

Capacity for paediatric radiology in Nigeria: a survey of radiologists

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Aims and objectives

Paediatric radiology is an emerging radiology subspecialty in Nigeria. Unlike the developed world with aging population and sophisticated paediatric radiology practice, paediatric radiology is nascent in many developing nations with rapidly growing young population. Nigeria, a typical developing nation has about half of its estimated 193million people younger than 14 years of age, and one of the highest population growth rates in the world.[1,2]

In addition to the growing population of children, there are about 600 physicians dedicated to the medical and surgical care of children in Nigeria who forms a ready mix of consumers of paediatric radiology services.[3,4] Therefore, the demand for paediatric radiology services is huge and could be provided by some of the 250-300 certified radiologists in Nigeria.[5-7] Despite this apparent demand for paediatric radiologists, there is paucity of data quantifying existing medical personnel providing paediatric imaging services in Nigeria. Such data could be useful to policy makers, foreign development partners, and other agencies interested in health services for Nigerian children.

The aim of this study was to profile the resources currently available for the practice of paediatric radiology in Nigeria in order to identify gaps and areas for improvement.

Methods and materials

This is a descriptive cross-sectional survey of Nigerian-based certified and trainee Radiologists between October 2017 and April 2018. The certified Radiologists were examiners at the Nigerian centre of the West African regional Radiology board examinations while the trainee Radiologists participated in an update course in clinical Radiology. The study instrument was a self-administered semi-structured questionnaire that was pretested on ten (10) radiologists composed equally of 5 randomly selected radiology trainees and trainers at a teaching hospital in Southwest Nigeria. The four sections of the questionnaire captured anonymous personal information on respondents' professional training and practice; respondents' professional affiliations; personnel audit; and equipment audit respectively. The responses were codified and entered into a secure electronic database. Data were analysed for descriptive statistics using the statistical package for social sciences (SPSS) version 20.

Results

Study Participants

Out of 100 questionnaires administered to certified Radiologists and Radiology trainees, 80 were returned filled corresponding to a response rate of 80%. There were 51 (63.8%) male respondents in all and 54 (69.2%) of the study participants were between 30 years and 50 years old. 46 (57.5%) Radiologists, 14 (17.5%) senior and 20 (25%) junior Radiology trainees respectively completed the questionnaires. Only 2 (4.4%) of the 46 Radiologists were certified within the past five years. 73 (91%) of the respondents practiced Radiology in tertiary public health facilities.

Workforce and Training

Among the Radiologists, 10 (21.7%) affirmed that their practice was focused on paediatric imaging and 1 (2.9%) of the trainees had a strong interest in paediatric imaging. 2 (4.4%) Radiologists devoted at least half of their work time to Paediatric Radiology (figure 1). 22 (47.9%) of the Radiologists were exposed to some form of sub-specialty training abroad, of whom 7 (31.8%) had the training for at least six months duration. Only 1 (2.2%) of the Radiologists received a 3-month long training in Paediatric Radiology overseas (figure 2). The respondents indicated presence of other specialist medical staff dedicated to the care of children in their facility. Surgeons (63.8%), Neonatologists (52.5%) and Neurologists (45%) were the top three paediatric specialist medical staff available in the facility of the respondents.

Equipment and Challenges

Pooling the reported numbers by the respondents, the respective functional units for Ultrasound, X-ray, Fluoroscopy, CT, and MRI machines were 286, 188, 33, 49, and 38. Of these numbers, 14 Ultrasound units (4.9%), 4 X-ray units (2.1%), and 1 MRI unit (1.25%) were reserved for paediatric imaging while no fluoroscopy or CT unit was dedicated to children (figure 3). Lack of dedicated equipment and trained paediatric radiologists were the main challenges to children imaging respectively identified by 70% and 27.5% of the respondents (figure 4).

Images for this section:

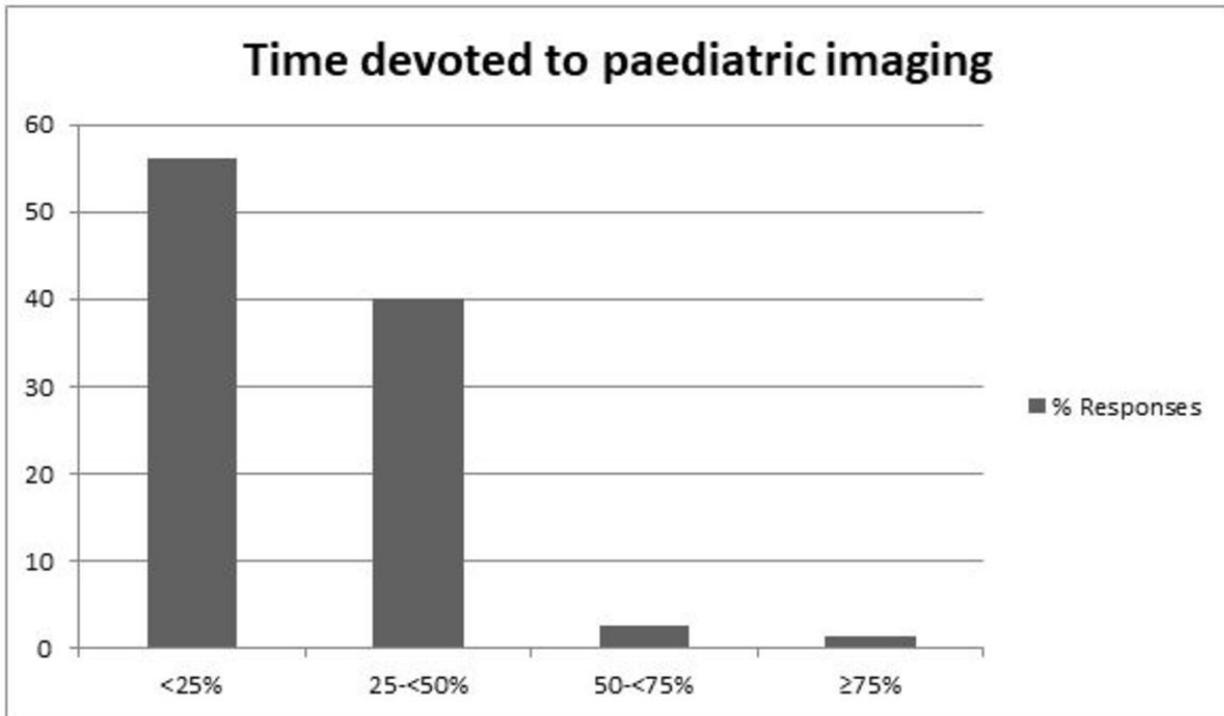


Fig. 1: Proportion of practice time engaged in paediatric imaging by the respondents

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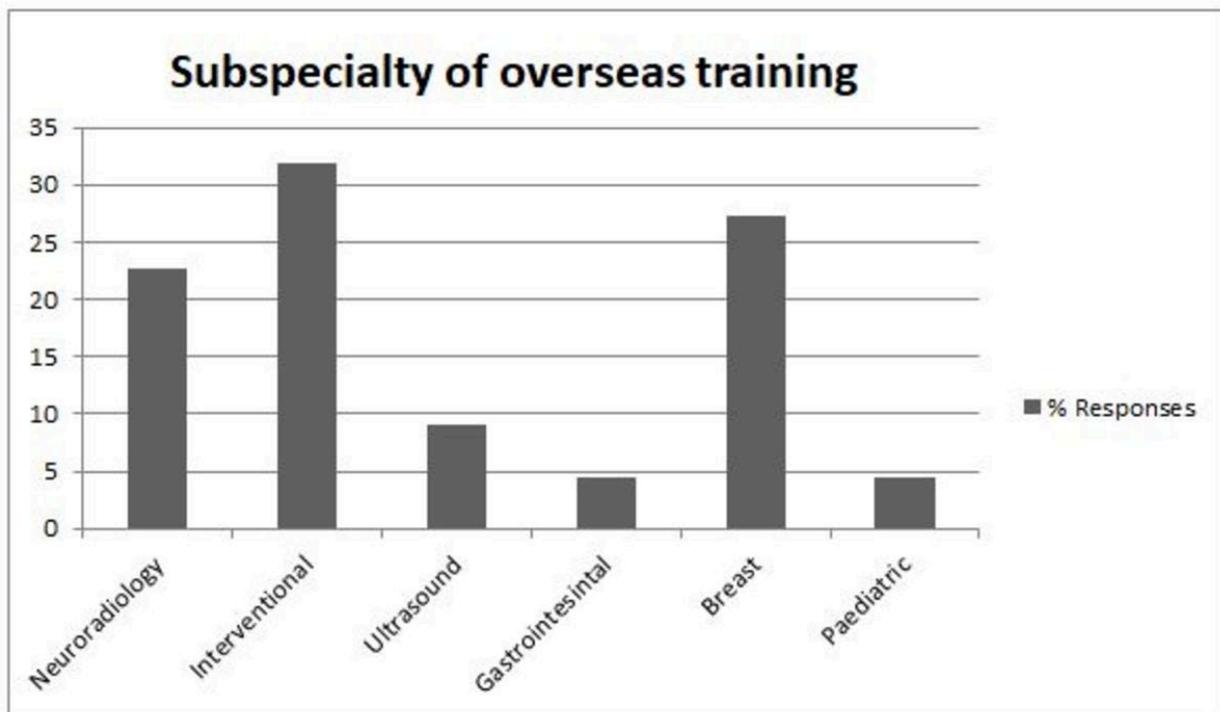


Fig. 2: Subspecialty of training by certified radiologists with post-qualification professional education overseas

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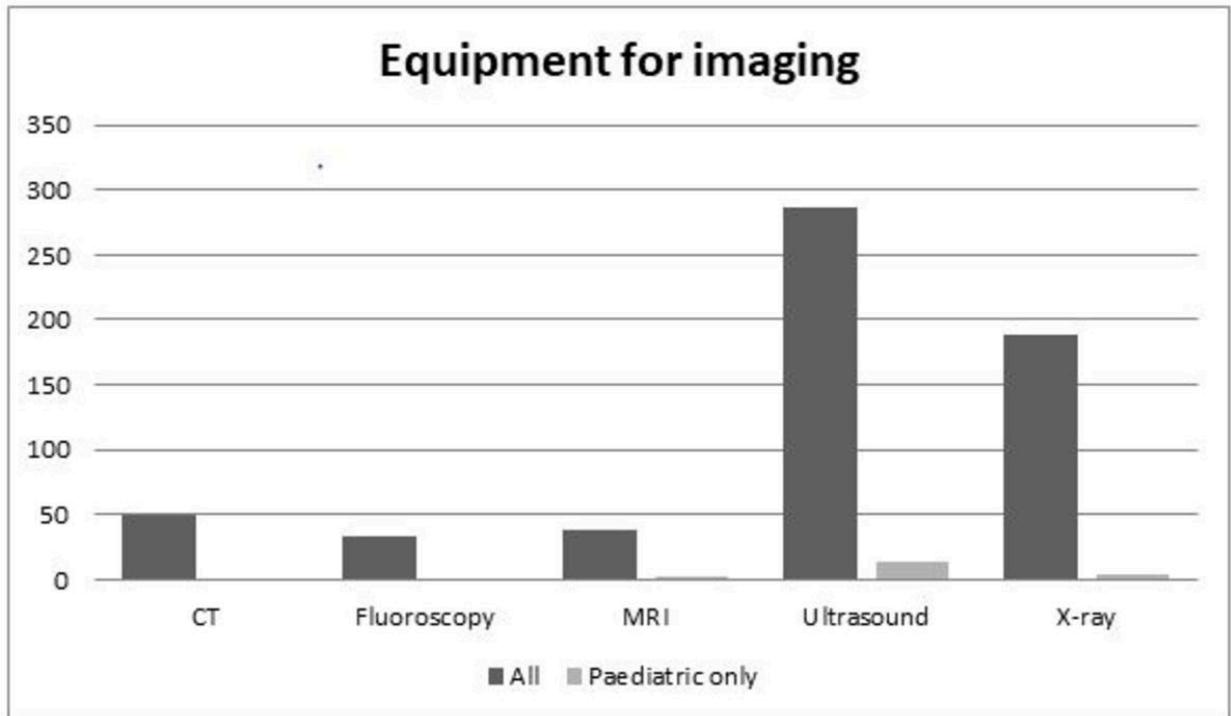


Fig. 3: Pooled numbers of all functional equipment (black) and those reserved for children imaging (ash)

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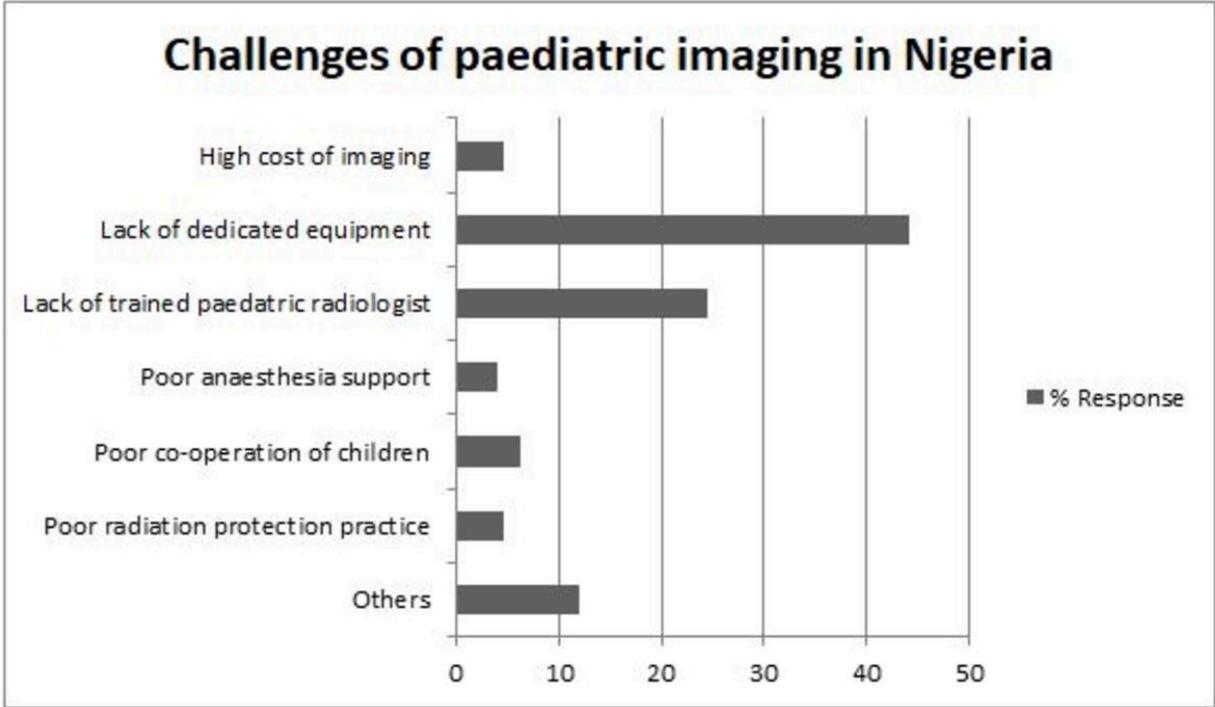


Fig. 4: Perceived challenges of paediatric imaging in Nigeria

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Conclusion

There is substantial deficit of human and material resources for paediatric imaging in Nigeria despite a predominantly young population. Paediatric radiology is not a favourite subspecialty among the estimated 250-300 certified radiologists in Nigeria. Informed investment in dedicated equipment and innovative training are necessary to boost the capacity for paediatric radiology in Nigeria.

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