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DISCUSSION PAPER

'Evolution for a Revolution... the Potential Future Value of Digital Technology across UK Prosthetics and Orthotics Undergraduate Curricula'

AUTHORS

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Foreword

Catherine Hayes is Reader in Pedagogic Practice and Yitka Graham is Senior Lecturer in Public Health. They are committed to raising awareness of the potential impact of their research findings and their pedagogic implications to allied healthcare professionals as well as to the bariatric research community. The discipline of Prosthetics and Orthotics is a profession where the role of digital technology is emerging as an adjunct to clinical skills in the context of rehabilitation in multi-disciplinary care. Building capacity within and between professional healthcare disciplines is pivotal to the developmental progression of reciprocal working in practice. As researchers, Dr Hayes and Dr Graham warmly welcome correspondence from Prosthetists and Orthotists who might be interested in further extending our pedagogic and clinical research into digital technologies or who may wish to use our work as baseline data for new academic and clinical research in practice.

Introduction

Our recent interpretivist overview of the engagement of patients with social media and mobile apps highlighted the evident need for AHPs to address issues of ambiguity of the role of digital technology in facilitating and supporting patients in practice. (Graham et al, 2017). The wider significance of this work is evident in the context of Prosthetics and Orthotics (P&O) practice, where the role of digital technology has already emerged as a potentially great adjunct to clinical skills in practice (Farr et al, 2017; Worboys et al, 2017; (Arntzen, Holthe and Jentoft, 2016).

The aim of this discussion paper is to highlight the role and potential value of digital interactivity in P&O practice and the implications this will potentially have in terms of P&O education and the pragmatics of the everyday clinical contexts Prosthetics and Orthotics practice occupies.

Our discussion encompasses two key areas for debate, which we hope might stimulate interest amongst the P&O profession and those responsible for allied health professional curriculum development in United Kingdom Higher Education institutions (UK HEIs)

1. **How best can we facilitate patients in discerning the quality of the digital technology and why this is pivotal in reducing the ambiguity of information with which they engage?**

In an ever increasingly digital society, the profile of IT literacy of patients seen in everyday P&O practice is a significant factor in how they approach understanding their medical conditions and how potentially they can be empowered in health behaviour change (Wellde and Miller, (2016). The role of the P&O remains pivotal in the context of wider interdisciplinary and multidisciplinary team working where patients need support, encouragement and recognition for managing their own health issues (Murray and O'Neil, 2016).

Whilst our research focused specifically on the role of digital technologies in supporting patients in the medical and surgical field of bariatrics, it revealed wider, potentially transferrable aspects of technological support to the context of P&O practice (Graham et al,

2017). The most common long term conditions whose infrastructures of care would potentially lend them to the integration of digital technology are the multi-disciplinary team management of conditions such as Diabetes mellitus and Hypertension (Stoke on Trent Clinical Commissioning Group, 2016). We would like to invite debate as to how best the 'digital natives' we teach, as the next generation of the P&O workforce will best be equipped via P&O curricula across the UK, to facilitate patients in a future world characterised by information technology (Harrington, 2016).

Effective facilitation will ultimately be dependent upon three key areas:

1. Patient/People Interactivity; the potential for clinical staff, patients and their families and carers to interact with one another as a direct consequence of digital technology use.

2. Patient Interface; the devices and computer programs that enable processes of interactivity for the people using them (i.e. their usability and accessibility).

3. Patient Content; the interaction that takes place between the patient and the digital content of relevance to their extant medical and holistic condition(s).

There is also the need for P&O staff to be able to assess content quality before recommending specific digital interfaces, which raises the need for the consideration of digital technology such as medical apps. It is in these often, unsolicited and unregulated areas of the public domain, where it may not be possible for patients and their families and carers to discern content in relation to quality and clarity of advice.

The use of videoconferencing and telehealth to facilitate patient support is already well established and these are generally strategic developments within specific hospital trusts, rightly informed by professionals with appropriate levels of medical and surgical expertise (Stevens, Jackson, Howes, et al, 2014). The potential use of telehealth for administrative purposes in relation to elderly patients has also been explored (Carmeli, Imam and Merrick, 2016). Smartphone apps however, are not and whilst they are readily downloadable there are clear quality issues for address, particularly in relation to the accuracy of self-reported measurements (Cameron, Ray and Sabesan, 2015). This has already been highlighted as an area of major concern of specific relevance to the parallel field of occupational therapy education and the development of responsive curricula by Ravenek and Alvarez (2016) and in practice based settings by Seifert, Stotz and Metz (2016).

2. **What are the fundamental pedagogical implications to the way P&O education is delivered if embedding digital technologies into clinical P&O practice is to be advocated and how best are we equipping our future workforces to facilitate and empower patients?**

Responses to educational reform have meant that in terms of the future potential employability of students, there has been a corresponding rise in needs led curriculum design and new and innovative pedagogic approaches in digital interactivity in UK Higher Education (Tsiotakis and Jimoyiannis, 2016).

The vast majority of P&O programmes across the UK now operate via social constructivist curricula, of which digital technology has become an integral part. Essentially these inquiry based curricula necessitate access to an IT and traditionally equipped learning environment with access to information retrieval resources where appropriate situated or experiential learning that can support processes of active learning. It is here that the pedagogic expertise of the facilitator is pivotal in relation to the content specific expertise necessary to support allied health practice students' capacity to learn (Arinola and Clouder, 2015). However in relation to the development of recommending and advising patients on the use of digital technology to empower them in managing their medical conditions, little exists within present P&O curricula to ensure this can be facilitated.

We posit that an address of this need ought to:

- Re-analyse the situated context of knowledge construction for both patients and P&O students – since authenticity of the learning context impacts on human capacity to engage and transfer acquired knowledge to different care settings.

- Integrate and triangulate assessment processes which ascertain P&O student's capacity to discern and knowledgeably advise patients on digital apps and technology available to empower them as an integral part of their healthcare journeys in practice.

- Become another area of P&O practice characterised by critical reflective practice and ongoing processes of reflexivity.

Conclusion

The context of caring is now a fundamental driver of sustainability in P&O clinical practice and undergraduate P&O education. The potential to embed digital technology not only into existing practice but also as a recognisable means of empowering patients and their families and carers brings with it several tensions. In particular, how best do we address the tensions of unregulated apps and the present lack of undergraduate training of P&Os to support and facilitate patients in discerning the technology best suited to support their individual needs. We hope our discussion of these issues will inspire active debate in the context of clinical P&O practice and undergraduate P&O educational provision.

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