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#### Original research article

# Dr Google as the source of health information – the results of pilot qualitative study

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#### ABSTRACT

Introduction: Google is the most popular search engine that covers nearly 90% of the total online searches. It is likely to be used by both, patients and physicians to look for health information. Aim: The objective of the study was to find out deep motives for using the Internet to obtain health

information. *Material and methods:* Anonymous study was carried out with the use of individual in-depth interviews (IDI). As many as 20 persons participated in the study (10 women and 10 men). The IDI scenario included the questions on health, the Internet as the source of health information and the credibility of

information published online. *Results and discussion:* The majority of respondents (15 persons) admit that they sometimes search the Internet for health information because of curiosity, concern, and motivation to increase knowledge as well as broad and quick access to the network. The respondents search for useful information when the information provided by a physician and medical terms are incomprehensible or when the therapy prescribed by a physician is ineffective. For the majority of respondents Internet portals dedicated to one topic only are the most credible.

*Conclusions:* Women search the Internet for health information more often than men and the scope of their search is broader. The Internet helps to shape basic knowledge, makes it possible to formulate questions asked to the physician and to understand the information provided by a physician.

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#### 1. Introduction

Owing to the progress of civilization and the development of information and communication technologies 67% of men and 60% of women use the Internet regularly, i.e. at least once a week.<sup>1</sup> According to the data of the Centre for Public Opinion Research the number of Internet users among adults has increased almost four times from 2002 to 2015. Age is an important factor in differentiating the use of the Internet. Among adults the highest percentage of users was observed in the group of 18–24 years of age (97%) and 25–34 years of age (95%). It could be assumed that in younger groups the percentage of Internet users can amount to 100%. Independently of age, the education also influences the patterns of Internet usage. As many as 94% of persons with tertiary education declared that they use the Internet regularly, compared

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to 45% of persons with basic vocational education.<sup>2</sup> Access to the Internet differs, depending on the type of household and the urbanization of the place of residence.<sup>3</sup> The results of the study carried out by PBI (Polish Internet Research) in 2011 show that 88% of Internet users use health-dedicated services when trying to acquire information on health, diseases or methods of treatment. The physicians and representatives of health care institutions are only the second source of health information (73%).<sup>4</sup> The results of the study by Bujnowska-Fedak, carried out in the years 2005, 2007 and 2012 in the group of 3027 Polish adults showed that the percentage of the Polish population that used the Internet for health-related purposes grew significantly (41.7% in 2005, 53.3% in 2007, and 66.7% in 2012). The Internet has become significant source of health information for nearly half of Polish citizens, outdoing television, radio, press, and courses or lectures in the ranking list. As the Internet develops, the use of interactive, healthrelated online services has also increased remarkably.<sup>5</sup>

In USA similar percentage of Internet users searching for health information is observed. In 2013 over 72% of Internet users among USA adults said they searched online for health information of one kind or another within the past year (this includes searches for

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general information, information on to serious conditions, and searches for minor health issues). As many as 77% of respondents said they started at a search engine such as Google. The percentage of online health seekers who said that they looked for information related to their own situation amounted to 39%, but 39% declared they searched for information related to someone else's health or medical situation. As many as 24% of USA adults received online or offline information or support from persons who suffer from the same health condition. As many as 26% of Internet users read or watched someone else's experience with health or medical issues in the last 12 months, but 16% stated that they used the Internet in the last year to look for others who might share the same health concerns.<sup>6</sup>

Generalised Internet access also increases the use of different search engines. These tools are commonly used to search for health information and related conditions. Some Internet users use this information for self-diagnosis and self-treatment.<sup>7</sup> The term 'Dr Google' means searching for health information online (mostly to diagnose the symptoms of a disease), particularly with the help of Google search engine.<sup>8–10</sup> Google is the most popular search engine that covers nearly 90% of the total online searches. It is likely to be used by both, patients and physicians to look for health information.<sup>8</sup> Self-diagnosis and self-treatment can constitute health or even life risk.<sup>7,11</sup> Factors that influence the online search for health information include amongst others: education, gender, race, age, presence of children in the home, having a poor personal health condition, and geographic residence. Similarly, factors that influence the use of the Internet to track personal health information of other users include gender, race and education.<sup>12</sup>

According to the results published by Hesse (2012) 'Dr Google' is the most frequently used source of information about health in USA. Hesse describes this trend as positive. He stresses, however, that health care should aim at improving credibility and reliability of the information published online, so that it does not mislead the patient.<sup>13</sup> The author underlines that online health education of patients can lead to measureable impact for healthcare system. However the healthcare system should endeavour to develop an online global collection of credible and scientifically proven health data. The online engagement of a patient in therapeutic and diagnostic process can also result in optimum economic benefits for the healthcare sector.<sup>13</sup> It should be however mentioned that health information published on the Internet does not provide the users with credible and reliable medical advice.<sup>14</sup> The health information available online is mostly incomplete, outdated, unreliable and unreasonable from the scientific point of view.<sup>14</sup>

On the basis of the information stated above, it seems advisable to conduct an pilot study-in-depth qualitative analysis aimed at finding out deep motives behind the usage of the Internet for health purposes and analyse complex patterns of behaviour.

#### 2. Material and method

#### 2.1. Study Group

In qualitative studies mainly nonprobability sampling is used. In this case the so-called snowball sampling was applied. The study included 20 respondents of gender distribution close to the population distribution. The sampling criteria were as follows: age – the group of 20–44 years of age, residence or place of work – Warsaw. The following exclusion criteria were adopted: medical students or graduates of medical universities, PhD students and holders of doctorate in any field of science.

The study group included 10 women and 10 men. As many as 18 respondents live in Warsaw, others work in the capital and live in Warsaw area; 7 participants have a child/children; 16 have tertiary

Table	1	
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Characteristic of	the	study	group.	
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No.	Gender	Age	Education	Financial status	Work	Children
1	W	33	secondary	average	yes	2
2	W	38	tertiary	good	yes	2
3	Μ	30	tertiary	good	yes	0
4	W	34	tertiary	average	yes	0
5	Μ	40	secondary	average	yes	1
6	W	42	tertiary	average	yes	2
7	Μ	21	technical secondary	average	no	0
8	Μ	38	tertiary	good	yes	2
9	Μ	26	tertiary	good	yes	0
10	W	23	secondary	average	yes	0
11	М	26	tertiary	good	yes	0
12	Μ	39	tertiary	average	yes	1
13	W	27	tertiary	average	yes	0
14	W	24	tertiary	good	yes	0
15	Μ	27	tertiary	average	yes	0
16	Μ	42	tertiary	good	yes	0
17	W	24	tertiary	good	yes	0
18	W	27	tertiary	good	yes	0
19	Μ	33	tertiary	good	yes	0
20	W	41	tertiary	average	no	2

education. The detailed characteristic of the study group is presented in Table 1.

#### 2.2. Study method

The study was carried out with the use of qualitative research technique – individual in-depth interviews (IDI). As many as 20 interviews were carried out from 4 November to 10 December 2014. The interviews as well as the consent to participate in the study were recorded on a professional digital voice recorder. A transcription and a summary were prepared for each interview. The qualitative analysis was conducted based on the transcription of interviews.

The IDI scenario included the following thematic areas:

- health (health management, preventive healthcare, cold/flu, chronic conditions, medicines and dietary supplements),
- Internet as the source of health information (information on diseases, medicines, dietary supplements, test results and opinion on physicians/medical practice),
- credibility of information published online.

#### 3. Results

In the study group 5 respondents do not search online for health information at all or do it very occasionally. Others sometimes or quite often obtain this information from the Internet. Almost all respondents in the group (14 persons) indicated that they once searched or sometimes search online, for themselves or close persons, for the information on distressing symptoms that could be the indication of disease.

#### 3.1. Health

The respondents understand health as appropriate physical fitness and wellbeing. Lack of pain and diseases, healthy lifestyle, proper functioning of the body, attention to hygiene, sense of security and satisfaction were indicated. Good mental health, vitality, lack of injuries, feelings and emotions that can help proper everyday functioning were also mentioned. Some persons pay special attention to mental health. They underline that 'the physical influences the psychological; therefore health is the

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