


# Italian translation and validation of the Perinatal Grief Scale

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## Italian translation and validation of the Perinatal Grief Scale

**Aims:** The short version of the Perinatal Grief Scale (PGS) has 33 items of Likert type whose answers vary from 1 (strongly agree) to 5 (strongly disagree), and is used to assess the grief after perinatal loss and to identify women at major need of specific support. This is the first attempt to validate an Italian version of PGS.

**Materials and methods:** The English version of PGS by Potvin et al. was translated into Italian by a professional mother tongue English translator. The survey was administered at 3 different times (translated Italian version; original English version after 10 days; and same Italian version after other 10 days) to 16 Italian/English bilingual women who had experienced a perinatal loss. The reproducibility among the three administrations and

concordance were assessed using Cronbach's alpha and Cohen's kappa, respectively.

**Results:** Considering the PGS, median score ranged from 74.5 (58.5–94.5) to 78 (64–95), with no significant difference among the three questionnaire administrations ( $p = 0.616$ ). No significant difference emerged among the three administered questionnaires for subscales ( $p = 0.095$ , 0.410 and 0.410 for 'active grief' AG, 'difficulty in coping' DC and 'despair' D scores, respectively). Concordance varied from good to very good among all questionnaire administrations.

**Conclusions:** This Italian version of the PGS can be used by clinicians to assess Italian women's responses to stillbirth and perinatal loss, as well as by researchers for research purposes.

**Keywords:** abortion, collaborative practice, obstetrics, intrapartum care, postpartum care.

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## Introduction

Perinatal loss, which refers to the death of an infant due to miscarriage, stillbirth and neonatal death, affects about 1.8% of all pregnancies. In the United States, about 24,000 babies are stillborn each year, and in Italy, about nine couples lose their baby before or after the delivery every day, suddenly becoming bereaved parents (1).

Several authors studied grief and the grieving process, proposing some pathways for it (2), or underlining that grief is a very individual and unique response, with detrimental effects on the psychological well-being of bereaved parents (3–5). Grief after perinatal loss has

some typical grief's expressions: bereaved parents experience a wide range of intense emotions, behaviours and symptoms that fluctuate in intensity and duration (6,7). This kind of loss is considered also a 'traumatic grief' (8) that needs to be supported and treated in order to avoid complicated grief and other psychological disorders both in parents and in their offsprings (9,10).

The outcome of the grieving process depends on many factors: women's emotions and thoughts of grief after perinatal loss are influenced not only by cultural factors but also by their past life experiences, the circumstances around the loss and their future expectations (11,12).

This extreme variability in defining grief could make uneasy to distinguish between a normal grief and a complicated grief (13). The DSM-5 proposed to allow a diagnosis of major depressive disorder two weeks following the death of a child. According to many authors, bereaved parents are at high risk of having their understandable suffering misinterpreted as sign of a mental

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disorder because many symptoms, including sleep disturbances, fatigue, anhedonia, changes in appetite, enduring emotional distress and suicidal ideation, are common to both states (14). Even if the mourning process is not an illness, it could be useful to identify its psychological core and evaluate accurately its progression.

Besides the importance of identifying parents at highest need of psychological support, an active involvement of bereaved parents is crucial for the improvement to reduce stillbirths. In some countries, parents have contributed to a radical transformation in the attitudes towards bereavement care, by the active collaboration with health professionals in building a culture of bereavement caring (15).

In this context, bereavement care education represents a research and education priority (16), particularly in the Italian context, considering that Italian healthcare providers feel an urgent need of professional training to better meet the needs of grieving families (17).

Perinatal Grief Scale (PGS) (18) is a simple and complete instrument used to assess the grief after perinatal loss: it has good validity and reliability (19). The PGS was developed and validated in perinatal loss project in Leigh Valley in Pennsylvania (20), and it was constructed to incorporate the different dimensions of grief mentioned in the literature (21). The original scale consisted of 104 items, and the short versions have 33 items of Likert type whose answers vary from 1 (strongly agree) to 5 (strongly disagree) (22). The PGS presents three subscales: 'active grief' (AG), 'difficulty in coping' (DC) and 'despair' (D). The AG subscale (questions 1–11) measures the normal reaction to loss. Symptoms such as guilt, depression and marital problems exemplify the DC subscale (questions 12–22). The D subscale (questions 23–33) is characterised by the pathologic response to loss, and it is related to the resilience of women. Each subscale consists of 11 items with a minimum range of 11 to a maximum of 55. The sum of three subscales in PGS can vary from 33 to 165. A sum over 90 is suggestive of possible psychiatric disease.

To date, a validated version of PGS in Italian is not available and a need exists for a translation, both for the clinical activity and for the research. Thus, the purpose of this study was to translate the PGS into Italian and to test the validity of the translated scale in a pilot study.

## Materials and methods

The questionnaire for PGS assessment was based on the English short version of the questionnaire published by Potvin et al. available online (22).

The translation and back-translation process is illustrated in Fig. 1 and was applied following the Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcomes (PRO) Measures published in 2005 by Wild and colleagues (23).

Each question from the English original version was translated into Italian by an author of the manuscript

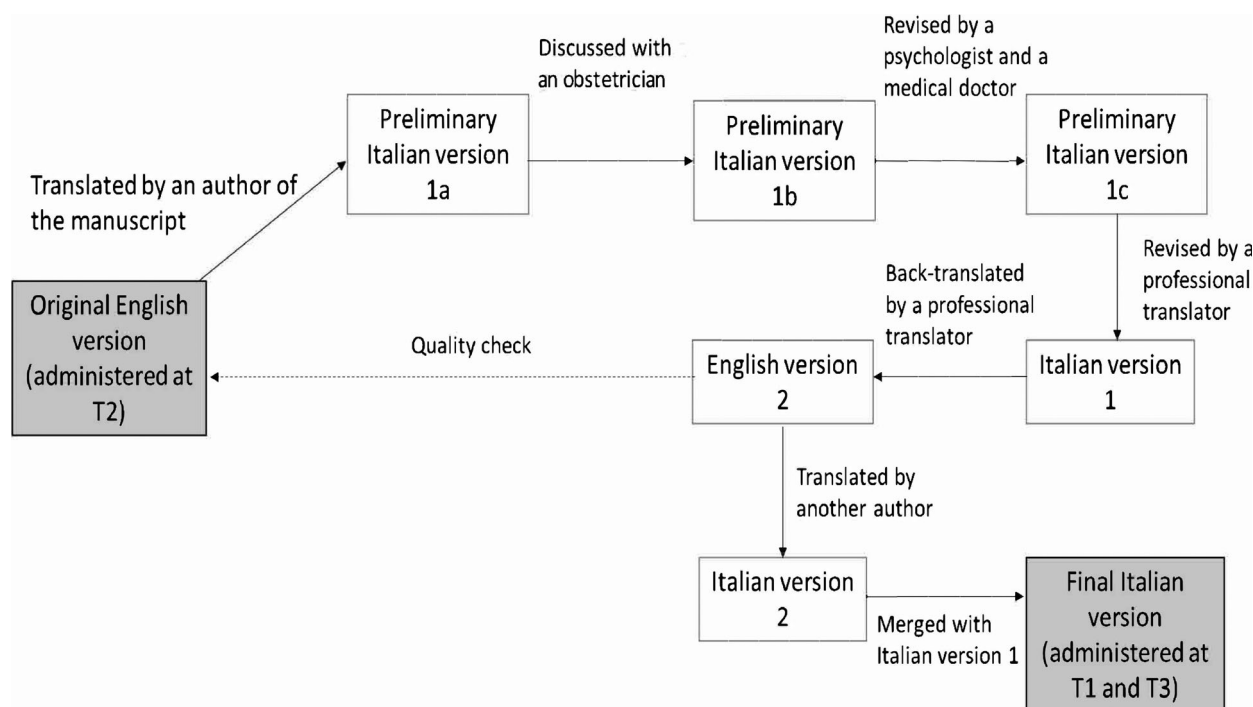
(CR), this representing preliminary Italian version 1a. This translation was discussed and modified in collaboration with an obstetrician working both in clinical practice and as a researcher and with a psychologist (23,24). This gave rise to preliminary Italian version 1b, which was further analysed by a second psychologist and a medical doctor (AV), giving rise to preliminary Italian version 1c of the PGS. A professional translator further reviewed and corrected this version together with a psychiatrist (CR) to ensure that there were no remaining linguistic inconsistencies, which might have occurred during translation from English into Italian. In this way, the Italian version 1 of PGS was obtained.

Then, the Italian version 1 was translated back into English by a female professional translator, native of Australia and working as a professional English teacher and translator, blinded of the original version; this gave rise to the English version 2. The level of agreement with the English original was considered good by both English translators involved in the study. Finally, the English version 2 was translated back to the Italian language by a third author of the paper, blinded to the previous Italian versions as well as to the original English Version. This gave rise to the Italian version 2. Italian version 1 and Italian version 2 were quite consistent, and they were merged by the authors to obtain the final Italian version of PGS (*Final Italian Version*).

All versions of the questionnaire included 33 questions. For each question, 5 possible answers were provided, based on the Likert scale: specifically, each answer was associated with a score from 1 to 5 (1 – Strongly disagree, 2 – Disagree, 3 – Neither agree nor disagree; 4 – Agree; and 5 – Strongly agree). The final Italian version of PGS is reported as Table S1.

In order to validate the translated questionnaire, 16 bereaved mothers were asked to fill the two different versions of the questionnaire (English original and Italian final version) one at a time in different times: final Italian version at the beginning of the study (final Italian-translated version, Ita), English version after 10 days (original English version, Eng) and the same final Italian version again after 10 more days (final Italian-translated version second time of administration, Ita2). Ten days of interval between the subsequent administrations of the three questionnaires allowed to avoid confirmation bias. In fact, participants were informed that they were going to answer three questionnaires in three different occasions, but were not aware that the items would be the same. All participants were mothers who had experienced stillbirth or perinatal death during the three years before the test, and as inclusion criteria, they should have at least a B2 level for English.

Being a questionnaire-based descriptive study, approval by the Ethics Committee is not required (GU n. 76 31 March 2008) and informed consent to participate was obtained from all mothers.



**Figure 1** Translation and back-translation process.

### Statistical analysis

For each administration of the questionnaire, the mean  $\pm$  standard deviation (SD) and the median score and related interquartile range (IQR) were calculated, both for total PGS and for the three different sub-scores (i.e. AG, DC and D). The score ranges from 1 to 5 (1 – Strongly disagree, 2 – Disagree, 3 – Neither agree nor disagree; 4 – Agree; and 5 – Strongly agree). Scores were compared using both the nonparametric Friedman’s ANOVA test for repeated measures. Statistical significance was considered for *p-value* < 0.05.

To assess the reproducibility among the three administrations, Cronbach’s alpha (and related 95% confidence interval, CI) was calculated. An alpha coefficient  $\alpha \geq 0.70$  was considered as good internal consistency reliability (25).

Cohen’s kappa was calculated to evaluate concordance. Kappa value, according to Landis and Koch, was categorised as fair (0.2–0.4), moderate (0.4–0.6), good (0.6–0.8) and very good (0.8–1) (26). All analyses were performed using the software STATA version 14.

## Results

Table 1 and Fig. 2 report the mean ( $\pm$ SD) and median values (with related IQR) of scores obtained from the three different administrations (1–3) of the questionnaire.

Considering the PGS, median score was 78 (64–95) for the final Italian-translated version, 76.5 (60.5–97.5) for

the original English version and 74.5 (58.5–94.5) for the Italian-translated version administered for the second time; no statistically significant difference emerged among the three questionnaire administrations ( $p = 0.616$ ). Focusing on the three sub-scores, median AG score ranged from 28.5 (20.5–33) to 30.5 (25–36), median DC score from 23.5 (17–29) to 25 (19–31.5) and median D from 23 (20.5–27.5) to 23.5 (21–26.5). For all the three sub-scores, no statistically significant difference emerged comparing the three administrations of the questionnaire ( $p = 0.095$ , 0.410 and 0.410 for AG, DC and D scores, respectively).

To assess the reproducibility among the three administrations, Cronbach’s alpha was calculated (Table 1). As for PGS, the alpha coefficient was 0.94 (95% CI, –0.90 to –0.98), thus indicating a high internal consistency reliability. Similarly, alpha coefficients for AG, DC and D scores were 0.93 (95% CI, –0.88 to –0.98), 0.78 (95% CI, –0.62 to –0.94) and 0.80 (95% CI, –0.66 to –0.94), respectively; in all cases, the estimated alpha coefficients suggested a good internal consistency reliability.

To assess the concordance among the total PGS scores obtained from the three different administrations of the questionnaire, Cohen’s kappa (95% CI) was calculated (Table 2). Weighted Cohen’s kappa was 0.76 for the comparison of Italian-translated version vs original English version (Ita vs Eng), 0.79 for the Italian-translated version vs the Italian-translated version administered for the second time (Ita vs Ita2) and 0.84 for version original English version vs the Italian-translated

**Table 1** Mean and median values of PGS, AG, DC and D scores, stratified according to the questionnaire versions

	PGS (total score)			AG score			DC score			D score		
	Mean (SD)	Median (IQR)	Cronbach's alpha (95% CI)	Mean (SD)	Median (IQR)	Cronbach's alpha (95% CI)	Mean (SD)	Median (IQR)	Cronbach's alpha (95% CI)	Mean (SD)	Median (IQR)	Cronbach's alpha (95% CI)
Italian-translated version <sup>a</sup>	78.8 (19.8)	78 (64–95)	0.94 (0.90–0.98)	29.9 (7.4)	30.5 (25–36)	0.93 (0.88–0.98)	24.6 (7.5)	25 (19–31.5)	0.78 (0.62–0.94)	24.2 (5.8)	23.5 (21–26.5)	0.80 (0.66–0.94)
Original English version	79.4 (23.6)	76.5 (60.5–97.5)		27.9 (7.7)	28.5 (20.5–33)		25.9 (9.8)	24.5 (18.5–33)		25.6 (7.1)	24 (21.5–30)	
Italian-translated version <sup>a</sup>	77.2 (24.6)	74.5 (58.5–94.5)		28.6 (8.1)	29.5 (19.5–34)		24.2 (9.9)	23.5 (17–29)		24.4 (7.4)	23 (20.5–27.5)	
<i>p</i> -value*		0.616			0.095			0.410			0.410	

Score ranges: from 1 to 5 (1 – Strongly disagree; 2 – Disagree; 3 – Neither agree nor disagree; 4 – Agree; and 5 – Strongly agree). AG: active grief; D: despair; DC: difficulty in coping; IQR: interquartile range; SD: standard deviation.

<sup>a</sup>Same version administered at 20 days one from the other.

\**p*-value from one-way ANOVA for paired data and from Friedman ANOVA test.

version administered for the second time (Eng vs Ita2). These results indicate a very good concordance between the Italian and English versions, and a good concordance among the different administrations of the questionnaire.

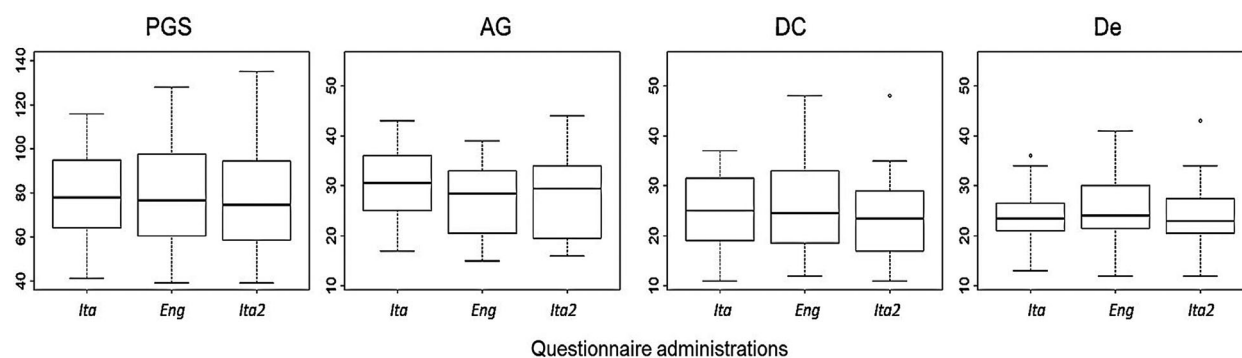
## Discussion

The present study, aimed at validating the PGS for the Italian population, represents the first attempt to create an Italian-validated version of PGS. Two translations of this tool into Spanish (27) and Swedish (12) have already been published in the literature, both performed using the double-translation technique.

Researchers stressed the difficulties encountered during the translation process, and the need to take into account both grammatical syntax and cultural differences at the same time. The order of words and grammar are of course relevant, but the main challenge during a process of translation is to successfully express some words and concepts, especially if concerning emotional status and anxiety, with a familiar and comprehensible language for Italian parents. In this translation, researchers chose words carefully, in order to better express feelings and thoughts, and to overcome several cultural differences. For example, we translated the item n.17 'I get cross at my friends and relatives more than I should' using the verb 'to irritate (*irritare*)' frequently used in Italian to give the idea of 'feeling a bit angry and being rude towards others, but not too much'. When translating the item n.18 'Sometimes I feel like I need a professional counsellor to help me get my life together again', since Italian people are not very acquainted with the figure of counsellor, we chose to change the phrase to a more general 'psychological support'. The method of translation and back-translation allowed to properly address this issue, and the high level of concordance between the three versions showed that the Italian translation was understandable for Italian mothers and faithful to the semantics of the original English version.

A study published in 2001 compared results from different studies performed in different countries, demonstrating the value of PGS as both a clinical and research measure (21). PGS Swedish version has already been used successfully in a Swedish study (28), underlining the importance of availability of validating instruments. Moreover, our results show that the Italian translation of PGS is effective in measuring all three subscales AG, DC and D, giving an accurate and representative picture of different dimensions of grief.

In our culture, perinatal loss and grief are not of great social importance and are scarcely faced by healthcare professionals (29). However, perinatal grief, if not worked out, can turn into complicated forms of grief, influencing



**Figure 2** Median value and interquartile ranges of PGS, AG, DC and D scores, stratified according to the questionnaire administrations. Abbreviations: AG, active grief; DC, difficulty in coping; D, despair; Eng, original English version; Ita, final Italian-translated version; Ita2, final Italian-translated version, second time of administration; PGS, Perinatal Grief Scale.

**Table 2** Cohen's kappa (and related standard error) of concordance among PGS scores obtained from the three different administrations of the questionnaire

Questionnaire versions	Cohen's Kappa (SE)
Ita vs Eng	0.48 (0.38–0.49) Weighted 0.76
Ita vs Ita2	0.50 (0.44–0.55) Weighted 0.79
Eng vs Ita2	0.56 (0.50–0.61) Weighted 0.84

Eng, original English version; Ita, final Italian-translated version; Ita2, final Italian-translated version, second time of administration.

the relationship with living and possible future children (1,30). In this context, few studies have been published on the impact of healthcare professionals' and social support on psychological outcomes after pregnancy loss (31). Moreover, hospitals cannot always offer structured follow-ups, while grief after perinatal loss is a trauma needing active (immediate) support.

### Clinical implication of PGS and conclusions

In Italy, where perinatal loss is still a taboo, and in the light of healthcare gaps (paucity of health workers trained about perinatal loss management, paucity of social resources), PGS is an important instrument of first prevention, able to identify women at risk of developing complicated forms of grief and therefore needing of specific support. This Italian version of PGS can be used by healthcare professionals in their clinical practice, and for research purposes.

### Conflict of interest

All Authors have made substantial contributions to the acquisition of data, drafting the article or revising it

critically for important intellectual content; all authors have approved the submitted version. The authors have no conflicts of interest to disclose regarding this publication.

### Author contributions

All authors have made substantial contributions to the acquisition of data, drafting the article or revising it critically for important intellectual content; all authors have approved the submitted version. Claudia Ravaldi and Alfredo Vannacci contributed to the conception and design of this study. Marco Biffino and Giampaolo Romeo contributed to the acquisition of data, and Alessandra Bettiol performed the statistical analysis. Data interpretation was performed by Giada Crescioli, Niccolò Lombardi and Miriam Levi, who were involved in drafting the manuscript and revised it critically. All authors gave their final approval of the version to be published.

### Ethics

Being a questionnaire-based descriptive study, approval by the Ethics Committee is not required (GU n. 76 31 March 2008) and informed consent to participate was obtained from all mothers.

### Ethics approval and consent to participate

According to Italian regulation, for this type of studies the approval by the Ethics Committee is not required (GU n. 76 31 March 2008); data were collected in keeping with General Data Protection Regulation of European Union (GDPR, EU 2016/679), and written informed consent was obtained from all participants.

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Charity.

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## Supporting Information

Additional Supporting Information may be found in the online version of this article:

**Table S1.** Italian translated version of the PGS questionnaire.