which are anaesthetic and *not* subanaesthetic,[4] making it unlikely that the NMDAr mediates the antidepressant action observed.[1,4]

The dental technique (using identical equipment as here[1]) never has a fixed goal-concentration, but titrates N_2O using each individual's dose-response to reach concentrations achieving maximum relaxation while maintaining consciousness. In short, the concentration varies, depending on each individual's dose-response to N_2O.[2,3] Apart from avoiding anaesthesia it also minimises side effects.[3]

Because a relatively loose nasal mask was used without N_2O end tidal measurements[1] the inhaled gas concentration at the alveolus cannot be assumed. Thus, the reading of 50% on the rotameter alone is a poor reflection of the actual gas volume inhaled.[3] Indeed, nasal masks produce N_2O concentrations at the alveolus which are less than half the rotameter setting.[3]

Guimaraes et al chose 50% N_2O mistakenly believing that it produces minimal sedation and refer to the American Anesthesiology Association Guidelines.[1,5] These guidelines clearly states: "*less* than 50%" N_2O is required to produce minimal sedation, which encompasses the dental titration method.[3] Since a fixed goal concentration ignores the individual sensitivities to the gas, it is unsurprising that they "could find no data" giving the "best concentration of N_2O"[1] for depression. Perhaps, this indicates that the correct antidepressant dose is best achieved by titrating, to each individual's requirements, without an anaesthetist.[2-5]

Mark A. **Gillman**
South African Brain Research Institute, Johannesburg, Gauteng, South Africa.

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Disclosure

MAG has been researching the psychotropic properties of nitrous oxide for over 40 years. Since 2003 he has been a medical adviser to Sedatek, a South African company that supplies equipment for nitrous oxide in South Africa, predominantly among dentists; he owns no shares in the company.

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References

1 Guimarães MC, Guimarães TM, Hallak JE, Abrão J, Machado-de-Sousa JP. Nitrous oxide as an adjunctive therapy in major depressive disorder: a randomized controlled double-blind pilot trial. Braz J Psychiatry. 2021 Feb 15:S1516-44462021005005201. doi: 10.1590/1516-4446-2020-1543. Epub ahead of print.
2 Gillman MA, Matussek N, Lichtigfeld FJ. Effect of nitrous oxide on depressive patients and volunteers. In: Pichot P, Berner P, Wolf R, Thau K. Biological psychiatry, higher nervous activity. Boston: Springer; 1985. p. 397-403.
3 Gillman MA. Mini-review: a brief history of nitrous oxide (N2O) use in neuropsychiatry. Curr Drug Res Rev. 2019;11:12-20.
4 Jevtović-Todorović V, Todorović SM, Mennerick S, Powell S, Dikranian K, Benshoff N, et al. Nitrous oxide (laughing gas) is an NMDA antagonist, neuroprotectant and neurotoxin. Nat Med. 1998;4:460-3.
5 American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists. Practice guidelines for sedation and analgesia by non-anesthesiologists. Anesthesiology. 2002;96:1004-17.

Development and analysis of the psychometric properties of the Fear of Childbirth Motivators Questionnaire (QMMP)

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Pregnancy is a time of important physiological, aesthetic and psychosocial changes.[1] The fear of childbirth is a common condition, involving 5 to 20% of women.[2] Clinically, the pregnancy and puerperal period can be affected, increasing the preference for cesarean section on request. Brazil ranks as the second country in the world with the highest rate of cesarean sections (57%),[3] and the fear of childbirth is probably associated with many of these procedures. Using the recent published Tokophobia Assessment Questionnaire, objective identification of pregnant women with phobic fear of childbirth is possible in the Brazilian context.[4] In addition, identifying factors which lead to this fear is important to guide and educate pregnant women and their families. However, in Brazil, there is no instrument that objectively evaluates this parameter, which makes it impossible to carry out assertive actions aimed at the Brazilian population. Thus, the Fear of Childbirth Motivators Questionnaire (Questionário de Motivadores do Medo do Parto, QMMP) was developed and validated specifically for the Brazilian sociocultural and clinical-obstetric context.

A cross-sectional study was conducted to estimate the reliability and validity of the proposed instrument. Pregnant women who attended prenatal consultations at a medical school clinic were included, and those with psychiatric conditions that made it difficult to understand the instrument or with absolute indications for cesarean section were excluded. A total sample of 266 patients was obtained. The guidelines for development and validation of the QMMP were supported by international recommendations.[5] The psychometric properties were assessed using exploratory factor analysis (EFA).

Validity was assessed by applying an external instrument (the Penn State Worry Questionnaire) and the QMMP (Table 1) to 266 pregnant women. The QMMP was subsequently re-administered to 107 participants.

Table 1 Reliability analysis of the first application of the Fear of Childbirth Motivators Questionnaire (QMMP), Universidade do Sul de Santa Catarina, Brazil, 2020 (n = 266)

Subscales of the Fear of Childbirth Motivators Questionnaire (QMMP)		Cronbach's α	Factor loading
Factor 1 – Vulnerability and impotence (7 items) – Cronbach's α = 0.903			
1.	I am afraid of childbirth.	0.422	0.556
2.	I am afraid of the pain of childbirth.	0.405	0.508
12.	I am afraid of getting an infection due to poor maternity hygiene.	0.558	0.304
13.	I am afraid of not being treated with respect at the time of delivery.	0.614	0.513
14.	I am afraid of being alone at the time of delivery.	0.496	0.397
15.	I am afraid of being exposed (naked) at the time of delivery.	0.584	0.605
16.	I am afraid of not having privacy during childbirth.	0.633	0.676
17.	I am afraid of losing emotional control during childbirth.	0.639	0.672
18.	I am afraid of being traumatized by childbirth.	0.629	0.638
19.	I am afraid of not having the necessary information for childbirth.	0.616	0.617
23.	I am afraid of not acting correctly during childbirth.	0.599	0.560
28.	I am afraid of not being medicated for pain if I need it during delivery.	0.562	0.480
29.	I am afraid of vaginal touch exams during childbirth.	0.496	0.616
30.	I am afraid that the doctor who delivers my child will not be the doctor of my choosing.	0.588	0.609
31.	I am afraid that the doctor of my choosing will not be available to deliver my baby.	0.574	0.543
32.	I am afraid I won't be able to schedule the date of birth.	0.474	0.575
Factor 2 – Physical and emotional sequelae (7 items) – Cronbach's α = 0.855			
3.	I am afraid of pain after giving birth.	0.513	0.477
5.	I am afraid of dying in childbirth.	0.382	0.466
6.	I am afraid my body will not be as it was after delivery.	0.493	0.642
7.	I am afraid of having physical consequences after delivery.	0.604	0.718
8.	I am afraid of the consequences on my genitalia (vulva and vagina).	0.600	0.776
9.	I am afraid that childbirth will interfere with my sex life.	0.513	0.785
10.	I am afraid of developing urinary or fecal incontinence after delivery.	0.626	0.634
11.	I am afraid of the scar that I will have if a C-section is performed.	0.441	0.584
Factor 3 – Complications for the baby (4 items) – Cronbach's α = 0.797			
4.	I am afraid that the pain after delivery will interfere with childcare.	0.556	0.421
33.	I am afraid I won't be able to get to the hospital on time.	0.526	0.350
34.	I am afraid my baby will die in childbirth.	0.413	0.781
35.	I am afraid that my baby will have physical problems due to the delivery.	0.543	0.761
36.	I am afraid of not being able to breastfeed after giving birth.	0.513	0.624
37.	I am afraid of not being able to take care of my baby after delivery.	0.542	0.614
Factor 4 – Relationship interference (4 items) – Cronbach's α = 0.764			
20.	I am afraid of not receiving support from my partner during childbirth.	0.395	0.756
21.	I am afraid of not receiving support from my family at the time of delivery.	0.428	0.793
22.	I am afraid that childbirth will interfere with my relationship.	0.398	0.604
38.	I am afraid of having to spend more than I would like on childbirth.	0.477	0.476
Factor 5 – Obstetric procedures (4 items) – Cronbach's α = 0.675			
24.	I am afraid of needing a C-section.	0.298	0.762
25.	I am afraid of having to use forceps during delivery.	0.396	0.528
26.	I am afraid that I will not be able to participate in decisions during delivery.	0.514	0.396
27.	I am afraid of having to undergo anesthesia.	0.409	0.630

The reliability of the instrument was given by the high Pearson correlation coefficient (0.940) and the intraclass correlation coefficient (0.969), both with $p < 0.001$. The central dispersion verified in the differences and averages of almost all responses during the first and the second application of QMMP, which was observed in the Bland & Altman graph, demonstrates its stability (Figure 1). This observation highlights the instrument as a good parameter to identify motivators of the fear of childbirth, reducing the possibility of random and dispersed responses. A general Cronbach's alpha of 0.937 (Table 1) was obtained as a measure of the performance of the items, which corresponds to a high and satisfactory alpha, as well as favoring the overall reliability of the instrument and the retention of the 38 initial items. EFA identified items grouped into five components: fear of vulnerability and impotence, fear of physical and psychological consequences, fear of complications with the baby, fear of interference in the family relationship, and fear of obstetric procedures. Validation of these components makes it possible to ensure the provision of more assertive antenatal care with the QMMP.

Therefore, the 38-item QMMP is a reliable and valid instrument for the Brazilian population, and allows consolidation of the identification of factors possibly catalyzing the development of fear of childbirth.

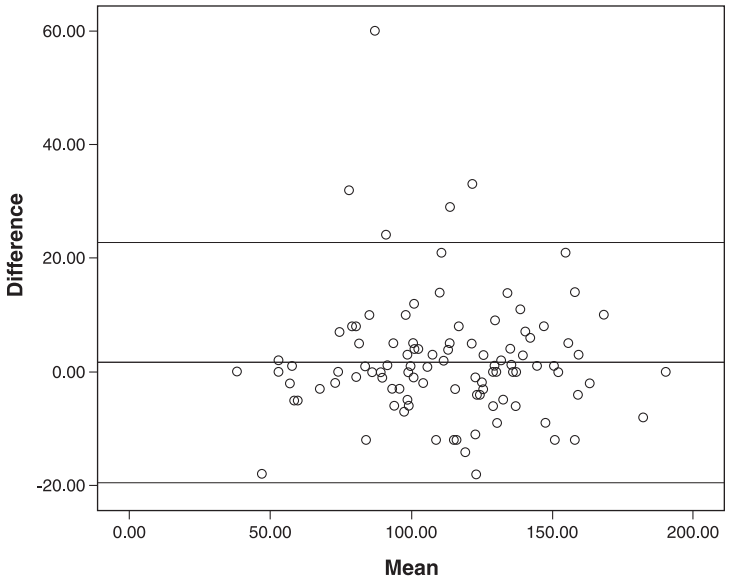

Figure 1 Bland-Altman graph for reliability analysis between the two applications of the Fear of Childbirth Motivators Questionnaire (QMMP), Universidade do Sul de Santa Catarina, Brazil, 2020 (n = 107).

Rodrigo D. **Nunes**,[1,2] Paula M. **Fermino**,[1] André L. **Martins**,[1] Sheyne L. **dos Santos**,[1] Thayna **Campos**,[1] Gabriel C. **Parma**,[1,2] Jefferson **Traebert**[1,2]
[1]*Faculdade de Medicina, Universidade do Sul de Santa Catarina, Palhoça, SC, Brazil.* [2]*Programa de Pós-Graduação em Ciências da Saúde, Universidade do Sul de Santa Catarina, Palhoça, SC, Brazil.*

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References

1 da Silva LS, Pessoa FB, Pessoa DT. Análise das mudanças fisiológicas durante a gestação: desvendando mitos. Rev Fac Montes Belos. 2015;8:1-16.
2 O'Connel MA, Leahy-Waren P, Khashan AS, Kenny LC, O'Neil SM. Worldwide prevalence of tocophobia in pregnant women: systematic review and meta-analysis. Acta Obstet Gynecol Scand. 2017;96:907-20.
3 United Nations (UN). The millennium development goals report [Internet]. 2015 [cited 2021 Apr 14]. www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20%28July%201%29.pdf
4 Nunes RD, Traebert E, Seemann M, Traebert J. Tokophobia assessment questionnaire: a new instrument. Braz J Psychiatry. 2021;43:112-4.
5 Mokkink LB, Terwee CB, Patrick DL, Alonso J, Stratford PW, Knol DL, et al. The COSMIN checklist manual [Internet]. 2012 Jan [cited 2021 Apr 14]. fac.ksu.edu.sa/sites/default/files/cosmin_checklist_manual_v9.pdf

Wilhelm Heinrich Erb (1840-1921): recognizing his impact on Kraepelin's work after 100 years

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Being the 100th anniversary of his death, it is time to remember Wilhelm Heinrich Erb's influence on German neuropsychiatry. This outstanding German neurologist was born in 1840 in Winnweiler and died in 1921 in Heidelberg (Figure 1). He helped found modern neurology through his innovative contributions, several of which carry his name, including Erb-Duchenne palsy, Erb-Charcot paralysis, Erb-Westphal symptom, and myasthenia gravis ("Erb-Goldflam disease").[1] He advocated the autonomy of neurology and its inclusion in large hospitals.[2] He received his medical degree at Munich, and became an assistant in Nikolaus Friedreich's Department of Medicine in Heidelberg, where he was a lecturer in special pathology. However, in 1880, he began working at the University of Leipzig, where he set up an independent neurology unit. In 1883, he returned to Heidelberg,