



ORIGINAL ARTICLE

Medicine Science 2021;10(3):902-4

## The quality and the reliability of internet information in lumbar disc herniation

Ihsan Canbek<sup>1</sup>, Usame Rakip<sup>1</sup>, Serhat Yildizhan<sup>1</sup>, Mehmet Gazi Boyaci<sup>1</sup>, Hakan Ak<sup>2</sup>, Adem Aslan<sup>1</sup>

<sup>1</sup>Afyonkarahisar Health Sciences University, Faculty of Medicine, Department of Neurosurgery, Afyonkarahisar, Turkey

<sup>2</sup>Yozgat Bozok University, Faculty of Medicine, Department of Neurosurgery, Yozgat, Turkey

Received 25 January 2021; Accepted 10 March 2021

Available online 15.08.2021 with doi: 10.5455/medscience.2021.01.025

Copyright@Author(s) - Available online at [www.medicinescience.org](http://www.medicinescience.org)

Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.



### Abstract

Internet is the most frequently used resource for health literacy. We aimed to investigate the quality and reliability of the internet sites which are the most easily accessible and the most frequently used information resources about the diseases of patients with lumbar disc hernia and lumbar hernia, in this study. All sites examined were analyzed with JAMA Benchmark Criteria and DISCERN. 28 sites were not included the study because they did not provide the inclusion criterias. The JAMA score of examined 72 websites was  $1.7 \pm 0.8$ . Only one website's JAMA score was 4. According to the JAMA Benchmark Criteria, the reliability of the remaining 71 websites reliabilities were doubtful. The DISCERN score of these 72 websites was  $38 \pm 11.4$ . According to DISCERN, sites related to the subject were in poor quality. In conclusion, there are informations about lumbar disc hernia and lumbar hernia on the internet. However, the reliability of this informations are doubtful and poor quality. Since the society should have access to quality and reliable information, the ministry of health and associations should take a more active role in the internet.

**Keywords:** JAMA Benchmark Criteria, DISCERN, lumbar disc herniation, internet

### Introduction

Low back pain is a very common complaint in the community. The rate of people who suffer from low back pain at least once in their life is around 70-80% [1,2]. While dyscal pathologies are seen in up to 40% of patients with low back pain, which is such a common complaint, only 1-3% of them undergo surgery [3]. Internet is one of the fastest and easiest ways to access up-to-date information. In our country, its usage is increasing day by day with 84.7% for men, 73.3% for women and 79% in total [4].

In our country, parallel to internet usage, the rate of searching information about people's health or illness on the internet has increased. The rate of searching for information about health among internet users was 65.4% [5].

Unfortunately, we realise that our patients with lumbar disc herniation do not have sufficient and accurate information about their diseases due to the questions and comments we encounter in the polyclinic. Therefore, in this study, we tried to measure

the quality and reliability of the information on this subject in the internet that our patients can easily access about lumbar disc herniation.

### Materials and Methods

The most frequently used search engine in our country is Google. It has been used with a frequency varying between 80% and 90% in the last year [6]. For this reason, Google search engine was used in our study.

The terms lumbar disc hernia and lumbar disc herniation were searched on the Google search engine after the search history, cookies, download history were deleted. Turkish characters were used during the search. The first 50 results were listed for each search. Video sites, duplicate sites, unreachable sites and academic publications were excluded from the study. A total of 72 sites were divided into classes as private hospitals-clinics (Group 1), forums - personal blogs (Group 2), associations (Group3), public institutions (Group 4) and news (Group 5). These sites were evaluated by JAMA Benchmark Criteria and DISCERN [7-8].

According to JAMA sites that do not meet these basic criteria are suspicious [7].

According to this tool, considering the total average scores,

\*Corresponding Author: Ihsan Canbek, Afyonkarahisar Health Sciences University, Faculty of Medicine, Department of Neurosurgery, Afyonkarahisar, Turkey, E-mail: [drihsancanbek@gmail.com](mailto:drihsancanbek@gmail.com)

websites are divided into five groups as follows: scores of 16–26 = very poor; 27–38 = poor; 39–50 = fair; 51–62 = good; and > 63 = excellent [8].

The evaluations were obtained by reporting a joint decision by two different observers (IC-UR). Microsoft Excel 2020 for Mac® software was used for all statistical analysis. Descriptive statistics were performed. Data were described using the number (n), percentage (%), mean, and standard deviation.

Ethics committee approval is not required as this research is not conducted on humans.

## Results

The terms lumbar disc herniation and lumbar hernia were searched on the Google search engine. A total of 100 websites were listed with the first 50 results for both searches. The 72 sites that remained after the excluded sites were divided into groups (Table 1).

**Table 2.** JAMA and DISCERN scores

	JAMA	DISCERN	Min.DIS CERN	Max.DIS CERN
<b>Group 1</b>	1.5±0.8	36.1±7.7	17	50
<b>Group 2</b>	1.9±0.5	42±14.2	21	68
<b>Group 3</b>	2±1.2	46.5±12.5	34	66
<b>Group 4</b>	3	35	35	35
<b>Group 5</b>	1.6±0.8	29.3±5.6	20	36
<b>General</b>	1.7±0.8	38±11.4	17	68

Generally, the DISCERN score of all sites was 38±11.4. While the site with the lowest score was 17, the score of the site with the highest DISCERN score was 68.

Looking at the groups, the DISCERN score of Group 1 (private hospitals and clinics) was 36.1±7.7. In Group 1, the highest DISCERN score was 50, while the lowest score was 17. The DISCERN score of group 2 (personal blogs and forums) was determined as 42±14.2. In Group 2, the lowest DISCERN score was 21, while the highest score was 68. The DISCERN score of group 3 (associations) was determined as 46.5 ± 12.5. In Group 3, the lowest DISCERN score was 34, while the highest score was 66. The DISCERN score of Group 4 (public institutions) was determined as 35. The DISCERN score of Group 5 (news) was determined as 29.3±5.6. In Group 5, the lowest DISCERN score was 20, while the highest score was 36 (Table 2).

The average scores for each DISCERN criterion are given in Figure 1.

When we look at the sites in general, the question with the lowest DISCERN score (1.2±0.9) is the 5<sup>th</sup> question (Is it clear when the information used or reported in the publication was produced?) while the highest score (3.9±0.8) is the 3<sup>th</sup> question. (Is it relevant?).

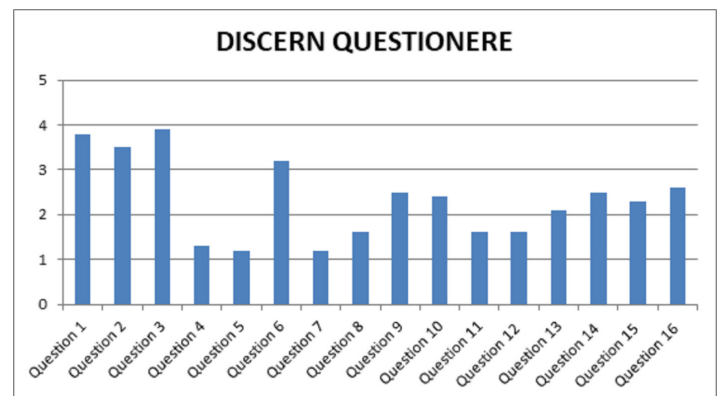
When looking at each group separately, it was seen that the lowest score of 1 in groups 1-4 and 5 was detected in more than one question, and the highest score was found in the third question in group 3 with 4.7±0.4.

**Table 1.** Groups and percentages of websites

Groups	Number	Percentage
<b>Group 1- Private hospitals and clinics</b>	34	%47.2
<b>Group 2- Personal blog and forums</b>	25	%34.7
<b>Group 3- Associations</b>	4	%5.5
<b>Group 4- Public institutions</b>	1	%1.3
<b>Group 5- News</b>	8	%11.1
<b>Total</b>	72	%100

Looking at the overall JAMA score of 72 sites, it was found to be 1.7±0.8. It was seen that only one site, 1.3%, could get 4 points by meeting all JAMA criteria. It was determined that 88.8% of them did not specify the source. Not specifying the source was followed by not specifying the date with 73.6%.

When examined separately for each group, the JAMA value was determined as 1.5±0.8 in the first group, 1.9±0.5 in the second group, 2±1.2 in the third group, 3 in the fourth group, and 1.6±0.8 in the fifth group (Table 2).



**Figure 1.** Average DISCERN score for each question

## Discussion

In general, it was seen that the rate of meeting all JAMA criteria in the sites that included in the study was very low, at 1.3%, and the remaining sites were considered suspicious. In our study, it was determined that 88.8% of the browsed sites did not specify the source, 73.6% did not specify the date, and 54.1% did not specify the author. Yuksek et al, in the internet reliability study of obstetric anesthesia, 72.8% of the source and 70.5% of the author were not specified. Therefore, this result we found is consistent with similar studies on other issues in the literature. Discern score was found to be poor with a value of 38 ± 11.4 in our study. Yuksek et al, in their study, this rate was again in the poor In our study, the highest DISCERN score was 68, the lowest was 17, while the highest

value was 56 and the lowest was 15 in the study of Yuksek et al. group with a value of  $29.7 \pm 7$  [9].

In the internet reliability studies of Olkun et al about lingual orthodontics, the JAMA score was found to be 1.71 and the DISCERN score to be 36.8 (poor).

When the JAMA criteria were examined separately, it was determined that 71% of the author was not known, 93% did not have Attribution, and 54% did not have information about Currency. While there was no response to Disclosure at the rate of 7% in the study of Olkun et al, This rate was found to be 6.9% in our study very similarly. Likewise, the number of sites that meet four of the JAMA criteria in their studies was determined as 1/28 (3.5%). This rate was determined as 1.3% in our study. When the DISCERN questions were evaluated separately, it was seen that the lowest score was obtained in Question 12 (Does it describe what would happen if no treatment is used?) With 1.1 and the highest score was obtained in Question 1 (Are the aims clear?) with 3.1. Our study has the lowest score of 1.2 in Question 5. It was seen that the highest score in 3.9 provinces were obtained in the 3<sup>rd</sup> question [10].

In the study of Samancı et al, It was determined that 86.7% of the sites related to lumbar disc herniation did not contain source information and 74.7% of them did not include date information about the sources. These rates were determined orderly as 88.8% and 73.6%, in our study, and are consistent with the study of Samancı et al [11].

Health literacy in our country is 30.9% inadequate and 38% problematic - limited. Only 23.4% is sufficient and 7.7% is excellent. It was determined that the internet is the most common resource in health literacy with 48.6%. It has been observed that limited-inadequate health literacy, which is about 70% in the general population, has increased to 90% over the age of 65. It is known that 51% of our society are not sure about the reliability of health information in mass media [12].

As can be seen from the statistics, even if the rate of people looking for information about their health is not at a sufficient level, unfortunately, those with health literacy have little chance of reaching reliable and quality information. As shown in similar studies in the literature, it is very difficult to find reliable and quality information on health-related issues such as lumbar disc hernia. For this reason, associations belonging to health professionals and the ministry of health should take a much more active role in the internet regarding lumbar disc herniation and all other health problems.

Although it belongs to the associations with the highest DISCERN score of  $46.5 \pm 12.5$  (fair) among the groups in our study, it is not sufficient. In our opinion, these associations and the ministry should first ensure that their sites are organized in accordance with reliability and quality criteria, then they should either audit existing websites or standardize them using common quality references.

Since it is not possible to achieve this due to the unlimited resources on the internet, it should be shared with the public that the information reliability and quality of public service ads and

websites are low.

## Conclusion

The credibility of the websites for lumbar disc herniation and lumbar hernia is suspicious the quality of the information it contains is also at poor level.

Patients who get insufficient or even wrong information from the internet cause increasing medicolegal problems nowadays.

For this reason, patients should not be satisfied with the resources on the internet about lumbar disc herniation and lumbar hernia and get more accurate and definite information from the experts or confirm what they have learned. In the future, related associations and our ministry of health should be more active in the internet about all matters related to health, their sites should be more reliable and quality, and even be referred to them.

## Conflict of interests

*The authors declare that they have no competing interests.*

## Financial Disclosure

*All authors declare no financial support.*

## Ethical approval

*Ethics committee approval is not required as this research is not conducted on humans.*

## References

1. Karababa AO. Low Back Pain Epidemiology. [Article in Turkish]. *Turkiye Klinikleri J Neurosurg-Special Topics*. 2010;3:1-7.
2. Berker E. Epidemiology and risk factors in low back pain. [Article in Turkish]. *Turkiye FTR dergisi special issue*. 1998;8-10.
3. Atci IB, Yılmaz H, Kocaman U, et al. An evaluation of internet use by neurosurgery patients prior to lumbar disc surgery and of information available on internet. *Clin Neurol Neurosurg*. 2017;56-9.
4. TUIK Data Portal Table-1. Internet usage rate according to last usage time and gender. [Web site in Turkish]. <https://data.tuik.gov.tr/Kategori/GetKategori?p=bilgi-teknolojileri-ve-bilgi-toplumu-102&dil=1> acces date: 22.12.2020.
5. TUIK Statistics Data Portal. Individuals who have used the internet in the last three months personal use of the Internet [Web site in Turkish]. <https://data.tuik.gov.tr/Kategori/GetKategori?p=bilgi-teknolojileri-ve-bilgi-toplumu-102&dil=1> acces date: 22.12.2020.
6. Search Engine Market Share Turkey. <https://gs.statcounter.com/search-engine-market-share/all/turkey> acces date: 22.12.2020.
7. Silberg WM, Lundberg GD, Musacchio RA. Assessing, controlling, and assuring the quality of medical information on the Internet: Caveant lector et viewer - Let the reader and viewer beware. *JAMA* 1997; 277:1244-5.
8. Charnock D. *The DISCERN Handbook: Quality criteria for consumer health information on treatment choices*. Radcliffe: University of Oxford and The British Library 1998.
9. Yuksek A, Talih G. Quality of internet-based information on obstetric anesthesia. *Ann Med Res*. 2019;26:2904-7.
10. Olkun HK, Demirkaya AA, Aras B. The quality of Internet information on lingual orthodontics in the English language, with DISCERN and JAMA. *J Orthod*. 2019, 46:20-6.
11. Samancı Y, Celik SE. Low back pain and internet: infopollution. *Turk Neurosurg*. 2017 27:804-8.
12. General Directorate of Health Promotion [Web site in Turkish]. <https://sggm.saglik.gov.tr/TR-57003/turkiyenin-saglik-okuryazarligi-duzeyi-olculdu.html> acces date: 22.12.2020.