



Behavior and attitudes of residents and general practitioners in searching for health information: From intention to practice



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ABSTRACT

Background: Physicians are increasingly encouraged to practice evidence-based medicine (EBM), and their decisions require evidence based on valid research. Existing literature shows a mismatch between general practitioners' (GPs) information needs and evidence available online. The aim of this study was to explore the attitudes and behavior of residents in general medicine and GPs when seeking medical information online.

Methods: Five focus groups (FGs) involving residents in general medicine and GPs were conducted between October 2013 and January 2014. The overall number of participants recruited was 35. The focus group discussion guide focused on participants' experiences in searching for health information on the Internet, perceived barriers and possible solutions for improving the quality of their own search processes. Descriptive analysis was performed by three researchers.

Results: Participants described a wide range of research topics, covering all general medicine core competencies, and especially patient-oriented topics. They used a limited list of websites. Participants were not confident about their ability to assess the quality of the information they found. Their assessment of data quality was based on intuition, and they mainly sought concordance with their existing knowledge. The way the data were exposed was considered very important. Participants were looking for information that was directly linked to their clinical practice. Information seeking processes varied among participants. They felt they had not mastered query building for conducting searches, and were aware of the impact this shortcoming had on the quality of their search for information.

Conclusions: Residents in general medicine and GPs understood the importance of EBM and the need for objective and reliable information. The present study highlights the difficulties in identifying this kind of information, and suggests ideas for improvement. Available search tools should change in order to fill the gap with real-world clinical practice, for example by integrating a patient-centred approach.

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Abbreviations: EBM, evidence based medicine; FG, focus group; GP, general practitioner.

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1. Background

Evidence-based medicine (EBM) is a combination of individual clinical expertise and best available external evidence alongside patient's values and expectations [1]. Currently, EBM is increasingly encouraged in physicians' practice, and decision-making, requiring evidence based on valid research.

General practitioners (GPs) face a wide range of patients and clinical situations during their practice. This generates a large number of questions on patient management, varying between 0.10 and 1.85 questions per patient [2]. The Internet provides a broad spectrum of possible answers to GPs' questions, and is increasingly used by physicians in their daily practice [3,4]. Nevertheless, despite the

growing availability and use of online information sources, some clinical questions remain unanswered [5]. This clearly shows a mismatch between GPs' information needs and evidence available online.

Although previous studies have tried to identify the information needs of GPs, most were involving north-American physicians, making the results difficult to duplicate in other practice contexts [6]. Based on the findings of these studies, GPs' information needs mostly concern treatments, diagnosis and drug therapies. Patient-centred topics, such as education or communication skills, remain rarely cited. Some barriers for the use of Internet for information seeking have already been identified. Time constraints are commonly reported in literature [2]. The lack of skills to perform a literature search, information overload and heterogeneity in information quality are frequently cited [3,7,8].

But are these known barriers sufficient to explain the remaining gap between intention and practice in finding health information online? Most of existing data come from quantitative studies, and we strongly believe that qualitative data could help us to deeply understand how residents and GPs search for medical information online, their research topics and especially the difficulties they encounter when seeking information.

The aim of this present study was to describe and understand the attitudes and behaviors of residents in general medicine and GPs in two regions of northern France regarding online information searching. More precisely, we aimed to identify the medical topics sought, any barriers encountered in retrieving information, and the methods for overcoming such obstacles.

2. Methods

2.1. Design

We conducted a qualitative study. Data were collected through 5 focus groups (FG) interviews. We recruited residents in general medicine and GPs to join the focus groups. Dynamic interaction among the participants motivated our choice of data collection technique [9]. Data were analyzed using a qualitative descriptive approach.

2.2. Participant recruitment

Five FGs were conducted between October 2013 and January 2014. Purposive sampling involved recruiting residents with different levels of clinical experience in general practice settings. In France, residency in general medicine lasts 3 years and follows a 6-year undergraduate programme. For the present study, residents were recruited from the second and third year groups of general medicine residents enrolled at the School of Medicine of the University of Rouen, France. Residents were first contacted by email. Sampling was then completed via personal invitations, in order to ensure variability of participants. Physicians were recruited in two regions of northern France (Upper Normandy and the greater Paris area). They were all contacted, by phone, email or face-to-face invitations. They all accepted the invitation. We ensured that FG discussions included younger and more-experienced, male and female private-practice GPs, and locums from both rural and urban areas. We also ensured that their practices had variable levels of computerisation. Some of the physicians recruited were involved in residency teaching. All participants gave their informed consent before participating. This study was approved by the ethical committee of the Rouen University Hospital. Information on participants' profiles is detailed in Section 3.

2.3. Data collection

A semi-structured topic guide was built, based on existing knowledge. The results of the few available quantitative studies focused on research topics and querying processes of physicians, but rarely explored GPs' difficulties when seeking information. The subjects of the focus group discussion guide included participants' experiences in searching for health information on the Internet, perceived barriers and possible solutions for improving the quality of their own process when seeking medical knowledge. Four FG discussions were held outside the physicians' practice, at the Rouen medical school. The fifth one was held in a primary care setting. A moderator facilitated the discussions (MS or AM), briefly explaining the aim of the study, and leading the discussion. The moderator ensured that all issues were covered and that everyone participated. A researcher (QF) took notes during the discussions for further analysis, focusing on nonverbal communication and interactions between participants.

2.4. Analysis

Data analysis occurred concurrently with data collection. Data saturation was achieved after 5 focus groups, so data collection was stopped at this point. All FG discussions were recorded and transcribed verbatim. The transcripts have been de-identified. Confidentiality was ensured by assigning a number to each focus group participant. Only two members of the research team had direct access to the data. When using direct quotations of participants in the presentation of results, we took care to ensure the quotations used did not contain information that may be potentially identifiable. Our aim was to describe and understand the residents and GPs' behavior while searching for health information using internet-based resources. This resulted in a descriptive approach, about the content of websites and the different pathways used to reach this content. Data were processed in different steps, using first open coding. This first phase was performed independently by two researchers (MS and QF), without any predefined framework. The team members then came together to discuss the codes, which were then gathered together into key themes. Codes and emerging themes were compared for coding reliability through a process of discussion and deliberation (MS, QF and AM). N Vivo® software package (version 10) was used to support analysis of the transcripts. The analysis was entirely completed in French. Then, MS and AM translated in English the results and the categories, as well as the quotations included. The quality of the translation was analyzed by a native English speaker, together with the research team.

3. Results

3.1. Participants profile

We recruited 35 participants. Fifteen were residents and 20 were GPs. Mean age was 45 years and 17 were male. The characteristics of the participants and practices are summarized in Table 1.

3.2. Key points

Firstly, a variety of research topics was described. Secondly, the reasons for participants using certain websites when seeking data were identified. Finally their querying habits were described.

3.3. Research topics

Research topics covered all general medicine core competencies. Many queries concerned the most frequent health problems

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