

# Obstetrical ultrasound training of and practise by general practitioners in the private sector, Free State

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## ABSTRACT

**Background:** The aim of the study was to determine the level of obstetrical ultrasound training and practice of general practitioners in the Free State private sector.

**Methods:** In this descriptive study, questionnaires were mailed to all general practitioners in the Free State private sector. The questionnaire included demographic information about the practitioner, the ultrasound profile of the practice, and the type of machine used.

**Results:** Four hundred and eighty-one questionnaires were sent to general practitioners and 229 (47.6%) were returned. Of the 176 practising respondents, 47 (26.8%) used ultrasound. The majority of ultrasound examinations done per month were obstetrical. Eight practitioners had relevant qualifications for using ultrasound and more than a third (18, 38.3%) had no training in ultrasound use. Less than half (19, 40.4%) of the practitioners that use ultrasound were aware of the South African Association of Ultrasound in Obstetrics and Gynaecology (SASUOG).

**Conclusions:** The response to the questionnaire was low and may have influenced the results. The study indicates that there are general practitioners who perform ultrasound examinations without training. As general practitioners mainly do obstetrical ultrasound, it is recommended that the SASUOG play a bigger role in their training. A diploma course in ultrasound and support from medical aid organisations to only pay full fees to doctors who can prove that they have sufficient ultrasound training and competence will be ideal. **(SA Fam Pract 2004;46(6): 25-27)**

## Introduction

Prof. Ian Donald (1910-1987), an obstetrician from Scotland, introduced the diagnostic use of ultrasound in clinical medicine. He pioneered the use of ultrasound in obstetrics and gynaecology to evaluate the foetus without exposure to the dangers of X-ray. The idea was conceived from the use of ultrasound to identify submarines during the Second World War.<sup>1</sup> Prof. Donald's first publication in the *Lancet*, in 1958, included the use of ultrasound to identify pelvic tumours, molas and multiple pregnancies.<sup>2</sup> Ultrasound has since become an integral part

of health care.

Ultrasound is often used in obstetrics and gynaecology. A detailed investigation of the developing foetus can be done long before birth, including the determination of multiple pregnancies, foetal abnormalities, confirmation of gestational age and foetal well-being, and ectopic pregnancy can be diagnosed. Ultrasound equipment is sophisticated and expensive and the interpretation of results is often difficult and uncertain. Since the procedure is so easy, misuse by health care professionals without adequate training is possible.

Ultrasound is a dynamic part of

obstetrics. The patient is intensely involved in the ultrasound investigation and has the right to know the qualification level of the practitioner concerned. It is imperative to be aware of the limitations of ultrasound. For example, if the patient presents for the first time in the third trimester of pregnancy, it is impossible to determine foetal age.<sup>3</sup> Results must always be interpreted in conjunction with clinical data.

Rumours of missed diagnoses of gross abnormalities and incorrect treatment of patients by inadequately trained or inexperienced practitioners are common. There are docu-

mented cases of missed diagnoses of hydrocephalus and anencephalus in pregnant women during the ultrasound investigation.<sup>4</sup> Ultrasound investigations may be done for financial gain, which has important financial implications for medical aid companies, added to the patient suffering financially and emotionally from the incorrect or unnecessary use of ultrasound.

Accreditation of the ultrasound practitioner before the service may be rendered is a prerequisite in various countries.<sup>5</sup> Accreditation is not, however, a prerequisite in South Africa. There is concern that health care professionals without the necessary training misuse ultrasound as a diagnostic tool in this country.

The aim of the study was to determine the level of obstetrical ultrasound training and practise of general practitioners in the Free State private practice sector.

## Methods

This was a descriptive study. Questionnaires were mailed to general practitioners in the private practice sector of the Free State. The questionnaire included demographic information about the practitioner, the ultrasound profile of the practice, and the type of machine used. The questionnaire and accompanying letter were available in English and Afrikaans.

Names and addresses of practitioners were obtained from the Health Professions Council. Many practitioners listed were not, however, working in the private sector. Thus, the names on the list were compared to those on a list obtained from a medical representative from a pharmaceutical company that serves the Free State, a list from Oranjemed (Independent Practice Organisation of the Free State), and the telephone directory of the Free State. Practitioners not in the private sector (medical officers and doctors who were specialising, retired, or

had emigrated) were thus excluded from the study.

Practitioners who did not respond were contacted telephonically. The questionnaire was again faxed to the practitioner if he/she used ultrasound. A record was also kept of practitioners who are in the private sector but who do not use ultrasound.

A pilot study to test the questionnaire was done with the help of registrars at the Department of Obstetrics and Gynaecology and the Department of Radiology at the University of the Free State. Unclear questions were modified and additional questions were added, where necessary. The Ethics Committee of the Faculty of Health Sciences of the University of the Free State approved the protocol. All information was confidential and participation was voluntary.

## Results

Four hundred and eighty-one questionnaires were sent to general practitioners and 229 (47.6%) were returned. Of these, 53 practitioners were not in private practice (despite the careful checking of name lists). Forty-seven (26.7%) of the 176 responding doctors in private practice used ultrasound.

The following results only include the practitioners who answered the questionnaire and used ultrasound. The practitioners' ages ranged from 29 to 82 years (median 40 years), six (12.8%) were female and 41 (87.2%) were male.

Approximately half of the practitioners (26, 55.3%) had only one qualification (MBChB), 16 (34.0%) had two qualifications and five (10.6%) had three qualifications. Only eight (18.6%) practitioners had

training in ultrasound during their postgraduate studies (MFamMed 5, diploma 3). The median number of years that the general practitioners had used ultrasound was six (range 0 to 20 years).

The majority of ultrasound examinations done per month were obstetrical (median 20, range 0 to 150), followed by gynaecological (median 3, range 0 to 30). Most practitioners (34, 72.3%) did all their ultrasound investigations themselves, and only one of them did not sign the reports personally. Those who indicated that the investigations were done by someone else (13, 27.7%) included practitioners who referred to other doctors for further management or for a second opinion. Most practitioners (43, 93.5%) did not experience a problem when they wanted to refer a patient. Practitioners referred their patients for a second opinion to the following: general practitioner (3, 6.4%), gynaecologist (35, 74.5%), and radiologist (26, 55.3%).

The practitioners' awareness of the South African Society for Ultrasound in Obstetrics and Gynaecology (SASUOG) (40.4%) and participation in SASUOG workshops and/or courses (10.6%) are given in Table I. The type of training received by practitioners using ultrasound is given in Table II. More than a third (18, 38.3%) had no training.

The majority of general practitioners (44, 93.6%) had one ultrasound machine and three (6.4%) had two machines. Forty-two percent of the machines were bought more than five years before the survey was done, and one machine was 16 years old. The age of the machine plays a definite role in the quality of the ultrasound investiga-

**Table I: General practitioners' awareness of SASUOG (n = 47 practitioners)**

	Frequency	Percentage
Aware of Society	19	40.4%
Member of Society	5	10.6%
SASUOG course participation	5	10.6%

**Table II:** Type of ultrasound training (n = 47 practitioners)

	Number of practitioners	Percentage
Short courses	19	40.4%
Practical courses	7	14.9%
Self-study	3	6.4%
In-service training	1	2.1%
No training	18	38.3%

**Table III:** Type of ultrasound transducer (n = 46 machines)

Head type	Number	Percentage
Sector	15	30%
Curvilinear	23	46%
Sector and Linear	1	2%
Curvilinear and Vaginal	5	10%
Curvilinear and Sector	1	2%
Curvilinear, Sector and Doppler	1	2%

tion, as ultrasound machine technology progresses constantly. The type of ultrasound transducer used is given in Table III. Most practitioners used curvilinear transducers. Only one general practitioner had a Doppler facility.

### Discussion

Although the response rate to the questionnaire was low, interesting information was obtained with regard to the number of general practitioners doing ultrasound, as well as their level of training. Factors that might have introduced bias include the fact that the questionnaires were not anonymous and the practitioners might have felt threatened. Practitioners with insufficient experience with regard to ultrasound might not have answered. Even though an attempt was made to contact practitioners who had not responded, the response was still low.

This study indicates that there are general practitioners who perform ultrasound examinations without training, even though various courses are available in South Africa. No attempt was made to evaluate the competence of the trained or untrained practitioners. Sufficient training does not imply competent practise.

The training of general practitioners regarding ultrasound is generally informal. Currently, ultrasound training is voluntary. We therefore recommend that a diploma course for practitioners who are interested in ultrasound would be ideal. Accreditation would be a big step forward if support from medical aid organisations could be obtained to pay full fees only to doctors who can prove that they have sufficient training and competence. As general practitioners mainly do obstetrical ultrasound investigations, it is recommended that the SASUOG could play a bigger role in the training.

### Acknowledgements

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### Competing interests

None declared.

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