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Higher education as a breeding ground for future researchers: a grounded theory study focusing on perceptions of and motivation for research among first-year medical students (0181)

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Introduction

It is important to keep evolving and make advancements within every field of expertise. Scientific knowledge is indispensable to make progress in most domains, as it could not only contribute to the refinement of existing knowledge, but could help to create new knowledge as well. Researchers are key in the process of developing knowledge and, thereby, essential to advancements within specific domains and life-long learning of professionals. This is reflected in the growing number of research courses and programmes that are provided during higher education, with the aim to challenge students, stimulate active participation, and promote students' engagement in research in the future (Havnaer et al., 2017; Healey et al., 2010; Scager et al., 2014).

Within the medical context, research is of great value to offer the best possible patient care. Physicians conducting research (i.e. physician-scientists) are imperative for the evolvement of medicine, as they can contribute to, for instance, the development of new or adjustment of existing treatment methods. Physician-scientists have the ability to connect science to practice by conducting research and translating research outcomes into clinical settings. However, the medical field is currently facing a physician-scientist shortage. A decline in interest for postgraduate scientific activities is visible, resulting in a lack of physicians pursuing a scientific career (Chang and Ramnanan, 2015).

Promoting involvement of students in research during higher education could help to motivate students for research. Therefore, many educational programmes offer a diversity of research related courses and extracurricular research based programmes. Within medical education literature, engaging medical students in research during medical training is mentioned as a possible solution to cultivate more physician-scientists (Chang and Ramnanan, 2015; Furtak et al., 2012). In order to stimulate engagement of students in research, it is important to know how students perceive research and could be motivated for

research. This has not yet been investigated in first-year medical students. Insights into perceptions of and motivation for research could help to establish evidence-based strategies to stimulate students' positive perceptions of and motivation for research. Therefore, this study aimed to identify conditions under which students develop positive perceptions of and motivation for research by answering the following two sub-questions 1) how do first-year medical students perceive research and the importance of research for physicians in clinical practice? and 2) which factors contribute to motivation or demotivation for conducting research?

Methods

We established our research within an interpretivist paradigm, with an emphasis on the subjective nature of understanding experiences (Cohen et al., 2013). Consequently, we conducted a qualitative study with individual interviews using a grounded theory approach, involving 13 purposively sampled first-year medical students at Leiden University Medical Center (LUMC). The population of first-year medical students at the LUMC is of young age without having any research related experiences prior to entering medical school, as most students start medical school right after secondary education. The individual interviews were conducted by the first author. Data analysis was performed iteratively alongside data collection. The first and second author coded all interviews independently and met weekly in order to reach consensus and build a codebook. To analyse the data, we used the coding strategy of Strauss and Corbin, with three consecutive stages of analysis: open, axial, and selective coding (Strauss and Corbin, 1990).

Results

Our results suggested that first-year students are already able to identify many aspects of research. Students elaborated on the relevance of research for clinical practice, the work of physicians, and personal development. Additionally, students discussed research characteristics and requirements as well, like collaboration and ethical approval. Furthermore, our results suggest a relationship between perceptions and motivation as some perceptions were identical to motivating or demotivating factors to conduct research, like the relevance of research for practice and performing statistics respectively. Additional motivating factors were, among others: acknowledgment, autonomy, and inspiring role models. Demotivating factors were, among others: a lack of perceived autonomy and relevance, inadequate collaboration, and gathering of data.

Discussion

Our findings offer practical implications to stimulate students to engage in research in early phases of medical training. For instance, by using physician-scientists in education as inspiring role models, integrating statistics teaching with authentic research experiences in order to promote perceptions of relevance and meaningfulness of gathering data, creating conditions under which students feel autonomous and can work independently on a research topic of their own choice, and offering students possibilities to publish and present their work. Moreover, our results contribute to existing motivational theories like Theory of Planned Behaviour and Self-Determination Theory within this specific domain. For instance, our data suggests that influencing motivation entails more than only autonomy, competence, and relatedness as suggested by the Self-Determination Theory. Relevance, need for challenge, curiosity, and inspiring role models seem to play an important role for motivation as well.

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