Sonographers' experiences of work-related musculoskeletal disorder: The everyday consequences of physiological stress and injury in contemporary ultrasound

Gareth C. Bolton,* Dr Lisa A. Booth and Dr Paul K. Miller

BACKGROUND

In 2013, the UK government's Migration Advisory Committee listed sonography as an official 'shortage specialty' (Migration Advisory Committee, 2013; Parker & Harrison, 2015). As a consequence of the working stresses allied to this shortage, British sonographers have increasingly been reducing hours or leaving clinical practice entirely (Miller et al, 2018). Among those who remain, incidences of reported chronic pain and active injury are on the increase in a profession that was already synonymous with high rates of work-related musculoskeletal disorder (WRSMD) (Harrison & Harris, 2015). While contemporary research has described the rates of WRMSD among ultrasound practitioners (Bolton & Cox, 2015), none has to date extensively explored its personal and professional impacts on individual sonographers.

METHODS

Using a model of Interpretative Phenomenological Analysis (IPA) with proven facility in medical imaging research (Miller et al., 2017), extended semi-structured interviews with N=9 experienced sonographers were analysed. This methodological approach was chosen to allow the researcher to explore the individual and experiential perspectives of the participants, without being restricted by a set of pre-defined categories, in order to better understand the participants' detailed personal accounts of WRMSD, in terms of how they made sense of their experiences, peculiar to their role as a sonographer and also as human beings (Smith, Flowers & Larkin 2009). The study aimed to gather sufficient information in order to make sense of personal experiences, or accounts, of WRMSD by 'synthesising, abstracting, contextualising, analogising or illuminating meaning' of the assertions taken from the participant interviews (Loaring et al., 2015).

FINDINGS

Participants routinely reported a sensation of guilt and depleted self-efficacy that not only permeated any working absence resultant of their own WRMSD, but also to taking legitimate leave when colleagues were suffering from WRMSD. An upshot of this was to recurrently "take one for the team" and work through excessive pain, even when this would likely result in greater prospective physical damage. While the basic shortage of sonographers was the core attribution for such behaviours, participants also cited (1) increasingly obese patients, (2) increasingly unhelpful (i.e. profiteering) equipment manufacturers, and (3) their own paternalism regarding healthcare.

BROAD ISSUE	DEVELOPING EMERGENT THEMES	EMERGENT THEMES	DEVELOPING SUBORDINATE THEMES
Sonographer Workload	Extended Working Days	Sonographer Paternalism	Perception of 'Self' *in relation to the causes of WRMSD*
Staffing (Shortages)	Weekend Working	Psychological Dilemmas	Innate Perceptions of Blame
Career Pathway	Recruitment Issues	Sonographer 'Culture' to 'Take one for the team'	Undesirable Senses
Sonographer Working Styles	Increasing Patient Obesity	Culture of Pain in General	Rejection/Acceptance of Change
Sonographer Lifestyle	Technical Difficulty of Certain Examinations/Specialisms	Ideological Dilemmas	Acceptance of Self/Role
Perception of Pain	Work Related Stress/Anxiety	Dangerous 'Workaround'' Strategies	Role Conflict
Non Work-Related Injury	Work Absences (Self/Colleagues)	Feelings of Guilt/Resentment	Culture of 'They' inferring establishment imposing on ''Them' Sonographers
Equipment Manufacturers	Offered Solutions	Loss of Self Efficacy	Power Struggle
Education Programmes	'Magic Cure'	Scapegoating	Behavioural Changes

CONCLUSIONS

The present situation in ultrasound mirrors a culture of potentially dangerous pain acceptance that been noted in the psychology of sport for some time (Weinberg et al., 2013) albeit for altruistic, rather than egotistic, reasons. There is a clear body of evidence to suggest that sonographers are in crisis point both in terms of staffing levels and in terms of inter-related issues of WRMSD. The issue of WRMSD remains complex and under-researched and few studies are able to establish a definitive cause of the condition, because the causes are multifactorial. However, the majority of the literature seems to agree that poor posture, repetitive movements and insufficient strength seem to be the main physical causes, but little has been explored in terms of how the philosophy of being a sonographer, their behaviours and cultures might also be contributing to this issue. This study contributes to a new body of knowledge, looking at the unique experiences of (n=9) individual sonographers and the ideological dilemmas they are facing. It is acknowledged that extensive deeper levels of analysis and interpretation need to take place around the data collected for this study in order to draw more comprehensive conclusions.

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University of Cumbria

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*Corresponding author, email: Gareth.Bolton@cumbria.ac.uk