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The Radiographer's multidisciplinary team role in theatre scenarios☆

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ABSTRACT

Background: Radiographers work in multidisciplinary teams (MDTs) to image intra-operatively using ionising radiation. The radiographer is responsible according to IR(ME)ER (2000) and IRR(99) regulations for advocating patient and theatre personnel safety. A comprehensive literature search revealed limited studies analysing the radiographer's experiences of utilising power to influence MDTs. Therefore the aim of the study was to explore the power relationships within different MDT scenarios.
Method: A qualitative approach was adopted consisting of interviews exploring radiographers' experiences as 1) established Cardiology team members and 2) transient members of Orthopaedic teams. French and Raven's power bases were used as an *a priori* framework. Ethical approval was obtained prior to commencement. Sampling was purposive, following gatekeeper permission, and subsequent participation was voluntary. Thematic content analysis was undertaken following data collection.
Findings and discussion: Perpetration of Legitimate Power was more frequently attempted in transient teams. However, there were more successful descriptions in established teams. Expert Power was reciprocated successfully in established teams but was context dependent in transient teams. Referent power was well used by participants, although the transient nature of teams did affect this. Job satisfaction was expressed by both groups, although evidence presented was more comprehensive in established teams.
Conclusion: The social bases of power at play within two MDTs have been examined. It is unclear to what extent the team specialism has a role in the differences identified. Radiographers working in established teams may have greater job satisfaction and perpetrate power bases more effectively than radiographers serving in transient teams.

Introduction

Fluoroscopic imaging is rapidly expanding in surgery as it facilitates more modern, less invasive, treatments that result in better patient outcomes.[1] However, fluoroscopy utilises ionising radiation, which can lead to detrimental biological effects in both patients and staff if protection procedures are not adopted.[2–4]

Awareness of harmful radiation effects and the skills to optimise examinations should be an essential part of any pre-registration radiography qualification and practitioners are thus informed beyond the level of other multidisciplinary team (MDT) members.[5] This highlights a necessary leadership role for the radiographer which is further emphasised by studies identifying a lack of radiation awareness among circulating staff and surgical trainees.[1,6,7] According to Ionizing Radiation (Medical Exposure) Regulations (2000)[8] and Ionizing Radiation Regulations (1999)[9] within the UK (and similar legislation across the world) a responsibility to advocate radiation protection is bestowed upon radiographers called to undertake interventional and intra-operative imaging.[5]

Under-prescription of protective measures, and lack of awareness demonstrated by trainee surgeons, has previously been attributed to insufficient formal radiation protection training.[6] However, it is also possibly indicative of ineffectual radiographer leadership in the MDT. This could be a problem internal to the radiography profession, or one of external pressures. Professional relationships in healthcare have previously been observed to be subject to excessive 'medical power'[10]; and this might be a case in point.

A comprehensive literature search was undertaken to investigate radiographers' experiences in the MDT using the terms outlined in Table 1. The search was performed in the following databases: CINAHL, MEDLINE, PsychInfo, Psychology and

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Table 1
Search terms used (* indicates wildcard).

Acronym	(P)articipants	(I)ntervention/indicator	(O)utcome
Concepts	Radiographer	Bases of social power	Experiences*
Synonyms	Radiolog* technician* Radiolog* technologist* Operating room radiograph* Theatre radiograph* Theatre staff Theatre personnel Operating room personnel Operating room staff Peri-operative team* Healthcare personnel Multidisciplinary team* Interdisciplinary team*	Social power Organi?ational power Leadership Influence Control Legitimate power Authority power Authority Professional expertise Expert power Expertise Knowledge Referent power Group power Collaborative practice Collaboration IPP Teamwork* Teamrole*	Perspectives* Attitudes* Perceptions*

Behavioral Sciences Collection, PsycARTICLES (EMBASE interface), and Science Direct. The search was limited to 2007–2013 and filtered further using relevant major headings. This revealed that their perception of influencing other MDT members has not been previously explored. In fact only a few papers discussed the role of the radiographer in theatre explicitly. In one paper, there was tangential reference to professional relationships, suggesting that communication barriers are a source of intra-operative conflict, especially when unfamiliar surgeons and radiographers come to work together.[11]

Interpersonal relationships within transient surgical teams are nurtured and facilitated by introductions, briefings and room preparation prior to list commencement. The WHO Surgical Safety Checklist (WHO-SSC) was devised to implement a structure around which this could be done and outlines a formal procedure where team members become accountable to each other by formal introductions and role definitions at the start of a surgical or interventional radiology case.[12]

In one paper, there was a suggestion that Orthopaedic cases are often delayed due to radiographer absence.[13] This implies that radiographers may not always be present for the WHO-SSC and may therefore struggle to integrate within the team. It may well prove more difficult to influence and lead on radiation protection if not fully part of the MDT. Influence is defined as "the capacity to have an effect on the character, development, or behaviour of someone or something, or the effect itself".[14] Benfari et al. (1986) consider it a part of the notion of power and state that using power is essential to any teams success.[15]

The lack of previous research motivated a question around an analysis of the MDT and relationships within it. This research therefore focusses on an analysis of power within a MDT context, with the specific aim of investigating how an analysis of power within two differently constituted MDT scenarios, one transitory and one established, can inform us of these radiographers' team roles.

Using power as a concept for MDT analysis

Power as a concept can be difficult to define, and one needs to be mindful that the use of the term is almost always contextual.[16] Some researchers assert that the different definitions of power can become repetitive and typological.[17] Research using negotiated order[10,18] and Goffman's theory of impression management,[19,20] have been conducted previously to explore power and teamwork within the healthcare setting. This research adopts a modified framework developed from power theories in the literature.[14,21,22] Table 2 describes each power base considered.

The framework benefits from some face validity; several of the identified powerbases in the literature seem to provide the radiographer with a means of influence, for example: 'Legitimate power', as IR(ME)ER (2000) and IRR(99) regulations legitimise the radiographer's responsibility for the protection of both patient and staff from ionising radiation within theatre environment; 'Expert power' because the radiographer's knowledge of radiation protection, optimisation, and radiographic technique (e.g., manipulating source image distance, collimation and contouring) make them experts within the field[23,24]; and 'Referent power' used in cases where reciprocal identification occurs; thus meaning that perceived status differences can be relaxed and friendships develop.[14]

This investigation aims to elucidate the power relationships with the radiographer within two different MDT scenarios:

1. As a transient member of the orthopaedic theatre MDT;
2. As a permanent member of the cardiac catheter laboratory MDT.

Further aims are to discuss the various differences and similarities between these two MDT memberships.

Method

A qualitative research design was employed providing an opportunity to probe further than structured questions.[25,26] To investigate potential differences in MDTs participants were radiographers either serving in an established Cardiology MDT (referred to as cardiology radiographers) or as more transient members of Orthopaedic MDTs (referred to as orthopaedic

Table 2
Definition of social bases of power used (P = Perpetrator of power base R = Recipient of power base perpetration).

Power concept	Description
Reward	- P offers verbal or non-verbal payment, award or gesture received as compliment by R (Benfari et al., 1986; Raven, 2008).
Coercive	- P damages R physically or mentally through criticism, condescension or withholding resources (Benfari et al., 1986).
Authority	- P has authority power over R who is obliged to submit due to social structures (Benfari et al., 1986; Raven, 2008)
Legitimate	- R is obligated to change behaviour by request of P *(synonymous to Authority Power, Benfari* et al., *(1986))* (Raven, 2008). - There is a social obligation on P to help R who depends upon the influence (Raven, 2008).
Referent	- Reciprocal identification (friendship/familiarity) leading to sharing information and social reciprocity - repaying favours *(encompassing reward and information power)*
Expert	- P possesses specialised knowledge but to be effective R must trust in P having superior knowledge (Benfari et al., 1986; Raven, 2008). - If solicited it is well-received - If unsolicited it is received as an imposition (Benfari et al., 1986).
Information	- P has information which is unknown to R (Benfari et al., 1986). - R's comprehension and expectation of P's power perpetration differentiates information and expert power (Raven, 2008).
Affiliation	- Borrowed authority power from a figure with whom P is associated (Benfari et al., 1986).
Group	- Number of individuals interacting in a problem solving, conflict resolution or brainstorming scenario (Benfari et al., 1986).