Information Quality on Developmental Dysplasia of the Hip on Turkish Websites

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ABSTRACT

Objective: We aimed to evaluate the reliability of Turkish information achieved from websites about developmental dysplasia of the hip using standardized scientific methods.

Methods: The term "hip dislocation" term was scanned among the most commonly used three internet search engines. The contents of the 10 most frequently clicked sites were copied. These 30 sites were examined. In total, 9 same sites, 3 unrelated sites, and 4 academic sites were eliminated, and 14 sites remained. These sites were scored according to the patient information sheet prepared by the American Academy of Orthopaedic Surgeons. One point was given for every issue included and 0 point was given for no inclusion, over a total of 26 points.

Results: With the search of the term "hip dislocation", 141,000 results on Google, 49,600 on Yahoo, and 46,800 on Bing were found. Results of the content points of the 14 sites that were calculated with the created standard form were determined to be an average of 13.5 points out of 26 (min: 5, max: 22, and SD: 5.02).

Conclusion: We determined that the most visited sites in search engines on hip dislocation contained incomplete information. A variety of applications that aim to increase the reliability of information should be undertaken, or more studies about the development of an accreditation system for Turkish language websites should be performed. *(JAREM 2016; 6: 84-7)*

Keywords: Hip dislocation, internet, health informatics

INTRODUCTION

Internet usage has expanded enormously over the last 10 years in Turkey (Figure 1). Based on findings from the 2014 Turkish Statistical Institute (TurkStat) Internet Use Survey, an estimated 60.2% of households in Turkey had Internet access (1). In 2014, more than half of the population used the Internet for personal purposes from their homes, and 53.8% of Turkish adults used the Internet to access information. According to data for 2009, nearly 45% of people accessed the Internet for health-related information (2). Internet users went online to search for health-related information as other subjects that they want to take information. The population in Turkey is younger and also prolific (1).

The Internet is a worldwide data-sharing platform that has both advantages and limitations when used as a source of information (3). The Internet is an easy, quick, and inexpensive platform for collecting information on any issue. Many types of available data exist on the Internet for users (4), allowing patients to obtain information about diseases and therapies themselves. Sometimes, this might include important aspects of self-diagnosis and self-management. Patients can also learn about the emerging aspects of the diagnosis of common health problems widely observed in our population.

Because of high birthrates and cultural preferences, such as swaddling, developmental dysplasia of the hip (DDH) is an important problem in Turkey. Early diagnosis, particularly in the first three weeks after birth, improves the outcomes in DDH. During this short period, nonsurgical treatment can be used to rectify the hip joint (5). Therefore, the quality of available information is extremely important for the early diagnosis and optimal treatment of DDH. Similar to the universal trend, the number of people in Turkey obtaining information about developmental diseases such as DDH from the Internet has been increasing. In this study, we aimed to investigate the quality of information about DDH on Turkish websites that may affect the insight of the patient's relatives.

METHODS

A simple Internet search using the search term "kalça çıkığı" (Turkish for DDH) was performed on March 15, 2014 using the three most popular search engines: Google (http://www.google.com), Yahoo (http://www.yahoo.com), and MSN (http://www.bing.com), which account for more than 95% of Internet searches (6). The first 10 websites from each search engine were identified based on the researched fact that people generally view only the first 10 results from Internet searches (Figure 2) (7). Thus, 30 websites were identified.

Websites were classified into the following three categories: public (easy for any person to understand), academic (addressed to health professionals), and sites with no focus on DDH. We only

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Table 1. Questionnaire interrogating information details about DDH

Headings of information	Subheadings	Score
Description	Normal anatomy of the hip	1
	Developmental dysplasia (dislocation) of the hip (DDH), i.e., the hip joint has not formed normally	1
	At birth or soon after can occur increase in activity	1
	Diagnosis is made by examination by the general pediatrician	1
Causes	Girls, first-born children, left hips, and breech presentation are associated with increased risk	1
	Family history of DDH (parents or siblings) and oligohydramnios (low levels of amniotic fluid)	1
Symptoms	Some babies born with a dislocated hip will show no outward signs	1
	Legs of different lengths	1
	Limping, walking on the toes, waddling, or duck-like gait	1
	Uneven skin folds	1
	Less mobility or flexibility on one side	1
Examination	Clinical examination is performed first	1
	Infants monitored using USG	1
	After 6 months, monitor using X-ray	1
Nonsurgical treatment	Bandage treatment of newborn infants	1
	1–6 months' bandaging or individual plaster treatment	1
Surgical treatment	Usually performed after 6 months	1
	There are options for intervention by age	1
	Treatment is performed with anesthesia	1
	Open surgery may be necessary	1
	After the intervention, a plaster cast is made	1
	Controls are monitored by X-ray	1
Complications	Calcification can occur despite treatment	1
	There can be a delay in walking after treatment	1
	The Pavlik harness and other positioning devices may cause skin irritation around the straps	1
	Difference in leg length may remain	1
TOTAL		26

DDH: developmental dysplasia of the hip; USG: ultrasonography

evaluated the public sites because the academic and unrelated sites did not address the information needs of the general public about DDH. For each included site, relevant data were scored according to the ingredient questionnaire previously described by Greene et al. (8) (Table 1). The sum of each included parameter represented the average score for that site.

Consecutive data analysis was performed in a number of stages. First, two qualified pediatric orthopedic surgeons generated a content quality score according to the DDH Patient Educating Form of the American Academy of Orthopedic Surgeons (AAOS) (9). All search data and details were saved. Then, two other orthopedic surgeons evaluated the information and graded it according to the criteria based on the AAOS DDH Patient Educating Form. The DDH questionnaire includes basic information needed by patients in a format they can understand. All steps of our study was designed according to Declaration of Helsinki.

RESULTS

For the search term kalça çıkığı (i.e., hip dislocation or DDH), we obtained approximately 141,000 results from Google, 49,600 from Yahoo, and 46,800 from MSN. The 10 most frequently clicked sites per search engine were copied with all their content. Thus,

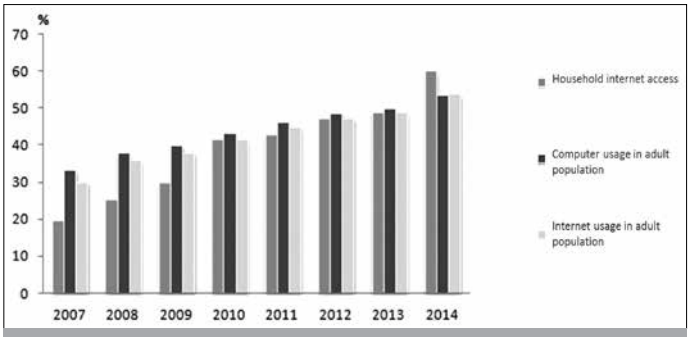

Figure 1. Increasing rates of Internet connection in Turkey. Data according to the 2014 Turkish Statistical Institute (TurkStat) Internet Use Survey

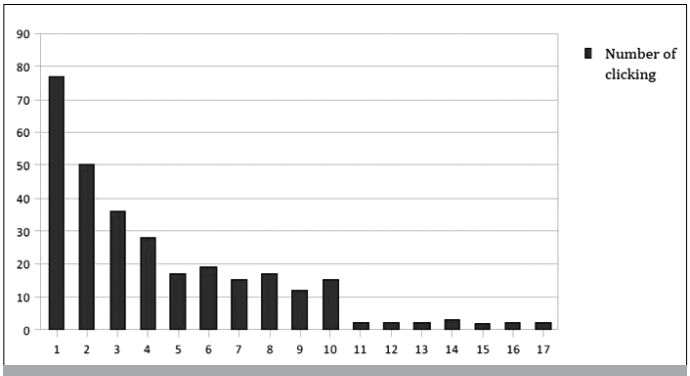

Figure 2. Internet searchers do not typically view more than 10 results. Data based on previous research (7)

30 sites were accessed for further examination. After eliminating duplicate sites (n=9), unrelated sites (n=3), and sites with academic content more suited to professionals (n=4), 14 sites were identified for further analysis. Using the standard form, the average content score for the 14 sites was calculated as 13.5 out of 26 points (range, 5–22; SD, ±5.02). The site www.doktorum.com had the highest score in this study. Other top ranking sites were www.wikipedia.com and www.ortopedikbilgi.com. Only five websites included basic information about the disease. Commercial sites had significantly more accessibility violations.

DISCUSSION

Hip dysplasia has been defined as the lack of correct orientation of the femoral head and acetabulum. DDH is one of the most widely discussed abnormalities in neonates and has a multifactorial etiology. The reported incidence of DDH varies, but is reported at 1.5–20 cases per 1000 births, possibly because of the variability of diagnostic methods, tool quality, and timing (10). Many factors, including genetics, intrauterine position, breech presentation, sex, race, family history, associated skeletal abnormalities, first-born, hormonal factors, environmental factors, and oligohydramnios, are known risk factors for DDH (11, 12). Family history and inheritance are also important, and several postnatal factors play important roles in the etiology of DDH. For example, swaddling forces the hips into adduction and extension, which is unfavorable for the developing hip joint. This postnatal practice is common in most of Northeastern Anatolia. In Anatolia, the incidence of swaddling is nearly 47%, and the incidence of DDH is estimated to be nearly 1.4% in Turkey (13).

The Internet has been an important information source on various issues, including medical or health issues, surgical therapy, drug therapy, healthcare technology, and alternative paramedical therapy. Many parents look for information about DDH from various sources. Increased use of the Internet aids the families of patients with DDH to obtain information from the web. However, there is a lack of content control in web sources, and families sometimes obtain incorrect information. Moreover, it has been reported that 85% of parents do not know the full details of the disease and believe that DDH can be treated after their child has learned to walk (14, 15).

Health information accessed from the Internet is important in helping patients make decisions and affects their preferences (16, 17). Berland et al. (18) claimed that accessing health information from search engines is not a suitable method, and recommended systematic evaluation and control of websites concerning health issues. Physicians should be aware of the quality and accuracy of information available on the Internet as this can impact medical decision-making and healthcare decisions in families.

In general, patients use popular search engines (e.g., Google) rather than professional search engines (e.g., PubMed) for health-related literature (18, 19), and rarely read the results after the first 10 ranked websites. Therefore, decisions are made on the basis of these ranked sites (7). The quality of healthcare-related information on the Internet is presently uncontrolled, and warnings regarding this have been issued (20). Healthcare resources in Turkish websites need to be evaluated and accredited by an independent institutional body for patients' benefits, similar to the Health on Net Foundation (HON) panel that independently evaluates the quality of medical websites with specific guidance (21).

CONCLUSION

Independent, external validation and accreditation of websites that provide healthcare information is mandatory to optimize guidance to the Turkish population. Information on the Internet must be reinforced by medical professionals educating the population, thereby preventing incorrect practices, irreversible prejudices, and limiting the effects of commercial goals.

Ethics Committee Approval: Authors declared that the research was conducted according to the principles of the World Medical Association Declaration of Helsinki "Ethical Principles for Medical Research Involving Human Subjects", (amended in October 2013).

Informed Consent: No patient data used fort his study.
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