 12-item scale scored with a five-point Likert scale (0 = none at all; 4 = extremely). The Cronbach’s alpha reliability coefficient for the Spanish version is $\alpha = 0.74$.

The *Perceived Stress Scale* (PSS; Cohen et al., 1983; Remor, 2006) is used to assess general stress during the last month. It has 14 items scored using a five-point Likert scale from 0 (never) to 4 (very often). The Cronbach’s alpha reliability coefficient of the Spanish version is $\alpha = 0.81$.

The Connor–Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003; García-León, Caparros-Gonzalez, et al., 2019 and Garcia-León, González-Gómez, et al., 2019) has 25 items with a Likert-type response format, from 0 (“not at all”) to 4 (“almost always”). The scale is in the range of 0 to 100, and higher scores indicate a higher level of resilience. The Cronbach’s alpha reliability coefficient of the Spanish version is $\alpha = 0.86$.

**Procedure**

The translation of NuPDQ into Spanish was undertaken using the backtranslation method according to international guidelines for cross-cultural adaptations of questionnaires (Epstein et al., 2015; Martin & Savage-McGlynn, 2013). First, the original version was translated into Spanish by two researchers with a proficient level in English. Thereafter, another researcher with proficient levels in both English and Spanish and who was unconnected to the research translated the scale into English. An expert team in perinatal health was consulted to check if translation was grammatically and semantically equivalent to the original questionnaire. No variability was found among versions.

One item was identified as problematic within the Spanish context: “Are you feeling bothered, upset, or worried at this point in your pregnancy about paying for your medical care during pregnancy?” The Spanish healthcare system is free of charge, so for that reason this item was not relevant for pregnant Spanish women. For that reason, it was removed and was not included in the Spanish version of the NuPDQ.

A pilot study ($N = 10$) was undertaken to obtain feedback about comprehension and interpretation. No further issues were identified and the final version was prepared for data capture.

Participants were informed about the study when attending an antenatal appointment with their midwives. Following enrolment into the study and obtaining informed consent, the questionnaires were administered.

This study met the ethical standards established by the Declaration of Helsinki (revised in Fortaleza, Brazil, 2013) and was reviewed and approved by the Ethics Committee for Human Research at the University of Granada (reference number 881) and the Research Ethics Committee of the public health service in Andalusia.
**Statistical analysis**

A conventional route to psychometric evaluation was undertaken using known-groups discriminant validity analysis with pregnancy status (pregnant previously yes/no) as the dichotomous independent variable, internal consistency evaluation using Cronbach’s coefficient alpha and convergent and divergent validity determination by evaluation against relevant elements of the measures outlined earlier. The factor structure of the NuPDQ was evaluated using confirmatory factor analysis (CFA) specifying a single-factor (unidimensional) model. In the event of poor or inadequate model fit under CFA, a post-hoc exploratory factor analysis (EFA) would be undertaken to determine factor structure using maximum-likelihood estimation and oblimin rotation.

**Results**

**Sample description**

From the 386 six women who were recruited to the study, a total sample of 371 had complete NuPDQ data (N = 371). Examination of the data set revealed one multivariate outlier based on NuPDQ data and this case was removed from the data set; thus the final data set was N = 370 for analysis. The mean age of participants was 32.36 (SD = 5.10) years. Descriptive information is shown in Table 1.

| Table 1. Descriptive information of the sample. | M (SD) | N (%) |
|-----------------------------------------------|--------|-------|
| Sociodemographic variables                    |        |       |
| Age                                           | 32.36 (5.10) |       |
| Marital status                                |        |       |
| Single/divorced                               | 15 (4.2) |       |
| Married/cohabitant                            | 342 (95.8) |       |
| Level of education                            |        |       |
| Primary                                       | 12 (3.4) |       |
| Secondary                                     | 101 (28.3) |       |
| University                                    | 244 (68.3) |       |
| Employment situation                          |        |       |
| Working                                       | 271 (75.9) |       |
| Unemployed                                    | 86 (24.1) |       |
| Obstetric information                         |        |       |
| Trimester of pregnancy                        |        |       |
| First                                         | 70 (19.2) |       |
| Second                                        | 135 (37) |       |
| Third                                         | 160 (43.8) |       |
| Pregnancy method                              |        |       |
| Spontaneous                                   | 309 (86.6) |       |
| Fertility treatment                           | 48 (13.4) |       |
| Nulliparous                                   |        |       |
| Yes                                           | 239 (66.9) |       |
| No                                            | 118 (33.1) |       |
| Wanted pregnancy                              |        |       |
| Yes                                           | 306 (85.7) |       |
| No                                            | 51 (14.3) |       |
| Previous children                             |        |       |
| 0                                             | 265 (74.2) |       |
| 1                                             | 75 (21) |       |
| ≥ 2                                           | 17 (4.8) |       |
| Previous miscarriages                         |        |       |
| 0                                             | 261 (73.1) |       |
| 1                                             | 68 (19) |       |
| ≥ 2                                           | 28 (7.8) |       |

*Note: Sociodemographic and obstetric information missing (n = 5 for trimester of pregnancy; n = 13 for the rest of the variables).*
Summary of measures

The mean score of the NuPDQ was 13.23 (SD = 6.03) with a minimum score of 0 and a maximum score of 32. Internal consistency of the NuPDQ was 0.82. There was no evidence of significant skew or kurtosis in the NuPDQ total score (0.24, −0.52, respectively). The mean score of the PDQ was 16.53 (SD = 7.10), the mean score of the PSS was 26.43 (SD = 8.15) and the mean score of the CD-RISC was 26.85 (SD = 6.65).

Correlational analysis

Pearson’s r correlations between the NuPDQ total score and PDQ, PSS and CD-RISC total scores are shown in Table 2. Correlations between the NuPDQ total score and all other measures were all highly statistically significant (p < 0.001) and in the anticipated direction.

Factor analysis

Confirmatory factor analysis of the unidimensional model of the NuPDQ with maximum-likelihoods estimation revealed a poor fit to the data, chi-square = 487.68 (df = 119.00), p < 0.001, root mean squared error of approximation (RMSEA) = 0.09, comparative fit index (CFI) = 0.72. Adopting the weighted least squares with means and variances (WLSMV) estimation method to accommodate the ordered categorical characteristics of NuPDQ items within the CFS had little impact in improving model fit, chi-square = 518.82 (df = 119.00), p < 0.001, RMSEA = 0.10, CFI = 0.83.

Post-hoc exploratory factor analysis

Given the poor fit to data of the anticipated single-factor model of the NuPDQ, a post-hoc EFA was undertaken. A parallel analysis suggested the potential of a five-factor solution although only one factor had an eigen value >1 and the screen plot also indicated a single-factor solution. Given the previously acknowledged poor fit of a single-factor solution, an alternative five-factor solution based on the parallel analysis was run as a post-hoc EFA under maximum-likelihood estimation with oblique rotation assuming correlated factors. The five-factor solution revealed a good fit to the data, RMSEA = 0.04 and CFI = 0.97 and 39% of the variance explained. The item-factor loadings are summarised in Table 3 and reveal clear item–factor differentiation for most items with the exception of items 1 and 17, where these items did not load on any factor, and item 10, which was split between factors 1 and 5. These three items were thus removed and re-

Table 2. Correlation between the NuPDQ total score and PDQ, PSS and CD-RISC total score.

| Scale     | NuPDQ | PDQ | PSS | CD-RISC |
|-----------|-------|-----|-----|---------|
| NuPDQ     |       | .69 |     | −.28    |
| PDQ       | .46   |     |     |         |
| PSS       | .43   |     |     | −.32    |
| CD-RISC   |       |     |     | −.40    |

Note: all correlations significant at p < 0.001.
Table 3. Factor loadings of NuPDQ following exploratory factor analysis with maximum-likelihood estimation and oblique rotation.

| Item | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 |
|------|----------|----------|----------|----------|----------|
| 1    | 0.20     | 0.20     | 0.17     | 0.15     | −0.19    |
| 2    | 0.06     | 0.30     | 0.01     | −0.05    | 0.25     |
| 3    | −0.05    | 0.65     | 0.03     | 0.08     | 0.07     |
| 4    | 0.68     | 0.02     | 0.00     | 0.11     | −0.12    |
| 5    | 0.12     | 0.21     | −0.01    | 0.41     | −0.14    |
| 6    | 0.14     | 0.21     | 0.03     | 0.01     | 0.38     |
| 7    | 0.04     | 0.72     | −0.06    | −0.05    | −0.02    |
| 8    | 0.11     | 0.14     | 0.03     | 0.22     | 0.41     |
| 9    | −0.08    | 0.04     | 0.07     | 0.42     | 0.16     |
| 10   | 0.30     | 0.00     | 0.07     | 0.10     | 0.31     |
| 11   | 0.90     | −0.01    | 0.01     | −0.05    | 0.06     |
| 12   | 0.04     | 0.38     | 0.26     | 0.04     | 0.11     |
| 13   | 0.04     | 0.14     | 0.18     | 0.39     | −0.03    |
| 14   | 0.01     | −0.04    | 0.96     | −0.04    | 0.00     |
| 15   | 0.00     | 0.14     | 0.55     | 0.20     | 0.01     |
| 16   | 0.05     | −0.16    | −0.06    | 0.46     | 0.17     |
| 17   | 0.02     | 0.13     | 0.02     | −0.09    | 0.14     |

examination of model fit statistics revealed excellent fit, RMSEA = 0.04 and CFI = 0.99 with 47% of the variance explained. Internal consistency of the remaining 14 items was 0.81. The same five-factor model was run for trimester two data (N = 135) and revealed excellent fit to the data (RMSEA = 0.01 and CFI = 0.99 with 49% of the variance explained). Similarly, examination of the five-factor model for trimester three data (N = 160) revealed again excellent fit to data (RMSEA = 0.01 and CFI = 0.99 with 50% of the variance explained). Unfortunately, there were insufficient participant numbers in trimester one to run the five-factor model with confidence.

**Items description and factors name**

According to every item description, every factor was renamed in order to make sense when using it in studies. Items allocated in factor 1 assess worries about delivery and pain, items in factor 2 share worries about maternal health and the ability to be able to take care of the family during pregnancy and items in factor 3 describe worries about taking care of the baby. As for items in factor 4, they assess worries about changes resulting from pregnancy. Finally, factor 5 explores worries about unexpected issues of pregnancy (preterm birth) and uncontrollable issues (get a good quality of medical care). Items description and factor names are described in Table 4. We note that factor 1, factor 3 and factor 5 comprise two items only (factor 1 inter-item correlation r = 0.62, factor 3 inter-item correlation r = 0.60, factor 5 inter-item correlation r = 0.33).

**Correlations between subscales**

The five subscales extracted from the EFA comprise three subscales comprising two items each (subscales 1, 3, 5) and two subscales comprising four items each (subscales 2, 4). All
Correlations were positive and highly statistically significant ($p < 0.001$). The correlations between these EFA-derived subscales are shown in Table 5.

**Known-group discriminant validity**

Comparison between the 14-item EFA-derived NuPDQ total score and EFA-derived subscales as a function of previous pregnancy status are shown in Table 6. Significantly higher subscale scores were observed for those who had a previous pregnancy on subscales 1 and 4 only.

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**Table 4. Item descriptions and factor names.**

| Item | Item description. Are you feeling bothered, upset, or worried at this point in your pregnancy? | Factor | Proposed factor name |
|------|-----------------------------------------------------------------------------------------------|-------|----------------------|
| 4    | about pain during labour and delivery?                                                         | 1     | Worries about delivery |
| 11   | about what will happen during labour and delivery?                                             | 2     | Worries about own health and pregnancy |
| 2    | about the effect of ongoing health problems such as high blood pressure or diabetes on your pregnancy? | 3     | Worries about taking care of the baby |
| 3    | about feeling tired and having low energy during your pregnancy?                               | 4     | Worries about physical, social and economic changes |
| 7    | about physical symptoms of pregnancy such as vomiting, swollen feet, or backaches?             | 5     | Worries about unexpected and uncontrollable issues of pregnancy |
| 12   | about working or caring for your family during your pregnancy?                                 |       | none                 |
| 14   | about working at a job after the baby comes?                                                   | 6     | none                 |
| 15   | about getting day care, babysitters, or other help to watch the baby after it comes?           | 7     | none                 |
| 5    | about changes in your weight and body shape during pregnancy?                                  | 8     | none                 |
| 9    | about changes in your relationships with other people due to having a baby?                    | 9     | none                 |
| 13   | about paying for the baby’s clothes, food, or medical care?                                    | 10    | none                 |
| 16   | about whether the baby might be affected by alcohol, cigarettes, or drugs that you have taken? | 11    | none                 |
| 6    | about whether the baby might come too early?                                                   | 12    | none                 |
| 8    | about the quality of your medical care during pregnancy?                                       | 13    | none                 |
|      | Removed                                                                                        |       |                      |
| 1    | about taking care of a newborn baby?                                                           | none  |                      |
| 10   | about whether you might have an unhealthy baby?                                                | 1 and 5|                      |
| 17   | Are there other things that you are bothered, upset, or worried about that have to do with your pregnancy, the birth, or the baby? | none  |                      |

**Table 5. Correlations between the EFA-derived 14-item NuPDQ subscales.**

| b    | 1   | 2   | 3   | 4   | 5   | Total |
|------|-----|-----|-----|-----|-----|-------|
| 1    | .34 | .27 | .32 | .36 | .62 |       |
| 2    | .36 | .40 | .47 | .79 | .65 |       |
| 3    | .39 | .29 | .74 | .69 |     |       |
| 4    |     | .41 |     |     |     |       |
| 5    |     |     |     |     |     |       |
| Total|     |     |     |     |     |       |

All correlations significant at $p < 0.001$. 

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Table 6. Comparison of 14-item EFA-derived NuPDQ total score and EFA-derived subscales as a function of previous pregnancies status (degrees of freedom = 355).

| Scale | No previous pregnancy n = 118 | Previous pregnancy n = 239 | t   | p     |
|-------|-----------------------------|-----------------------------|-----|-------|
|       | M (SD)                      | M(SD)                       |     |       |
| 1     | 1.18 (1.11)                 | 2.28 (1.25)                 | 2.96| 0.003 |
| 2     | 3.11 (1.90)                 | 3.03 (2.08)                 | 0.36| 0.72  |
| 3     | 1.84 (1.46)                 | 1.86 (1.37)                 | 0.15| 0.88  |
| 4     | 1.75 (1.53)                 | 2.33 (1.75)                 | 3.04| 0.003 |
| 5     | 1.58 (1.17)                 | 1.70 (1.23)                 | 0.87| 0.39  |
| Total | 10.17 (4.85)                | 11.21 (5.53)                | 1.74| 0.08  |

Discrepancy between group N and total sample size due to small amount of missing data regarding previous pregnancy status.

Table 7. Correlations between 14-item EFA-derived NuPDQ total score and EFA-derived subscales and PDQ, PSS and CD-RISC.

| Subscale | PDQ | PSS | CD-RISC |
|----------|-----|-----|---------|
| 1        | .52 | .22 | -.31    |
| 2        | .50 | .44 | -.19    |
| 3        | .40 | .19 | -.08    |
| 4        | .57 | .38 | -.25    |
| 5        | .45 | .31 | -.14    |
| Total    | .69 | .46 | -.28    |

Correlations between subscales and PDQ, PSS and CD-RISC total scores

Pearson’s $r$ correlations between the 14-item EFA-derived NuPDQ total score and EFA-derived subscales and PDQ, PSS and CD-RISC total scores are shown in Table 7. All correlations were highly statistically significant ($p < 0.001$) and in the anticipated direction with the exception of subscale 3 and CD-RISC total score ($p = 0.17$) and subscale 5 and CD-RISC total score ($p = 0.01$).

Discussion

Due to the increasing importance of accurate assessment of pregnancy-specific stress, and the nonexistence of a Spanish assessment tool such as the NuPDQ, the aim of this research was the translation, adaptation and validation of the NuPDQ into Spanish. Moreover, it was intended to analyse the unidimensional factorial structure of the Turkish version (Yüksel et al., 2011) to check if the Spanish version was consistent with a unidimensional measurement model.

First, CFA demonstrated poor model fit against data for the unidimensional model, contrary to the Turkish version proposed by Yüksel et al. (2011). It is important to highlight that between Turkish and Spanish samples there are many cultural differences (González-Mesa et al., 2018). This may explain, at least to a degree, the inconsistencies in factor structure between Spanish and Turkish versions of the NuPDQ.

Post-hoc EFA revealed that a five-factor model was the most appropriate fit to data, with accompanying good model fit characteristics. Nevertheless, some items had to be removed from this five-factor model. Specifically, item 1, “Are you feeling bothered, upset, or worried at this point in your pregnancy about taking care of a new born
baby?”, which did not fit in any factor. One plausible explanation is that there were more multiparas in our sample, which could influence the fact that the item could not be allocated into any factor. Besides, this item is too general to fit in any factor, as the words “taking care” could mean a wide range of aspects, which could be economical, psychological or even social support (Gurman & Becker, 2008). Item 17 was removed too, the item content itself could explain why it had to be removed, as it was the only dichotomic item in the questionnaire (“Are there other things that you are bothered, upset, or worried about that have to do with your pregnancy, the birth, or the baby?”), being very ambiguous (Lobel, 1996; Yali & Lobel, 2002). Finally, item 10 (“Are you feeling bothered, upset, or worried at this point in your pregnancy about whether you might have an unhealthy baby”) could be allocated into factors 1 and 5, so it was removed from the factorial structure. This was similar to the factorial structure of their Spanish previous version, the PDQ (Caparros-Gonzalez et al., 2019), which also revealed that this item did not perform well. Confidence in the five-factor model was observed in relation to excellent fit to data for this model when trimester two and trimester three data were examined separately. A limitation of the study was that there were insufficient participant numbers to explore the fit to data of this model in the first trimester; therefore, we would recommend further investigation of this model in further research with sufficient participant numbers in the first trimester to undertake this analysis. We note also that a further limitation is that our criteria for item rejection were solely based on measurement characteristics within the EFA and acknowledge that other approaches – for example, a content analysis or expert panel review – may have yielded an alternative profile of both item rejection and item subscale inclusion.

The 14-item NuPDQ was observed to have good psychometric properties as a multidimensional measure and can be recommended for use in pregnant Spanish women in order to assess pregnancy-specific stress, just as it has been used in another countries (Ibrahim & Lobel, 2020).

Reliability of the NuPDQ is in line with those found by other authors, which has varied from .79 to .88 (A. A. Staneva et al., 2018; Rosenthal & Lobel, 2018), and superior to the Spanish PDQ, which has a reliability index of .74 (Caparros-Gonzalez et al., 2019).

The NuPDQ comprises 14 items allocated into five factors or subscales, which are: “worries about delivery” (items 4 and 11), “worries about own health and pregnancy” (items 2, 3, 7 and 12), “worries about taking care of the baby” (items 14 and 15), “worries about physical, social and economic changes” (items 5, 9, 13 and 16) and “worries about unexpected and uncontrollable issues of pregnancy” (items 6 and 8). It should be noted that because three of the subscales contain just two items, further research would be valuable to evaluate with greater scrutiny the reliability of these subscales and if augmentation with additionally generated items may be required. The subscales would thus appear appropriate to assess pregnancy-specific stress as a multidimensional rather than a unitary construct, thus encompassing concerns about the management and significance of physical symptoms, body changes, social changes, concerns about labour and delivery, parenting, the health of their foetus and fear of medical complications (Alderdice et al., 2012; Borja Romero-Gonzalez et al., 2019; Caparros-Gonzalez et al., 2019; Romero-Gonzalez et al., 2018).

Discriminant validity evaluation of the NuPDQ revealed differences in subscales of “worries about delivery” and “worries about physical, social and economic changes”, with
multiparous pregnant women having more concerns. Previous pregnancies may reduce concerns about maternal and foetal health, giving more importance to concerns about changes that could be brought by the birth of a second (or more) baby, which needs a different psychological and lifestyle adaptation than having the first child (Volling, 2012).

Finally, there is a strong relation between every NuPDQ subscale and the PDQ and perceived stress, which manifests once again the usefulness of the questionnaire. Only with resilience was the relation not the expected one with the subscale of “worries about taking care of the baby”. Even when resilience has been proved to be a protective factor during pregnancy, it seems not to be associated by this kind of concerns (Garcia-Leon et al., 2019).

The present study has some limitations, as the NuPDQ has been validated in its questionnaire form, so it is not possible to know the psychometric properties of its interview version. Another limitation is that we have used the same sample to perform the CFA, so it would be interesting to confirm the factorial structure of the NuPDQ using another sample of pregnant women. Moreover, considering the exclusion criteria of having a high-risk pregnancy, this tool should only be used to assess prenatal distress in low-risk pregnant women. For that reason, future research should address the pregnancy-specific stress in high-risk pregnancies, as it could be different from low-risk pregnancies (Caparros-Gonzalez et al., 2019).

In conclusion, the NuPDQ is a questionnaire that could be very useful to assess pregnancy-specific stress, due to its good psychometric properties, which are higher than its previous version, the PDQ. It is essential to assess pregnancy-specific stress, as it could have negative consequences in maternal and foetal health. By assessing it, it could be possible to detect pregnant women at risk and try to prevent those negatives consequences (Alderdice et al., 2012; Lobel et al., 2008).

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