

Why and When Physicians Google: Resident Physicians' Information-Seeking Strategies During Patient Consultations

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Abstract. Physicians depend on access to accurate, up-to-date information and knowledge to make decisions and carry out their work. Today, access to online medical information has become easier than ever before. There is a stream of research interested in understanding how online health information intervenes and influences the patient-physician relationship. While many studies have focused on patients' online health information seeking, fewer studies have addressed how physicians seek and use online medical information. In this qualitative study, focus groups using clinical scenarios were conducted to examine why and when resident physicians turn to search engines like Google for medical information seeking at the point of care. The paper provides insights in physicians' perceptions and experiences of using digital tools for information seeking during patient consultations. Specifically, we identify and discuss information-seeking strategies of physicians during the patient consultation, contributing crucial knowledge for improving the quality of healthcare and patient outcomes.

Keywords. Digitalization, healthcare, information seeking, residency education.

1. Introduction

In today's connected world, patients and physicians alike increasingly use digital tools to access medical information online. The new role of digitally engaged and informed patients alters physicians' work and challenges established role relationships within healthcare [1,2]. At the same time, physicians themselves increasingly use online medical information to research medical conditions, stay updated on the latest treatments, and find answers to clinical questions [3]. Various databases and tools are available to bring together medical and patient information for supporting decision-making during patient consultations [4]. However, while physicians increasingly encounter clinical questions, and many clinical questions and problems today can be solved with the help of digital search tools, barriers to information-seeking still fail to satisfy the needs of

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physicians [5,6]. Research shows that clinicians only conduct a digital search for a minority of their questions, due to time constraints, technical issues, lack of reliable resources, personal skills and attitudes, among other reasons [7]. More research is needed to explore clinicians' views on medical information-seeking and decision-making, to better understand this complex, expanding part of patient consultations [8,9].

The aim of this study is to explore resident physicians' experiences and perceptions of using general search engines like Google for medical information-seeking during patient consultations. The paper poses the following research question: *Why and when do resident physicians turn to search engines like Google for medical information seeking during patient consultations?*

2. Methodology

The study was conducted in Swedish healthcare at one of the larger non-university hospital groups. All residents at the hospital group attending two consecutive courses in medical science were invited to participate in focus group interviews. Participants received written and oral information about the study and were included after informed consent. One course participant declined participation and 34 participants in total volunteered (19 female, 15 male). The participants represented 14 different specialties, such as gynecology, psychiatry, surgery and general medicine. In total six semi-structured focus group interviews were conducted. The focus group interviews lasted about 45 minutes, were based on clinical scenarios and were recorded and transcribed. The interview data were analyzed, first individually by the interviewing researchers to obtain reliability, and then collaboratively and iteratively in several steps through thematic analysis [11], supported by the qualitative data analysis software NVivo 12 [12].

3. Findings

Theme 1: Safe knowledge gaps (OK to Google): The physicians agreed that certain information seeking was perceived as unproblematic to search for in front of the patient. Common examples mentioned by participants were to look for information or guidance on drug dosing and potential side effects: *"If I look up a drug dosage or a side effect, I believe the patient understands and finds it very reassuring."* This was seen as unproblematic, as it was not something the patient expected them to know by heart, and thus not something they felt they needed to hide: *"I can't have knowledge about every medication and its side effects, so I often refer to FASS during the consultation."* Another typical case was to search for images to show the patient as an educational tool: *"Because we use medical terms that we think are universal, but they really aren't. However, if we offer a picture, it usually works much better."* They could also search for patient information to help or guide patients to reliable information sources: *"more suited to their knowledge. So, I usually refer them there."* This is often the case when patients googled and are worried: *"so they may not have relevant information about their condition, but they have a lot of information and misinformation."*

Theme 2: Unsafe knowledge gaps (not OK to Google): The quotes in this theme illustrate common examples of the other kind of information-seeking that the physicians

don't want the patients to be aware of. It can be when a patient has an unknown or unusual symptom or disease: " *If there is something that I have no idea about, I wouldn't feel comfortable sitting and searching for information in front of the patient*", or if the physician does not know the answer: *"It's very seldom I search a database or tell the patient that I can't answer the question, It doesn't feel quite right in a patient meeting"*. Several physicians mentioned that even if they trust their expertise when judging the quality of online information, the patient might not: *"...it would still be very vague for the patient [...] Even if I feel confident with that source, it's not certain that the patient would feel confident with it."* The physicians described in various ways how they made up excuses, such as that they were checking lab results or writing in the patient journal, or telling the patient that they were leaving to consult a senior colleague: *"I can search a little discreetly /.../ then I can say that I'm just documenting a bit."* Other strategies opportunistically used time when the patient went to the bathroom or undressed for examinations *"Our patients are supposed to change clothes, so I usually take this opportunity to quickly do a Google search."* In addition, patients were sent to the laboratory to take blood samples with the dual purpose of leaving the physician alone in the examination room to Google.

Theme 3: It depends (OK or not OK to Google): What constitutes a safe question to google versus an unsafe question was discussed among the physicians as something that changed over time. They recurrently described a transition where the physician grows more confident using search engines in front of the patients over time, as illustrated by the following quote: *"I used to be much more careful about googling in front of the patient, but now I don't mind as much. I rarely feel that the patient questions my competence because of it"*. The decision to search in front of or together with the patient also depends on the personal characteristics of the patient as well as of the physician, along with the situated context in which the information-seeking occurs. One participant summarized it as follows: *"I think it creates uncertainty in the patient, and they might think, what kind of incompetent physician am I? So it's more my perception of what feelings the patient might have that determines whether I search in front of or behind the patient's back."*

4. Discussion

This exploratory study aimed to investigate how physicians handle digital information-seeking during patient consultations. First, the physicians described *strategies to justify using Google* when seeking information with the patient in the room, i.e., safe knowledge gaps that the physicians deem okay to Google in front of the patients. Related to this, physicians also describe strategies involving elements of patient education, to guide the patients to trustworthy online sources and teach them how to google medical information. Second, the respondents described *strategies to conceal using Google* when seeking information during consultations. In this case, they used various privacy tactics to search for information without the patient noticing. For example, as described above, secretly googling while turning the screen away from the patient or when patients leave the room for a real or made-up reason. Third, respondents described their need to conceal the

information-seeking decreasing over time. Presumably as they became more experienced and confident as physicians.

5. Conclusion

This study examined why and when resident physicians turn to search engines like Google for medical information seeking at the point of care. Illustrating and explaining how physicians perceive and relate to online information-seeking at the point of care, this paper builds on and extends previous studies [5-7], contributing insights into resident physicians' use of general search engines for medical information-seeking during patient consultations. In line with previous research, our findings illustrate that physicians' use of Google can add value to the information patients bring to consultations [1]. Findings from this study also illustrate that residents use clandestine strategies to use search engines without the patients noticing. Our findings are limited to residents and just one hospital group, in Sweden. However they highlight the importance of promoting transparency in the information-seeking process. To avoid patient risks and promote patient engagement, shared learning and sensemaking [1, 13]. Future training programs for residents need to address the benefits of transparency in the patient-doctor relationship.

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