Outline of Professional Doctorate in progress (2019 – 2022)

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Area of Research

Support mechanisms for obstetric sonographers and impact following making a diagnostic error.

Context of the Study

Evidence from the European surveillance of congenital anomalies group, EUROCAT (2015), highlights that the antenatal detection rates for fetal cardiac anomalies, which continue to be the primary cause of infant death (Carvalho et al, 2013), range from 45% to 74%. Indicating that, despite improved Sonographer training and access to high quality equipment, approximately 25 – 55% of fetal cardiac anomalies remain undetected by the Sonographer during the 20 week fetal anomaly screening scan. There are many contributing factors which impact on detection rates, however, Pinto and Brunese (2010) suggest that failure to diagnose a "detectable" abnormality can impact greatly on a physician's mental health; feelings of guilt, isolation and stress can lead to burnout and ultimately professional and economic suffering. As a previous obstetric sonographer and NHS manager, the researcher recognises these observations.

The impact that diagnostic errors have on the Sonography workforce's health and well-being is poorly understood or appreciated, literature in this area is scarce, while the support offered to obstetric sonographers following a diagnostic error also appears to be limited and requiring further investigation. There are no National guidelines or recommendations aimed at supporting obstetric sonographer's in these situations and the literature review is most likely to be from literature relating to other healthcare professions.

Research Aim and Question

The main aim is to assess sonographer support and impact following diagnostic errors in obstetric ultrasound. To meet this overall aim, the following objectives have been formed:

- To explore the views and experiences of obstetric sonographers after making a diagnostic error.
- To determine the personal and professional impact this experience has had.

What are the views, experiences and impact on Obstetric Sonographers, in NHS Scotland following making a diagnostic error?

Methodology

1. A mixed methodology design combining quantitative and qualitative research
    - A questionnaire of Scotland-wide Sonographers scoping the process of support following diagnostic errors.
    - An Interpretive Phenomenological Analysis (IPA) approach exploring the experiences and impact on the Sonographer following making a diagnostic error.

PIO	Context of this research study
Population (P)	Obstetric Sonographers in NHS Scotland
Intervention (I)	Diagnostic Errors
Outcome (O)	Support mechanisms

Data Collection and Analysis

Both quantitative and qualitative data will be collected using an initial questionnaire and potentially a validated tool that has been used by other professions. In-depth interviews will then be conducted with volunteer participants and transcribed verbatim to explore in detail how sonographers make sense of their experiences. Analysis as appropriate.

References

CARVALHO J.S, ALLAN L.D, CHAOUI R, COPEL J.A, DEVORE G.R, HECHER K, LEE W, MUNOZ H, PALADINI D, TUTSCHEK B and YAGEL S. 2013 ISUOG practice guidelines (updated): sonographic screening examination of the fetal heart. *Ultrasound Obstetrics and Gynecology* Vol. 41. pp. 348–359

EUROCAT, 2015, European Surveillances of Congenital Abnormalities: Prevalence Tables. Available at: http://www.eurocat-network.eu/AccessPrevalenceData/PrevalenceTables

PINTO, A. and BRUNESE L. 2010, Spectrum of Diagnostic Errors in Radiology, *World Journal of Radiology*. Vol 2 (10), p377-383