

NURSE ANESTHESIA WORLDWIDE: PRACTICE, EDUCATION, AND REGULATION

The World Health Assembly, in 1977, determined that all Member Governments should have as their primary goal to achieve by the year 2000, a level of health that would allow their citizens to enjoy an economically and socially productive life. The main strategy for "Health for All by the Year 2000" is the development of a health system infrastructure, starting with primary health care, for the delivery of countrywide services that reach the whole population. Primary care includes maternal and child services, and the identification and appropriate treatment of common acute diseases and injuries. The skills and resources required to provide these aspects of primary health care often involve relatively simple, yet life-saving or disability prevention procedures, such as is used in the management of acute labor and delivery complications of the mother and fetus, or the simple reduction of a displaced fracture of a leg or arm. These services, however, cannot be provided humanely without anesthesia.

In many countries, anesthesia is provided by nurses -- a little known fact. This international study of nurse anesthesia was conducted to provide information with respect to the quantity and quality of anesthesia care delivered by nurses in countries in all regions as designated by The World Health Organization. This study provides information that can serve as a basis for future planning of anesthesia manpower resources and education.

STUDY METHODS AND FINDINGS: In Phase I of the study, surveys were translated into in five languages and mailed to; Ministries of Health (164 countries); National Nursing Organizations (154 countries), and leaders in Nursing Administration (76 countries). The surveys asked if, in their countries, nurses gave or assisted in the giving of anesthesia, and requested respondents to provide names and addresses of nurse anesthetists who could participate in Phase II of the study. **PHASE I RESULTS:** Respondents from 107 countries (59% of all WHO Member States) reported that nurses do give anesthesia in their countries; 9 countries reported that nurses assist in the giving of anesthesia. In 18 countries the evidence was inconclusive, although it is highly likely that nurses in many of these countries do give anesthesia. Respondents from 112 countries provided names and addresses of 624 nurse anesthetists.

In Phase II of the study, surveys containing items addressing anesthesia practice (80 items), education (16 items) and regulation (17 items) were translated into four languages and mailed to each of the 624 nurse anesthetists in Phase I of the study. **PHASE II RESULTS:** Respondents (n=299) from 92 countries validated the findings from Phase I. The Phase II subjects reported that nurse anesthetists provide as much as 77% of the anesthesia in urban areas and 75% of anesthetics in rural areas of their countries. The respondents reported that in the hospitals where they work nurse anesthetists provide 85% of all anesthetics for Cesarean Sections; administer drugs to induce anesthesia (77%); perform tracheal intubation (74%); administer spinal anesthesia (57%); epidural anesthesia (44%); manage anesthetized patients intraoperatively (79%); perform tracheal extubation, (77%); and manage patients in immediate postoperative period, (54%). Fifty-seven per cent of the respondents reported they were required to have a physician anesthetist supervise their work (most were from the European Region), 43% of the sample reported having no such requirement. All respondents had a formal course of study in anesthesia, however many had to travel to other countries to receive their education. Fifty per cent reported that continuing nurse anesthesia education was not available. Respondents (74%) reported that hospital policies as well as governmental regulations (60%) guide their practice of nurse anesthesia.

Improved access to continuing education and supportive legislation were most frequently cited as changes that would improve the anesthesia practice of nurses. An additional finding was that although nurse anesthetists currently provide much, and in some countries virtually all the anesthesia, their contribution to health care often goes unrecognized by their governments. If "Health for All" is to be achieved by any nation, fiscally responsible health care systems that maximally utilize the services of qualified classes of health care providers must be instituted. National health care policy makers should be made aware that nurse anesthetists currently provide much of the anesthesia care world-wide and the most cost-effective and efficient anesthesia care includes the utilization of nurse anesthetists. To maximally utilize these health care providers, nurse anesthesia educational programs should be expanded and supportive legislation should be initiated.

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