

# Searching for answers: How well do depression websites answer the public's questions on treatment choices?

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# Epidemiology

- Major depressive disorder is a common problem in the community
  - 12 month prevalence 4.8%
  - Lifetime prevalence 12.2%
  - Median age of onset 26 years
- Prevalence in the populations starts to increase in late adolescence
- Often a persistent problem



# Decision Making

- Shift from paternalistic decision making model to a shared decision making model
- Few studies have looked at what questions the patient feels are important for making treatment choice decisions

# Increase in Internet use for health information



**“I already diagnosed myself on the Internet. I either have three left kidneys, recurring puberty, or Dutch Elm disease.”**



## What information does the public want in making decisions concerning treatment choices?

- Walker & Colleagues surveyed 258 respondents at a family medical centre who were visiting for any reason.

*“If you were making decisions about treatments to consider for anxiety or depression, how important would it be for you to receive information about the following aspects of treatment?”*

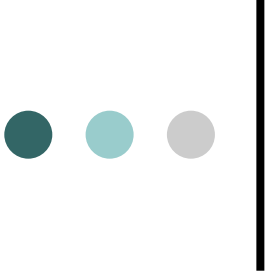


- Many areas of desired information were identified – these were evaluated in our Web information study



# Methodology

- Selection of websites
  - Google.ca search for first 30 websites
    - Thirteen websites excluded
  - 14 specialist recommended sites
    - Eight websites excluded
  - Total number of websites analyzed (n=23)



# Standardized quality of website scales

## Ensuring Quality Information for Patients (EQIP)

- 20 Questions
  - “Does it use everyday language, explaining unusual or medical words or abbreviations or jargon?”
  - “Are the benefits described?”
  - “Is the design and layout of the document satisfactory?”

## DISCERN

- 16 Questions
  - “Is it clear when the information used or reported in the publication was produced?”
  - “Does it provide support for shared decision-making?”
  - “Is it clear that there may be more than one possible treatment choice?”



# Results- Quality of Website

- EQIP
  - Range = 50 - 89.5
  - Mean = 69.3
  - Minimum possible score = 0; Maximum possible score = 100
- DISCERN
  - Range = 1 - 5
  - Mean = 3.6
  - Minimum possible score = 1; Maximum possible score = 5



# Quality of Information

Evaluation of the content areas identified as important

- 1- no information to
- 3- adequate information to
- 5- comprehensive information



# Treatment areas evaluated

- Psychological treatments
  - cognitive therapy, cognitive-behavioural therapy
- Pharmacological treatments
  - selective serotonin reuptake inhibitors
- Neurotherapeutic treatments
  - electroconvulsive therapy, transcranial magnetic stimulation
- Self-help treatments
  - self help books, exercise, diet
- Alternative treatments
  - herbal remedies (St. John's Wort), acupuncture, massage therapy



## Results- Content areas emphasized by websites

<b>Question</b>	<b>Content Area</b>	<b>Mean</b>
Treatments Available	Psychological	4.0
Self Help Recommendations	Self Help	4.0
Treatments Available	Pharmacological	4.0
Common side effects	Pharmacological	3.7
How long it takes to reduce problems	Pharmacological	3.7

1- no information to 3- adequate information to 5- comprehensive information



## Results- Content areas emphasized by websites

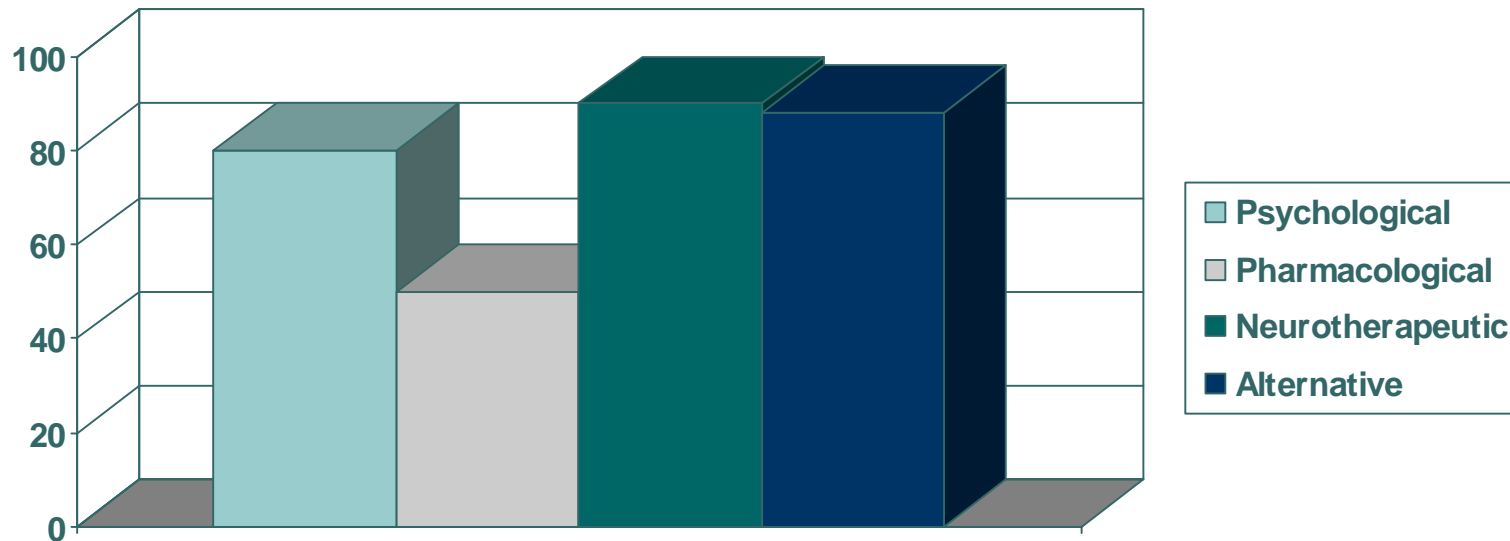
<b>Question</b>	<b>Content Area</b>	<b>Mean</b>
What you do during treatment	Psychological	3.7
What you do during treatment	Pharmacological	3.4
Treatments Available	Neurotherapeutic	3.2
Treatments Available	Alternative Treatments	3.1
Uncommon but serious side effects	Pharmacological	3.0

1- no information to 3- adequate information to 5- comprehensive information



# Results- Questions that were inadequately addressed by websites

Percent of questions that were inadequately answered by treatment category





# Psychological

Question	Mean	Range
How long the treatment continues	2.8	1-5
How much time is required for treatment	2.5	1-4
Effectiveness of treatments	2.4	1-5
Cost of treatment for the patient/client	1.7	1-5
How long it takes the treatment to reduce problems	1.5	1-4
What happens when the treatment is discontinued	1.1	1-2
Common negative effects that can occur	1.0	1
Uncommon negative effects that can occur	1.0	1

1- no information to 3- adequate information to 5- comprehensive information



# Pharmacological

Question	Mean	Range
How much time is required for treatment	2.9	1-5
How long the treatment continues	2.8	1-5
Effectiveness of treatments	2.7	1-5
What happens when the treatment is discontinued	2.4	1-5
Cost of treatment for the patient/client	1.1	1-2

1- no information to 3- adequate information to 5- comprehensive information



# Neurotherapeutic

Question	Mean	Range
What you do during treatment	2.9	1-5
How long the treatment continues	2.7	1-5
Effectiveness of treatments	2.7	1-5
Common side effects of treatment	2.7	1-5
How much time is required for treatment	2.6	1-5
Uncommon but serious side effects	1.6	1-5
What happens when the treatment is discontinued	1.5	1-4
How long it takes the treatment to reduce problems	1.3	1-5
Cost of treatment for the patient/client	1.1	1-2

1- no information to 3- adequate information to 5- comprehensive information



# Alternative Treatments

Question	Mean	Range
Effectiveness of treatments	2.7	1-5
Common side effects of treatment	2.0	1-5
Uncommon but serious side effects	1.6	1-4
How much time is required for treatment	1.5	1-4
How long the treatment continues	1.3	1-3
How long it takes the treatment to reduce problems	1.2	1-3
Cost of treatment for the patient/client	1.2	1-2
What happens when the treatment is discontinued	1.0	1

1- no information to 3- adequate information to 5- comprehensive information



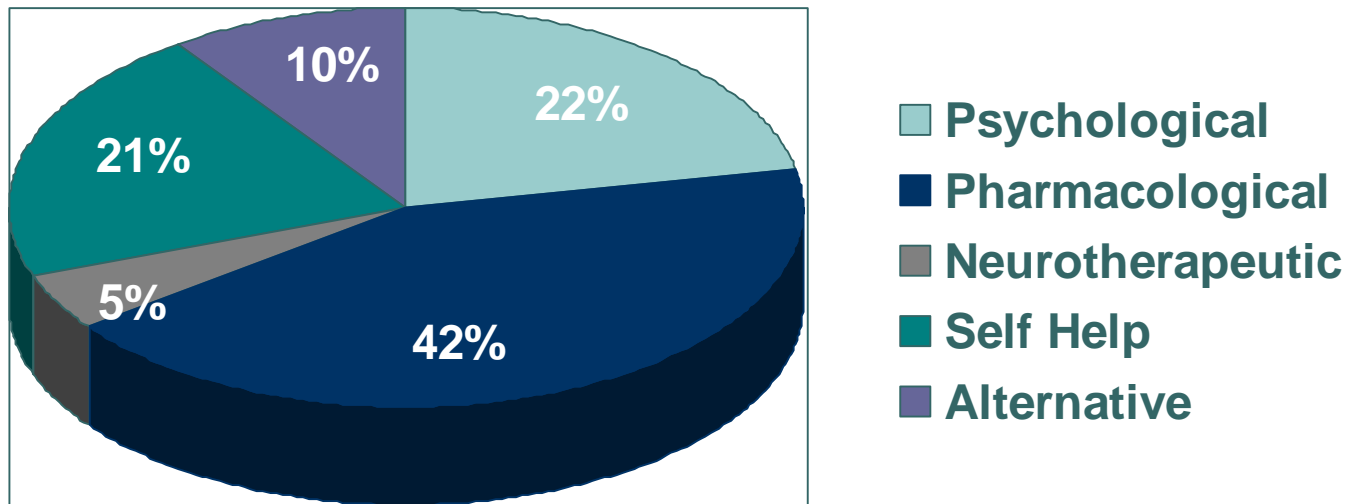
# Misinformation

- Websites suggest pharmacological treatment is best option
  - Not always the case
- Majority do not discuss severity of depression in relation to treatment



# Biases

Mean percentage of website treatment content devoted to the different treatment areas





Results-

Total scores across websites



# Results- High amount of information

<b>Website</b>	<b>Total Score</b>
Mayo Clinic	129
Blue Pages	125
Health Central	123
BC Health Guide	121
depressioNet	114
National Institute of Mental Health	113
Better Health Channel	109

Minimum possible score = 40; Maximum possible score = 200



# Results- Moderate amount of information

Website	Total Score
WebMD	106
Depression and Bipolar Support Alliance	103
eMedicineHealth	103
NHS Direct	103
National Alliance on Mental Illness	100
Psych Central	99
Drug Digest	91
Black Dog Institute	87

Minimum possible score = 40; Maximum possible score = 200



# Results- Lower amount of information

Website	Total Score
MedicineNet.com	82
Depression.com	80
Mental Health Foundation	75
BBC Health	66
Familydoctor.org	65
The College of Family Physicians of Canada	61
Depression Canada	47
WomensHealth.gov	46

Minimum possible score = 40; Maximum possible score = 200



# Information content and the quality of the website

- Overall, the amount and quality of treatment information was strongly correlated with both the Discern ( $r=0.86$ ) and EQIP (0.65) quality rating tools.



# Results - Readability

- Flesch-Kincaid Grade Level (from MS Word)
  - Range = 6.5 – 12.8
  - Mean grade level = 10.08
  - Grade 8 is recommended for standard documents
    - Difficult to achieve for health information due to the use of health related terms



# Conclusion

- 75% of questions deemed important by the public were not adequately answered.
- Great variation in readability, quantity and quality of information and quality of websites
- Most comprehensive websites:





## Future directions

- Strengthen online information
- Knowledge synthesis for information to answer some of the questions deemed important
- Decision aids to assist the public to become informed about sources of help for depression



# Limitations

- We did not attempt to evaluate all available websites or a random sample of websites.
  - Websites evaluated are ones that the public are likely to encounter in their searches.
- Different time, different search engines, different countries
- Our findings are consistent with the findings of website evaluations focused on other mental health problems.



# Discussion/Questions



**“More and more patients are going to the Internet for medical advice. To keep my practice going, I changed my name to Dr. Google.”**



# Websites evaluated

- BBC Health [www.bbc.co.uk](http://www.bbc.co.uk)
- BC HealthGuide [www.healthlinkbc.ca](http://www.healthlinkbc.ca)
- Better Health Channel [www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au)
- BluePages <http://bluepages.anu.edu.au>
- Depression and Bipolar Support Alliance [www.dbsalliance.org](http://www.dbsalliance.org)
- Depression Canada [www.depressioncanada.com](http://www.depressioncanada.com)
- Depression.com [www.depression.com](http://www.depression.com)
- depressionNet [www.depressionnet.com.au](http://www.depressionnet.com.au)
- Drug Digest [www.drugdigest.org](http://www.drugdigest.org)
- eMedicineHealth [www.emedicinehealth.com](http://www.emedicinehealth.com)
- Familydoctor.org [www.familydoctor.org](http://www.familydoctor.org)
- Health Central [www.healthcentral.com](http://www.healthcentral.com)
- Mayo Clinic [www.mayoclinic.com](http://www.mayoclinic.com)
- MedicineNet.com [www.medicinenet.com](http://www.medicinenet.com)
- Mental Health Foundation [www.mentalhealth.org.uk](http://www.mentalhealth.org.uk)
- National Institute of Mental Health [www.nimh.nih.gov](http://www.nimh.nih.gov)
- NHS Direct [www.nhs.uk](http://www.nhs.uk)
- Psych Central [www.psychcentral.com](http://www.psychcentral.com)
- The College of Family Physicians of Canada [www.cfpc.ca](http://www.cfpc.ca)
- WebMD [www.webmd.com](http://www.webmd.com)
- WomensHealth.gov [www.womenshealth.gov](http://www.womenshealth.gov)