OPEN ACCESS

Research Article

DISCERNing Childhood Dental Anxiety

Hemalatha.R, Nirmala. A, Viswaja

Department of Pediatric and Preventive Dentistry, Department of Biochemistry, Department of General Pathology, SRM Dental College, Chennai, India

Abstract: ***Aim****:* The aim of the study was to evaluate the reliability of websites on childhood dental anxiety using DISCERN instrument. ***Methodology:*** An Internet search engine (www.google.com) will be used to identify the web sites comprising of information on dental anxiety status in children. Using the 16 questions of DISCERN for assessing the reliability and quality of the information will be assessed. ***Results:*** 62 out of 100 websites were excluded as they did not meet the inclusion criteria. Of the remaining 38, DISCERN indicated that the maximum score was 50 out of 80 and lowest was 40 out of 80.
Keywords: Childhood dental anxiety, clinical setup.

INTRODUCTION

The aim of the study was to evaluate the reliability of websites on dental anxiety in children using DISCERN instrument .1 .DISCERN is a tool to check the quality of information published through the Internet. It is based on Division of Public Health and Primary Care of Oxford University (UK).It is financed by the British National Health Service Executive Research and Development Program. Reporting with high standards, with good internal consistency it is still criticized as not scrutinizing the details with depth (Crocco, A. G. *et al.,* 2002; & Eysenbach, G. *et al.,* 2002).

An Internet search engine (www.google.com) was used to identify websites comprising of information on dental anxiety. Over 204,000 links were available, of which the first 100 were analyzed in detail .After excluding discussion groups ,news, video feeds and carbon copy sites 38 relevant sites remained, which were assessed using the DISCERN instrument. Using the 16 questions of DISCERN for assessing the reliability and quality of information which was scored from 1-5, an appropriate index of quality of the information was generated.

Dental anxiety is a common occurrence especially in the Pediatric age group. From an oral health view point it is an issue of major concern both for children as well as parents .Effective communication amongst the triad comprising of oral health professionals, parents and children is still an area which needs focus. The Internet access is gaining popularity among the educated population, since medical related information is available readily by the click of a mouse.

Though information is displayed immediately, the validity of the source is still questionable .Hence several tools like DISCERN and JAMA-Journal of American Association have been developed to check the validity of the web contents (McMullan, M. 2006; Health on the Net Foundation. 2019; Cline, R. J., & Haynes, K. M. 2001; Khazaal, Y. *et al.,* 2009; & Charnock, D. *et al.,* 1999).

METHODOLOGY

An initial search using three different search engines:Google(www.googl.com),Yahoo(www.yahoo.com) and Ask Jeeves(www. Ask.com) for the term Dental anxiety in Children was performed.

It was found that google topped the link list out of the three. DISCERN instrument(1) was used to rate the sites, since it was a valuable tool(1) It has 16 questions related to assess the quality of which first 8

were for reliability next 7 was for specific details and the last question for overall quality of the website rated from 1-5.

Inclusion/Exclusion Criteria

The search was not restricted in terms of file format of domain .It was limited to English language. Websites were included if they provided the necessary information. Unrelated websites or those which provided only links, sponsored links, banners and advertisements were excluded (Ademiluyi, G. *et al.,* 2003).

Inclusion criteria

- Health related content
- Patients'health
- Web pages in English
- Blog write ups
- Websites showing up in the first 5 pages of google search

Exclusion Criteria

- Scientific articles
- Web content in languages other than English
- Duplicates
- Video based contents
- Systematic Reviews

RESULTS

62 out of 100 websites were excluded as they did not meet the inclusion criteria..Of the remaining 38, DISCERN indicated that the maximum score was 50 out of 80 and lowest was 40 out of 80.

High quality websites were
1. Impeccable smiles.com-50
2. Dental fear central.org-50
3. Livermore dentists.com-50
4. Smilesct.com-49
5. Medicinenet.com-49

Table 1: DISCERN Instrument Variables

S. No	What is investigated
1	Are the aims clear?
2	Does it achieve its aim?
3	Is it relevant?
4	Is it clear what sources of information were used to compile the publication?
5	Is it clear when the information used or reported in the publication was produced?
6	Is it balanced or unbiased?
7	Does it provide details of additional sources of support and information?
8	Does it refer to areas of uncertainity?
9	Does it describe how each treatment works?
10	Does it describe the benefits of each treatment?
11	Does it describe the risk of each treatment?
12	Does it describe what would happen if no treatment is used?
13	Does it describe how treatment choices would affect overall quality of life?
14	Is it clear that there may be more than one possible treatment choices?
15	Does it provide support for shared decision making?
16	Based on the answers to all of the above questions, rate the overall quality of the publication as a source of information about treatment choices?

Table 2: List of websites

Websites	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Total
www.healthmantra.co.uk	4	3	3	2	5	4	2	2	3	4	2	1	3	2	3	2	47
www.health.org	3	2	2	4	4	1	2	1	2	3	3	4	5	3	2	3	46
www,medicineNet.com	4	3	3	2	5	3	3	2	1	4	3	4	3	5	2	2	49
www.dentalfearcentral.org	3	2	1	3	2	4	5	3	2	3	4	3	5	3	4	3	50
www.webmed.com	3	3	4	2	1	4	4	4	3	5	2	1	3	2	4	2	47
http://www.mouthhealthy.org	2	3	1	4	3	4	5	3	2	1	2	4	5	4	3	3	49
http://drstevenlin.com	2	4	5	3	2	2	3	4	5	2	3	4	1	2	3	3	48
http;//www.psychologytoday.com	3	2	4	4	5	3	2	3	4	3	2	1	1	3	4	3	47
http://www.netdoctor.co.uk	3	2	3	4	4	2	2	3	4	5	2	1	2	2	4	4	47

Website																	Total
http://www.mindbodygreen.com	4	3	2	1	2	3	1	2	4	5	4	3	3	4	2	4	47
http://www. Lanap.com	3	2	4	5	1	2	4	4	3	4	5	4	3	3	2	3	48
http://www.betterhealth.vic.gov.au	2	3	2	1	4	2	3	2	5	4	3	2	1	3	4	2	43
http://www.impeccablesmiles.com	2	4	2	3	3	2	5	4	3	2	5	3	3	2	4	3	50
http://www.drjerry.co.il	2	3	1	4	4	5	3	2	2	3	3	5	3	2	3	1	46
http://www.nhs.uk	3	2	1	4	5	3	2	1	4	2	3	3	4	3	4	2	46
http://www.colgate.com	2	3	1	2	5	4	3	2	3	2	5	3	4	2	2	1	44
www.fightgumdisease.com	3	4	2	2	4	3	5	3	2	2	4	3	2	4	2	3	48
www.kyrenefamilydentistry.com	3	4	5	4	3	2	1	4	3	2	2	4	5	3	3	2	49
www.nhsinform.scot	3	2	3	4	4	2	5	4	3	2	2	1	2	4	5	2	48
http://www.psychecentral.com	2	2	3	1	2	4	1	5	2	3	4	5	4	3	2	2	45
http://wwwbuldinggreatsmiles.com	3	4	4	2	5	3	4	2	2	3	3	2	1	2	4	5	49
http://www.deltadentalins.com	2	3	2	1	1	3	2	4	4	2	4	3	4	5	2	2	44
http://www.refinery 29.com	2	2	3	3	4	3	2	1	2	5	4	3	2	2	3	4	45
http://www.bupa.co.uk	2	3	5	3	4	1	2	3	2	4	3	4	3	2	2	2	45
http://www.dentalexcel.com	3	4	2	1	2	3	4	4	2	3	3	4	5	2	1	3	46
http://www.gallery57dental.com	3	3	4	1	5	3	3	2	1	2	4	2	4	3	2	2	44
http://www.ncbi.nim.nih.gov	2	1	3	4	3	3	2	2	5	3	3	2	2	3	2	1	40
http;//www.researchgate.net	1	3	2	3	4	5	3	2	2	3	4	2	3	4	3	2	48
http://www.rdhmag.com	2	2	3	4	3	1	5	2	2	4	3	5	2	4	3	2	47
http://www.smilesct.com	3	2	4	4	3	2	2	3	5	2	5	4	3	2	2	3	49
http://www.drcfamilydentistry.com	2	3	4	5	2	2	1	3	2	3	3	4	5	3	2	2	46
http://www.healthscopemag.com	3	4	2	1	2	4	5	2	3	2	5	3	3	2	1	2	44
http://www. tand fonline.com	3	2	2	3	1	3	2	2	1	4	3	5	4	3	4	3	45
http://www.livermore-dentists.com	2	2	3	1	4	5	3	2	2	4	4	2	5	3	2	4	50
http://pdfs.semanticscholar.org	3	4	2	2	3	4	4	5	3	2	2	3	3	3	2	3	48
http://smilesbydrsantos.com	2	1	3	4	2	3	4	3	2	4	3	3	2	5	3	2	46
http://sullivanheightsdental.ca	2	2	2	1	3	4	4	5	2	4	3	4	3	2	2	1	44
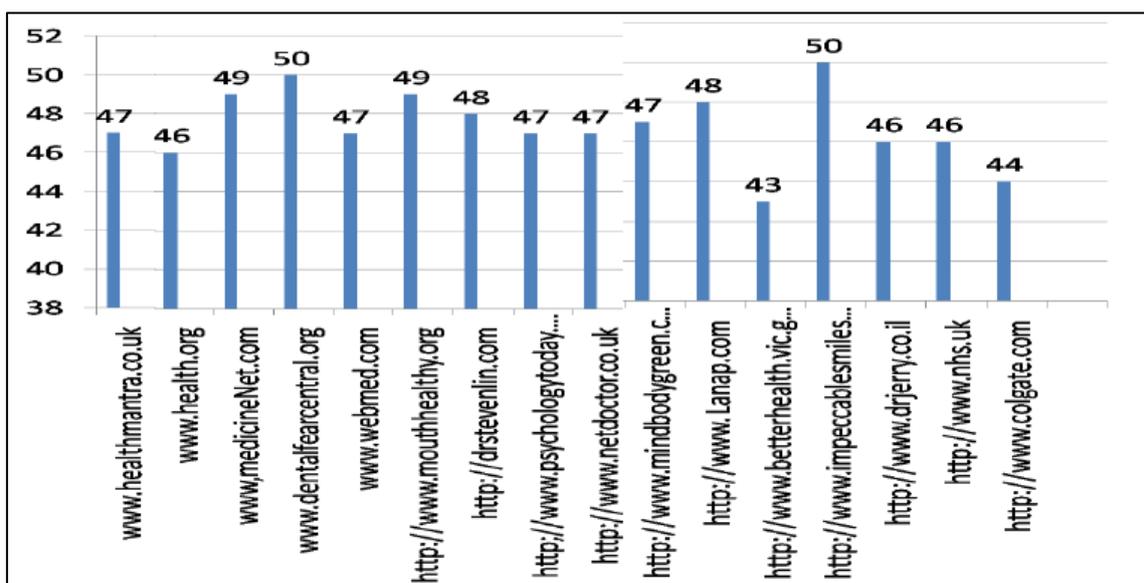
Graph 1: Evaluation of DISCERN as content quality indicators for patients seeking information on childhood dental anxiety

DISCUSSION

With reference to the present scenario there are no standards available for information medically on the Internet. (Eysenbach, G., & Köhler, C. 2002). The lacunas focus on promotion rather than educational, incomplete, out dated, difficult to understand and comprehend by way of presentation styles, contradictory information (Food and Drug Administration. 2019; & Nicholas, D. *et al.,* 2003, December).

Our results showed that very few studies achieve high standards according to DISCERN tool. None of them scored 5 points in all 16 questions. The questionnaire was derived systematically from the inputs collectively collected from an exclusive expert panel, health information providers , seekers and patients from a self help group (Jadad, A. R., & Gagliardi, A. 1998).This study found that DISCERN score was highly rated among the initial search results displayed.

DISCERN seal need to undergo periodic audit checks at stipulated regular intervals for consistency and compliance (Parsons, A. 2004). An external accreditation body to check on the health related websites cannot be accomplished easily as it requires voluminous staff input, finance and expertise in varying fields to monitor the voluminous medical sites.

Though DISCERN tool has been critically evaluated as to not evaluating the in depth details as regards to the quality, when compared to other competitive tools like JAMA, this tool has good internal consistency and is user friendly (Eysenbach, G. *et al.,* 2002; McMullan, M. 2006; & Health on the Net Foundation. 2019). The validity and reliability reports on analyzing consumer health information is good. It is a standardized quality index of health information which can be used by health professionals, patients and the general public as well.

Net users have no access to check the reliability of the information unless they are from medical background. On the contrary people may get misled by understanding and misinterpreting the wrong way, though the input source may have added the information the right way. Patients may get empowered the wrong way which can lead to wrong diagnosis, self medication and disastrous results.

Despite the above discussed concerns Internet usage in future is going to surmount an uphill mode, though they need to be counseled and cautioned about it's pitfalls such as the need to avoid commercial websites and to look for the seal. They also need to check on the transparency, accuracy and accountability.

CONCLUSION

The net users need to be cautioned against these deleterious effects and to rely only on validated websites and ensure that they use it judiciously.

COI-Nil

Financial Support –Nil

REFERENCES

1. Ademiluyi, G., Rees, C. E., & Sheard, C. E. (2003). Evaluating the reliability and validity of three tools to assess the quality of health information on the Internet. *Patient Education and counseling*, *50*(2), 151-155.
2. Charnock, D., Shepperd, S., Needham, G., & Gann, R. (1999). DISCERN: an instrument for judging the quality of written consumer health information on treatment choices. *Journal of Epidemiology & Community Health*, *53*(2), 105-111.
3. Cline, R. J., & Haynes, K. M. (2001). Consumer health information seeking on the Internet: the state of the art. *Health education research*, *16*(6), 671-692.
4. Crocco, A. G., Villasis-Keever, M., & Jadad, A. R. (2002). Analysis of cases of harm associated with use of health information on the internet. *Jama*, *287*(21), 2869-2871.
5. Eysenbach, G., & Köhler, C. (2002). How do consumers search for and appraise health information on the world wide web? Qualitative study using focus groups, usability tests, and in-depth interviews. *Bmj*, *324*(7337), 573-577.
6. Eysenbach, G., Powell, J., Kuss, O., & Sa, E. R. (2002). Empirical studies assessing the quality of health information for consumers on the world wide web: a systematic review. *Jama*, *287*(20), 2691-2700.
7. Food and Drug Administration. (2019). How to evaluate Health Information on the Internet. [Last accessed on 2019 Apr !7]. Available from http://www.fda.gov/Drugs/ResourcesForYou/Consumers/ BuyingUsingMedicineSafely/BuyingMedicinesOvertheinternet/ucm202863.htm.
8. Health on the Net Foundation. (2019). (Last accessed on 2019 April 17).Available from :http://www.hon.ch
9. Jadad, A. R., & Gagliardi, A. (1998). Rating health information on the Internet: navigating to knowledge or to Babel?. *Jama*, *279*(8), 611-614.
10. Khazaal, Y., Chatton, A., Cochand, S., Coquard, O., Fernandez, S., Khan, R., ... & Zullino, D. (2009). Brief DISCERN, six questions for the evaluation of evidence-based content of health-related websites. *Patient education and counseling*, *77*(1), 33-37.
11. McMullan, M. (2006). Patients using the Internet to obtain health information: how this affects the

patient–health professional relationship. *Patient education and counseling*, *63*(1-2), 24-28.

12. Nicholas, D., Huntington, P., Gunter, B., Withey, R., & Russell, C. (2003, December). The British and their use of the web for health information and advice: a survey. In *Aslib Proceedings*. MCB UP Ltd.

13. Parsons, A. (2004). Page rank=ranking page? Search Engine Journal.2004.Available from:http://www.searchenginejournal.com/index.php?p=284.