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Awareness of Medical Leadership and Management: A Qualitative Study of Final Year Students at Two Medical Schools

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Abstract

Objective: The aim of this study is to explore current medical student awareness and perceptions of medical leadership.

Methods: A qualitative study was undertaken, utilizing a constant comparison analysis of focus group interviews, at a district general hospital in the United Kingdom in December 2019. A sample of participants consisting of final year medical students from Kings College London (KCL) and St. George's University of London (SGUL) were selected. Moderators used trigger questions to structure interviews. Interviews were recorded, transcribed verbatim, anonymized and input to NVivo V.9. Subsequent coding and collation of codes enabled us to identify overarching themes and context within each subset of data. This was continued until thematic saturation was achieved.

Results: Thirty-eight students were interviewed in four groups, each lasting approximately an hour. Analysis of the most commonly occurring codes highlighted three strong inter-related themes. These focused around (1) awareness of; (2) exposure to; and (3) experience in; the scope and importance of medical leadership.

Conclusion: Awareness remains limited due to inadequate exposure to MLM and even fewer practical opportunities. We present a 'target' model depicting current student perceptions and propose that future studies must explore what barriers exist to gaining practical experience in medical leadership. This research would be valuable in guiding delivery of teaching that can be adapted in vivo, to address students learning needs.

Keywords: Medical Leadership; Teaching; Perception; Awareness; Medical Education

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Introduction

Effective Medical Leadership and Management (MLM) facilitate the provision of safer and higher quality healthcare. Effective leadership is especially important in the global context of healthcare systems that are struggling to reform in poorly resourced, high demand environments [1,2]. Leadership must therefore be integral to a doctors working life regardless of specialty or setting [3]. In the United Kingdom, the General Medical Council offers guidance on leadership within documents like the Generic Professional Capabilities Framework that mandate leadership to be a part of foundation and specialty doctor's competencies [4-7].

Historically, clinicians have been ambivalent about taking leadership roles. However, appointing medically trained professionals in executive managerial positions has been shown to have beneficial clinical outcomes [8,9]. National studies from the United States have suggested that engaging doctors on boards of directors had positive impact on the hospital's use of resources and overall quality of services [10,11]. The importance of effective medical leadership has been demonstrated to improve working environments at all levels, from hospital directors through to clinical ward teams [12].

Recognizing this growing evidence, the NHS Institute for Innovation and Improvement in partnership with the Academy of Medical Royal Colleges developed the Medical Leadership Competency Framework (MLCF) [3]. This organization developed the Faculty of Medical Leadership and Management (FMLM) standards for medical professionals. These are a set of core

leadership values and behaviors expected of practicing clinicians through progressive stages of their career. These are well recognized in postgraduate medical training with demonstration of competency in the MCLF's domains required to pass annual reviews of competence progression for accreditation [13].

However, at undergraduate level, this is less established and there are calls to better implement these competencies in curricula and engage medical students at an earlier stage [13]. In UK medical education, significant effort has been made to incorporate medical leadership within undergraduate programs despite a relative paucity of evidence about how to implement this worldwide [14-18]. There are formal efforts by the FMLM for a standardized curriculum on early leadership exposure and structured workplace experiences [17,19].

Despite the growing impetus of medical schools to increase MLM training and the growing base of guiding literature, the current perceptions of leadership amongst medical students remain unclear. The aim of this qualitative study was to explore student awareness and perceptions of current training and experience of medical leadership.

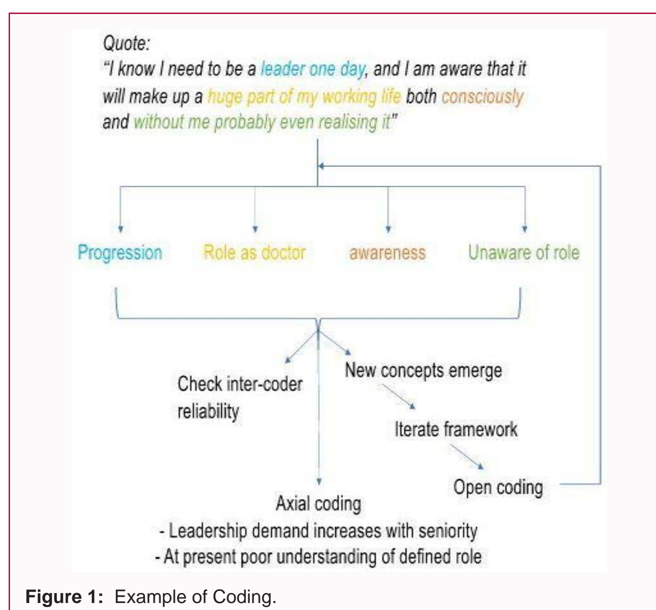

Figure 1: Example of Coding.

Method

A qualitative study was undertaken, utilizing focus group interviews to gather data which underwent a constant comparison analysis to inform a subsequent thematic analysis. This was completed in December 2019 at a District General Hospital in the United Kingdom.

Research team and reflexivity

Members of the research team conducted the focus group interviews. These were qualified medical doctors who had training in human factors and medical leadership and management from the NHS Leadership Academy. There was no relationship to the participants of the focus groups prior to the study commencing. The participants were only aware that we were doctors running a study on perceptions of medical leadership as to avoid any confirmation bias or assumptions regarding the eventual study findings.

Study design

Theoretical framework: This article used a grounded theory-based approach to allow inductive development of theories that arose from the systematic collection and analysis of qualitative data. We avoided a hypothesis driven approach to ensure the findings were uninfluenced and not speculative in nature. This also aligned with the study aims to generate themes to explain medical student's experiences and attitudes towards the study concept.

Participant selection and setting: The sample of participants consisted of final year medical students from Kings College London (KCL) and St. George's University of London (SGUL). This was a convenience sample as these final year students were on site for clinical placements. All participants were invited by email offering a number of our long focus groups limited to 8 to 12 places that they could select to attend [20]. The rationale for limiting the number of participants is to include enough participants to yield information but avoid creating environments where participants feel unable share their thoughts and experiences [21]. Multiple interviews were conducted to better detect whether or not data saturation had been reached and this was discussed between the team [22].

All students at the site in the study period were invited and 38 attended, with the remaining six students unable to attend due to clinical commitments. Baseline characteristics of the groups were considered. All focus group interviews were conducted in non-clinical environments to allow undisturbed discussions between the participants and team members conducting the interview.

Data collection

Open-ended questions were asked, focusing on student perceptions of their awareness, exposure to, and opinions of medical leadership in general. In order to ensure consistency between groups, the following trigger questions were asked by the moderator (ZP) to structure interviews:

- Why is medical leadership important for you?
- What encompasses good medical leadership?
- Do you know of any guides or standards for medical leadership and management?
- How is leadership taught to you?
- How do you get experience of leadership?

The moderator was made known to the participants and they were responsible for facilitating the group discussion. Individual groups were not re-interviewed and field notes were taken on anything we felt could be anomalous or of importance. Interviews were recorded and transcribed verbatim anonymized and input to NVivo V.9 software (QSR International Pty Ltd, Melbourne, Australia). Participants were offered the opportunity to review and/or correct them but chose not to.

Data analysis

The three major stages in the constant comparative approach used in this study were as follows [23]:

Open coding: Reviewers orientated themselves to content by reading the transcripts, and applying codes to the text as they saw appropriate (Figure 1). The coding tree is orientated around the five interview questions (Appendix 1). Coding frameworks for large datasets requires the knowledge and experience of multiple coders so this was done as an iterative process in discussion between investigators [24,25]. To ensure validity and reliability of coding 20%

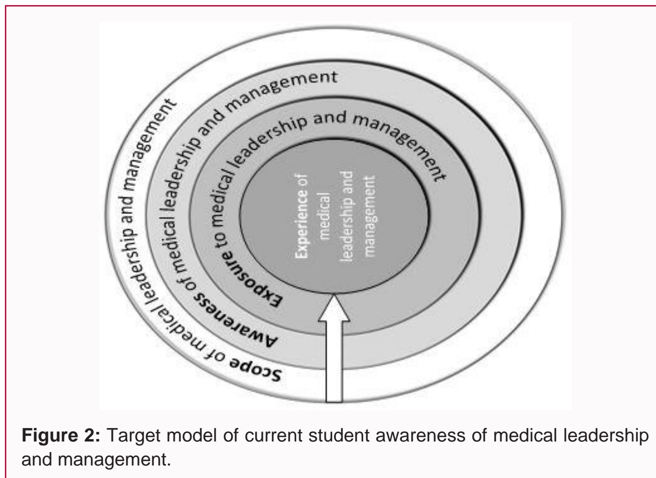

Figure 2: Target model of current student awareness of medical leadership and management.

of transcripts were independently coded and inter-coder reliability checks will be undertaken [26]. Kappa statistics were calculated with a kappa value of >0.7 sought at checkpoints between reviewers for reports randomly identified for double-coding purposes; this is consistent with previous studies using similar methods [24,27]. Discrepancies were discussed between the team and when these were not resolved by discussion, third person arbitration was done by supervisors [28] (Figure 1).

Axial coding: The nature of the inquiry was inductive, therefore no themes were postulated in advance but rather exploratory data analysis techniques were applied [29]. The analysis grouped and summarized relevant codes to inform subsequent hypothesis formation which uncovered common categories and sub-themes [24].

Selective coding: This stage of the analysis allowed interpretation of themes and learning. The thematic analysis deepened the analysis and interpretation gained in Stage 1 (coding characteristics) and Stage 2 (identifying patterns or recurring topics). Re-examination of these clusters of codes provided opportunity to identify overarching themes and context within each subset of data [30]. This process was continued until thematic saturation was achieved and agreed.

Results

Thirty-eight (38) students from KCL (n=22) and SGUL (n=16) were interviewed over four focus group sessions each lasting approximately an hour. Cohen's kappa statistic of inter-rater (coding) reliability was high, k=0.79, p<0.001. Table 1 demonstrates the group's baseline characteristics and Table 2 highlights the most commonly arising codes that students mentioned for each the five trigger questions.

Why is medical leadership and management important for you?

Most students had a rudimentary awareness of medical leadership with emphasis on its relevance and importance to their career. There was general recognition of the need to understand leadership and management but there was wide variation within individual knowledge of its immediate significance and practical application.

'…I know I need to be a leader one day, and I am aware that it will make up a huge part of my working life both consciously and actually without me probably even realizing it.' M2

The most commonly cited example of leadership was how a doctor is a leader within the multi-disciplinary ward based team. All participating students have been on placements in healthcare settings so recognized the organizational context of healthcare and how leadership applies on the level most perceptible to them.

'…even within the MDT doctors are perceived to be leaders. I'm not saying they necessarily are but they do take on quite big leadership roles' M9

Despite being unable to quantify exact parameters, there was awareness of the increasing level and degree of medical leadership and management required with increasing seniority. There was appreciation of the need for continued progression and development throughout a career.

'…the more senior you get the more you'll have to lead teams. There are a lot of skills that are useful from earlier in your career…'F17

'…I think it's quite important to refine those skills as you go through your career.' M23

There was a focus on clinical-practice framed leadership with little insight into wider aspects of leadership such as service allocation, finance and impact on patient outcomes.

What encompasses good medical leadership and management?

Characteristics deemed most important in a leader were being good delegators, assertiveness and being motivational. These were primarily inter-personal characteristics that they valued in a leader at a personal level, useful in the type of leader they see most often and perceive as a model to emulate.

It's also about adaptability and knowing your team's strengths and knowing how to apply them… but also being able to motivate and implement change. So there are different nuances and structures to leadership' F1

There was a basic understanding that leadership manifests differently between healthcare settings. Notably, those participants with a particular interest in this field gave these more detailed insights, recognizing the merit in healthcare professionals being in executive or political positions. Most were surprised when considering their role in medical leadership in socioeconomic or political capacities.

'… I had not even considered a doctor representing doctors in the political landscape. I feel it would make sense to have a Minister for Health who at least had a healthcare background right?' F3

There were again varying levels of understanding but a minority of students, again mainly those with an interest in the area, understood the importance of conflict resolution within teams and also of the emergent need to address the growing disconnect between doctors and managers. There was consensus that improving communication and teamwork with management staff was necessary for safe and effective leadership. However, there was little consideration from students; of doctors applying for these management positions.

'…Yeah. I think it's important because the way in which we practice is evolving and I think there's quite a disparity between managers and doctors.' F1

Do you know of any guides or standards for medical leadership and management?

Only one student was aware of the current FMLM leadership curriculum whilst one additional student was aware of GMC guidance

Table 1: Baseline Characteristics**.**

Baseline characteristics	Number of students = n (% of total number of participants)
Stage of medical train	
Final year	38 (100)
Institution	
Kings College London	22 (58)
St. Georges University London	16 (42)
Gender	
Females	23 (61)
Males	15 (39)

Table 2: Codes applied for responses to each trigger question.

Question	Code	Number of students = n (% of total number of participants)
Why is medical leadership and management important for you?	Multidisciplinary team	27 (71%)
	Clinical leadership	17 (45%)
	Evolving with seniority	8 (21%)
What encompasses good medical leadership and management?	Inter-personal skills	19 (50%)
	Communication	9 (24%)
	Conflict resolution	7 (18%)
Do you know of any guides or standards for medical leadership and management?	Personal interest	2 (5%)
	-	-
	-	-
How is medical leadership and management taught to you?	Balancing clinical work	20 (53%)
	Lack of structure	12 (32%)
	Role model	11(29%)
How do you get experience of medical leadership and management?	Extracurricular interest	21 (55%)

– namely Good Medical Practice. The other 36 were not aware of the current guidance available.

How is medical leadership and management taught to you?

Overall, it was felt the current medical curriculum gave them inadequate training to develop into a medical leader. There was general consensus about the lack of formal teaching and assessment of MLM in comparison to their basic and clinical sciences.

'… I feel that the medical schools are much more interested in making sure we can manage a heart attack before we teach leadership – which I do agree with! It's just that some things we learn seem totally irrelevant to and maybe could be switched with leadership teaching.' M29

As suggested from the limited awareness of guidance or curricula for leadership, it was felt that the teaching of MLM lacked structure. Students were well informed of the boundaries and opportunities for their clinical activities as medical students. Contrastingly, there was a distinct lack of understanding of the boundaries of leadership activities that they are able to undertake.

'…it's passively there for example by following F1's and things we see on the wards and stuff. We see it and you take it in is passively but it's not someone actively teaching you that this is what your role would be.' F30

Reflecting on simulation sessions in managing acute clinical situations were valuable in learning leadership principles. They were well practiced at gathering leadership experience from other experiential sessions where the focus may not be explicitly about leadership.

'…we had simulation training and included a presentation on effective management on how to be when you're with an acutely unwell patient. I enjoyed things like that where it's not directly leadership training but is useful to learn leadership skills indirectly.' F17

Overall there was a consistently focused view on medical leadership in the context of clinical practice. Those that were interested in medical leadership sought out their own extracurricular teaching on wider aspects of medical leadership. This encompassed training on how to present, how to lead a team and provided networking opportunities.

How do you get experience of medical leadership and management?

As mentioned, the prevailing feeling was that there was a lack of structured teaching in comparison to basic and clinical sciences. As a result, they felt that the best way for them to get experience was through their personal extra-curricular activities.

'… those of us that seem to know about leadership are those involved in societies or leadership outside of medical school. I think that is the best way at present to get a well-rounded view, as within medical school we have a lot of other priorities'M12

Lack of clarity around role or scope of leadership that students can take in their current stage of training limited their personal involvement. Students at present do not feel empowered to take active leadership roles in clinical environments.

'I know we're in medical school so there's a remit on what you can and can't do but we never really implement being a leader until we're in the F1 position. So I guess we get exposed to it but we never get to actually put it into practice until we're thrown into the deep end.'F7

Students have become adept at pulling leadership experiences from other learning events and are beginning to get ideas to facilitate their own further learning. It was deemed that single assessments or formalized lecture teaching would not be the best way to teach this either. They suggest incorporating leadership teaching into simulation setting or encouraging projects in leadership.

'I think you need to put it into practice rather than a lecture. So with a simulation session, have leadership as a topic or domain that people talk about after the session and then you could have a leadership lecture as a one off to comment on different aspects of being a leader so that people are aware of what it entails.' F5

Shadowing junior doctors was reported as their best way to learn leadership. There was no mention of registrar, consultant or director levels of leadership which contributes to a narrow view of medical leadership.

Thematic analysis

Thematic analysis of these commonly occurring codes highlighted three strong inter-related themes.

1. Awareness of scope of MLM
2. Exposure to scope of MLM
3. Experience of scope of MLM

These are later explored in detail in relation to current academic literature.

Discussion

Three broad themes were found that delineate current views in relation to the true scope of MLM.

Awareness of medical leadership and management

There was varying awareness of MLM amongst students and was mainly attributed to the emerging but substantially heterogeneous inclusion of MLM in UK medical schools' curricula [31,32]. This is reflected in this cohort as KCL students had a newly designed society organizing extracurricular educational events focusing on leadership topics, whereas SGUL students did not. Field notes highlighted that an outlying group, those with personal interests, had vastly advanced awareness and exposure of MLM through personal extracurricular activities [31].

The guise of MLM that students perceived most relevant to them were leadership roles primarily based in clinical settings. Students had clearer structures of leadership and their own place within these relating to clinical practice, quality improvement and multidisciplinary teams [33]. As a result, the qualities they valued for good leadership encompassed inter-personal or emotional leadership, professionalism and motivation [34]. There was some awareness that with increasing seniority the scope of leadership changes but very few students identified the value of MLM in motivating and implementing system improvements.

It was therefore felt that there was little awareness of the social, economic or political context in which healthcare is led and managed. A considerable amount of MLM is overseeing provision of services, cost of care delivery and mitigating safety errors. Students did not consider many of the attributes required to instigate such changes as described by Varkey et al. He proposes in hid work that communication, conflict resolution, negotiation, delegation, and service management as key skills for leaders [35].

Student exposure to scope of medical leadership and management

Students at present have a limited exposure to MLM. Since they are frequently exposed to, clinical environments, they appreciate the nuances of MLM in this context and how it is relevant to them. However, doctors are expected to take a macroscopic view of healthcare provision and resource allocation also. Students are expected to understand socio-economic, technological and political drivers for leading health change potentially without ever observing these in practice before qualifying [31,36]. For example, it was rare that students had opportunity to attend stakeholder meetings, or divisional governance meetings – both examples of important leadership roles doctors take on as they progress in their career.

Students felt that the best way to be exposed to MLM is to follow 'role models' or people in leadership positions that they can observe to improve on poor practice and emulate the good [37]. Currently students felt their role models were junior doctors, as they were most accessible or relatable to them. These cohorts of doctors themselves are only just beginning to understand MLM and have in fact only early leadership roles. There is accepted difficulty for students to be exposed to middle-grade or senior doctors and as a result students are unaware of the variation in MLM roles [38]. There is consensus that exposure to MLM must start earlier and must be a continual and developing process [17].

Student experience of scope of medical leadership and management

At present there is limited practical experience of MLM available to students. When learning about leadership and the management, some must be experiential [31]. Studies exploring workplace experiential learning propose that supported or guided participation ensure a graded exposure that reinforces a students' ability to do the task in future practice [39]. This experiential learning can take varying forms alongside ongoing clinical work.

There is a growing volume of 'self-directed learning', which students have found a useful way to gain experience in MLM. However, this cannot compensate for an underlying lack of support or guiding structure. The problem around providing suitable experiential teaching is representative of the wider problem around the guidance of MLM teaching.

Strengths and Limitations

Methodological rigor was ensured by careful consideration of methods before analysis, double-coding a 20% sample of transcripts, and regular meeting of the team to discuss coding [40,41]. The comprehensive methodology have also been applied to qualitative data in patient safety research [42,43]. We accept limitations of the sample size means it is difficult to generalize conclusions, but given the novel methodology this study provides a detailed insight that can

guide further research to test the conclusions drawn.

We propose a 'target' model representing our findings of current medical student awareness of medical leadership (Figure 2). The outermost level represents the wide scope of MLM including clinical and non-clinical responsibilities. The inner level represents the student awareness of MLM but demonstrates a lack of appreciation of the full scope. The next level highlights limited exposure to MLM within the areas they are aware of. The final and smallest circle represents the practical experiences students can have to be actively involved in MLM. In summary, students have a limited awareness of the true scope of MLM, they gain exposure to few areas within this and subsequent practical experience of these is rarer still. Despite curricula development there is little general awareness and only those with personal interests were informed. This highlights the work needed to bring experiential involvement and skill building in MLM to match true needs.

Future Research

We propose that future studies continue to explore what medical students perceive as barriers to gaining practical experience in medical leadership given the concerted focus at present. These findings would be valuable in guiding how to best deliver teaching that can be adapted in vivo, to address students learning needs.

Conclusion

Active engagement of clinicians in MLM has beneficial clinical outcomes, and medical students are eager to engage. This study finds that students are beginning to recognize the scope and importance of MLM through the growing movement to incorporate it to medical curricula. At present, they remain limited in their awareness due to inadequate exposure to MLM and even fewer practical opportunities to be involved. However, this study and ongoing research in this field will continue to aid this growing initiative to effectively deliver MLM training.

Ethical Approval

The manuscript was approved by the EKHUFT R and D department.

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