

# Perspective on the low labor analgesia rate and practical solutions for improvement in China

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Being the focus of worldwide attention nowadays, severe pain during labor and delivery is an important topic in pain treatment. As an effective intervention to alleviate labor pain, the administration of labor analgesia did not start late in China, but its development has faced many difficulties, and its dissemination and popularization have faltered. This article provides a perspective on the low labor analgesia rate in China and practical solutions for its improvement.

In 1963, Dr. Guang-Bo Zhang performed Chinese first delivery with epidural labor analgesia using a low concentration of procaine in the First Hospital of Peking University.<sup>[1]</sup> In the early 1980s, when anesthesiologists in the United States just began to popularize the use of epidural analgesia during labor and delivery, this technique had already been studied and performed in China, along with the study of administering obstetric analgesia under general anesthesia. By the late 1990s, the use of epidural labor analgesia was popularized all over the country.<sup>[2]</sup>

At present, the cesarean section rates in developed countries are 10% to 20% and the labor analgesia rates have reached 85% to 90%.<sup>[3-6]</sup> However, according to a report published in the *Lancet* in 2010, the cesarean section rate of puerperae with non-medical indications in China was as high as 46.2%, which ranks first in the world and triples the upper limit of the World Health Organization standard (15%).<sup>[7]</sup> Moreover, in some regions, this rate can reach up to 70%, whereas the overall analgesia rate of puerperae is less than 5%.<sup>[8]</sup> For most parturients, experiencing pain during delivery is an important reason why they choose cesarean section; conversely, for obstetricians and midwives, standards and treatment during the labor process are other

important reasons for choosing cesarean section.<sup>[9-11]</sup> The obstetric group of the Chinese Society of Anesthesiology has performed a series of surveys on labor analgesia across the country, polling 42 maternity hospitals (divided into seven groups according to their geographical locations), which included 1,489,228 delivery cases in 3 years. The labor analgesia rates were listed as follows: 11.65% in northeast China, 29.97% in northern China, 30.77% in east China, 17.97% in north China, 11.65% in southern China, 19.66% in central China, 1.02% in northwest China, and 7.56% in southwest China (unpublished). The results indicated that further popularization and improvements of labor analgesia are urgently needed in China, especially in the northwest and southwest regions.

In general, non-technology-related factors mainly cause the low labor analgesia rate in China, and they include the following four aspects.

**Patient Aspect: Puerperae or Their Family Members Fail to Realize the Necessity of Labor Analgesia.** Labor pain is often thought to be inevitable according to Chinese traditional ideas. Old-fashioned ideas of the puerperae or their family members are partly affected by their low education level and conservative ideals.<sup>[12,13]</sup> Besides the factor of culture and choices, the lack of publicity and propaganda of labor analgesia accounts for the low acceptance of labor analgesia. It seems that better knowledge and positive views of puerperae and their families on pain relief options during labor and after childbirth are one of the main solutions for improving the labor analgesia rate. At the same time, insufficient and uninformed communication might fail to correct their misunderstanding that labor analgesia will affect uterine contraction and labor force.

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**Anesthesiologist Aspect: Anesthesia Personnel are not Sufficient, and Improvements in Standardized Training are Needed.** The total number of obstetric anesthesiologists in China is insufficient. By 2015, there were more than 12,700 public hospitals and over 15,000 private hospitals providing maternity and child care services in China. Although there are 17.4 million pregnant women in China annually, only 80,000 anesthesiologists exist, with only about 0.5 anesthesiologists per 10,000 people. Therefore, China needs at least 270,000 anesthesiologists to reach the international standard of 2.5 anesthesiologists per 10,000 people.<sup>[14]</sup>

The standardization of labor analgesia training also needs to be improved. In the specialty of obstetrics, the difficulty and risk of obstetric anesthesia are significantly high. It seems difficult to complete the task of anesthesia treatment in China successfully by only relying on the theory of traditional medicine and the experience of a few anesthesiologists. Hence, a standardized obstetric anesthesia training system in accordance with the principles of evidence-based medicine is required. Only anesthesiologists with highly specialized training can have a decisive role in dealing with complicated and emergent medical conditions and truly improve the level of obstetric anesthesia in China in the era of the current two-child policy.

**Teamwork Aspect: The Internal Coordination Mechanism Within the Hospital is not Perfect.** Different academic views have led to some academic differences between obstetricians, midwives, and anesthesiologists. Obstetricians and midwives routinely adopt non-pharmacological methods (breathing techniques, exercises, back massage, counseling and psychological support, and companionship) as common pain management options. Most of them often doubt that spinal block analgesia will affect the mother's contractions and the stages and force of labor, or it may cause uncontrollable bleeding. The attitude of the obstetricians and midwives is an important factor that influences the rate of labor analgesia. Additionally, many hospitals fail to provide the necessary support for labor analgesia, including personnel, equipment, facilities, and policy support; moreover, some hospital administrators and heads of the departments attach little importance to the clinical significance of labor analgesia. Consequently, there is no interest in administering labor analgesia.

**System Aspect: The Medical Insurance System and Charging System Have not Been Well-established.** The provision of pain relief options often depends on the health system capacity and cost of related medications. Childbirth analgesia has not been included in the medical insurance in China, there is no clear charge structure for the labor analgesia technique, and this technique has not been listed as a routine medical service in some public hospitals, thus hindering the popularization and development of obstetric analgesia in China. Further, similar to many other countries, the medical reimbursement system of China provides more reimbursement for cesarean section than for vaginal delivery, which also contributes to the high cesarean section rate.

On August 17, 2018, seven ministries and national health commissions jointly issued "the notice on strengthening and improving anesthetic medical services," proposing that the number of anesthesiologists will increase to 160,000 by 2035, and the number of anesthesiologists per 10,000 population will reach more than 1.0 per 10,000 people. On November 20, 2018, the national health commission issued "the notice on carrying out labor analgesia pilot work," proposing that from 2018 to 2020, a certain number of hospitals nationwide will be selected to conduct pilot work on labor analgesia, and the diagnosis and treatment of labor analgesia will be strongly popularized countrywide. This notice marks a nationwide generalization and propaganda for painless childbirth.

The pilot work plan on labor analgesia (2018–2020) specifies three implementation steps: the preparatory start-up stage from November to December 2018, organizational implementation stage from January 2019 to September 2020, and summary and final evaluation stage from September 2020 to December 2020. Defined by the work plan, the pilot project on labor analgesia will be performed by second-class (or higher) general hospitals with obstetrics and anesthesiology departments, maternity and child care hospitals, or maternity hospitals.

On March 18, 2019, the national health commission announced that more than 900 hospitals countrywide were included in the first batch of pilot hospitals administering labor analgesia, which indicated that the propaganda and popularization of labor analgesia have been officially launched nationwide. The committee of labor analgesia experts of the Chinese Medical Doctor Association will set up labor analgesia training centers in all provinces, organize nationwide lectures on labor analgesia, and provide education on labor analgesia to the public. Additionally, the committee will compile "the clinical standardized management path for labor analgesia in China," establish the database of labor analgesia research projects, and encourage innovative research in this field by establishing the medical research fund for labor analgesia in China.

The implementation of labor analgesia is of great significance for reducing the cesarean section rate and improving post-partum life quality. Easy access to labor analgesia in the current low-resource setting is an important issue that needs to be addressed not only for improving the patients' medical experiences, but also the whole medical system. Popularization of labor analgesia is a good way to meet the urgent needs of women to have painless labor, and by improving the medical service model, physicians can further enhance patients' sense of well-being when seeking medical services.

In conclusion, the causes for unsatisfactory labor analgesia conditions are complicated, mainly resulting from non-technology-related aspects that include the patient, anesthesiologist, teamwork in the hospital, and medical system. Insufficient medical resources, especially an inadequate number of anesthesiologists, may be the leading reason for such conditions. The current anesthesia workforce is far from the goal of fully popularizing the

management of labor analgesia countrywide. A series of changes in perspective for both patients and health care providers is needed to improve labor analgesia in China. Clinical standardization of the management path for labor analgesia is also urgently needed in the stage of nationwide promotion.

### Conflicts of interest

None.

### References

- Cai ZY, Hu LQ, Stellaccio FS, Wang DX. Recognizing the Chinese pioneer of neuraxial labor analgesia: Dr Guang-Bo Zhang and her unpublished manuscript from more than a half-century ago. *Anesth Analg* 2019;128:119–122. doi: 10.1213/ANE.0000000000003845.
- Qian X, Smith H, Zhou L, Liang J, Garner P. Evidence-based obstetrics in four hospitals in China: an observational study to explore clinical practice, women's preferences and provider's views. *BMC Pregnancy Childbirth* 2001;1:1. doi: 10.1186/1471-2393-1-1.
- Burnstein R, Buckland R, Pickett JA. A survey of epidural analgesia for labour in the United Kingdom. *Anaesthesia* 1999;54:634–640. doi: 10.1046/j.1365-2044.1999.00894.x.
- Stamer UM, Messerschmidt A, Wulf H, Hoeft A. Practice of epidural analgesia for labour pain: a German survey. *Eur J Anaesthesiol* 1999;16:308–314. doi: 10.1046/j.1365-2346.1999.00488.x.
- Bucklin BA, Hawkins JL, Anderson JR, Ullrich FA. Obstetric anesthesia workforce survey: twenty-year update. *Anesthesiology* 2005;103:645–653. doi: 10.1097/0000542-200509000-00030.
- Staikou C, Makris A, Theodoraki K, Tsaroucha A, Douma A, Moka E, *et al.* Current practice in obstetric anesthesia and analgesia in public hospitals of Greece: a 2016 national survey. *Balkan Med J* 2018;35:394–397. doi: 10.4274/balkanmedj.2018.0083.
- Lumbiganon P, Laopaiboon M, Gülmezoglu AM, Souza JP, Taneepanichskul S, Ruyan P, *et al.* Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health 2007-08. *Lancet* 2010;375:490–499. doi: 10.1016/S0140-6736(09)61870-5.
- Feng XL, Xu L, Guo Y, Ronsmans C. Factors influencing rising caesarean section rates in China between 1988 and 2008. *Bull World Health Organ* 2012;90:30–39. doi: 10.2471/BLT.11.090399.
- Chen H, Cao L, Cao W, Wang H, Zhu C, Zhou R. Factors affecting labor duration in Chinese pregnant women. *Medicine* 2018;97:e13901. doi: 10.1097/MD.00000000000013901.
- Hu LQ, Flood P, Li Y, Tao W, Zhao P, Xia Y, *et al.* No pain labor & delivery: a global health initiative's impact on clinical outcomes in China. *Anesth Analg* 2016;122:1931–1938. doi: 10.1213/ANE.0000000000001328.
- Shen X, Li Y, Xu S, Wang N, Fan S, Qin X, *et al.* Epidural analgesia during the second stage of labor: a randomized controlled trial. *Obstet Gynecol* 2017;130:1097–1103. doi: 10.1097/AOG.0000000000002306.
- Tan DJA, Sultana R, Han NLR, Sia ATH, Sng BL. Investigating determinants for patient satisfaction in women receiving epidural analgesia for labour pain: a retrospective cohort study. *BMC Anesthesiol* 2018;18:50. doi: 10.1186/s12871-018-0514-8.
- McCauley M, Actis Danna V, Mrema D, van den Broek N. We know it's labour pain, so we don't do anything": healthcare provider's knowledge and attitudes regarding the provision of pain relief during labour and after childbirth. *BMC Pregnancy Childbirth* 2018;18:444. doi: 10.1186/s12884-018-2076-7.
- Traynor AJ, Aragon M, Ghosh D, Choi RS, Dingmann C, Vu Tran Z, *et al.* Obstetric anesthesia workforce survey: a 30-year update. *Anesth Analg* 2016;122:1939–1946. doi: 10.1213/ANE.0000000000001204.

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