

Back pain: Therapy for chronic low back pain

Depression: features and screening opportunities in clinical practice

NUHS Evidence Based Practice I Journal Club

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Featured Research Article:

Rowell R, Lawrence D, Hawk C. Relief of depressive symptoms in an elderly patient with low back pain. Clin Chiro 2006, Mar; 9(1): 34-38.

Click to see abstract:

<http://web.ebscohost.com/ehost/viewarticle?data=dGJyMPPp44rp2%2fdV0%2bnjisfk51e46bdQr62zS7Ok63nn5Kx95uXxjL6trUmvpbBlrq2eSa%2bwrki4qbc4v8OkjPDX7lvf2fKB7eTnfLujs0y0qbZPrqy1PurX7H%2b72%2bw%2b4ti7e7bepIzf3btZzJzfhruorki3p7NLsaqxPuTI8IXf6rt%2b8%2bLqbOPu8gAA&hid=7>

Back Pain Therapies: Patient Scenario

James, 32 year old male, technical sales manager who drives long distances (or at least for long periods of time) and is a frequent flier for his job, has been seeing you for neck and back issues for over two years on a fairly regular basis.

In addition to working from the car and plane, he has a home office and uses a laptop. You and he have discussed work place ergonomics as well as exercise and stretching to alleviate chronic neck and back pain.



Back Pain Therapies: Patient Scenario

On a recent visit, he tells you he heard on the TV news that chronic back and neck pain causes depression -- or was it vice versa? -- and that chiropractic and alternative care that relieves the pain can relieve depression. He asks, “Do you think that this back and neck thing could be causing me to feel blue lately? Or do you think mid-winter blues are causing this pain in my lower back and neck?”



“My colleague just had lumbar disk surgery and feels great. I’m not so excited about surgery. Should we be doing something different?”

He says after hearing that news report, he’s been looking on the internet to see what might help with the chronic pain and lift his mood.

Critical Appraisal: Back Pain Therapies

PICO Question

| | Patient, population, problem | Intervention | Comparison | Outcome |
|-------------|---|--|--|--|
| Consider | 32 yo WM chronic neck / back pain spine, lumbar disk, Stenosis, sciatica, etc. | CAM therapy chiropractic acupuncture “physical therapy” nonsurgical nonoperative botanical herbal massage | Prescription drugs Opioid compounds surgery massage... alternative therapy treatment | to treat / relieve chronic (neck / back) pain (mild) depression spine conditions |
| PICO | For [P = adult patients with chronic (neck / back / spine / lumbar) pain / specific diagnosis], is [I = conservative / nonoperative treatment / botanical therapy / acupuncture] as effective as [C = surgery] to [O = alleviate pain / treat symptoms of mild depression]? | | | |

Search strategy and results:

Search Engines / Program(s) & Databases searched

- 1) Natural Standards (www.naturalstandards.com)
- 2) Entrez PubMed (search program or DBMS for PubMed)
- 3) EBSCOhost; databases: Academic Search Premier, Alt HealthWatch, AMED (Alternative Medicine), CINAHL w/ Full Text

Query used (Key Search Terms, Operators used and limits)

- 1) Conditions: lumbar, low back, cervical and neck key word search; searched Natural Medicines Wellness conditions section
- 2) Chiropractic (low back OR lumbar OR neck) pain depression (Limits: human, date: 2005-2007, peer reviewed; MeSH for “depression”)
- 2) PubMed Clinical Query: therapy, narrow, specific
- 3) Chiropractic (chiro*) AND low back pain AND lumbar pain OR neck pain AND depression

Published Date from: 200401-200712; Scholarly (Peer Reviewed) Journals; Document Type: Article; Document Type: journal article; Peer Reviewed; Research Article; Evidence-Based Practice; Journal Subset: Alternative/Complementary Therapies; Publication Type: Journal Article; Language: English

Search strategy and results:

Search results:

- Google search TV website: links to 1 NIH website on low back pain, 1 article in JAMA
- Natural Standard: multiple CAM therapies with A, B, C rating (massage, botanicals, nutrition, acupuncture)
- PubMed search “Link out” to MedLine Plus NIH depression information
- PubMed with limits: 66 articles, 4 reviews
- EBSCOhost 249 articles, 14 reviews

Update Search Results: RSS feed URL

PubMed RSS link

http://eutils.ncbi.nlm.nih.gov/entrez/eutils/erss.cgi?rss_guid=0No88tyWm0pm-p7Ta3DpHPrgg4NHskEsKGxhC89tM-1

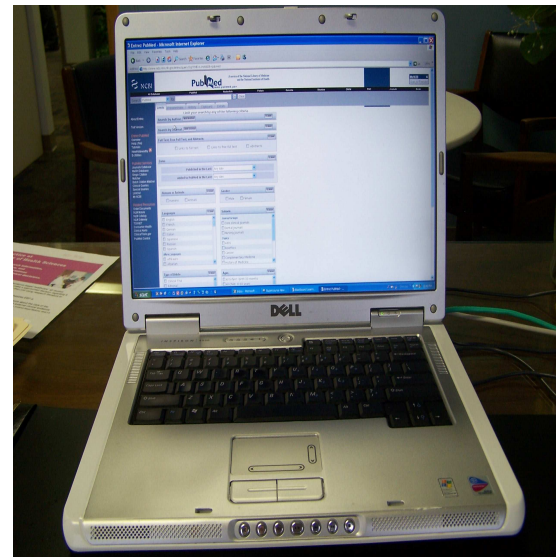
EBSCOhost Alert Link

<http://rss.ebscohost.com/AlertSyndicationService/Syndication.aspx/GetFeed?guid=1168333>

Search strategy and results:

Full Text Access:

- Clinical Chiropractic NUHS subscription (print & electronic)
- LRC Password list
- On campus direct IP recognition through Science Direct
- Off campus e-mail reference librarian using ILL
- e-mail author (rowell_r@palmer.edu) for copy (ILL from NUHS LRC fastest!)

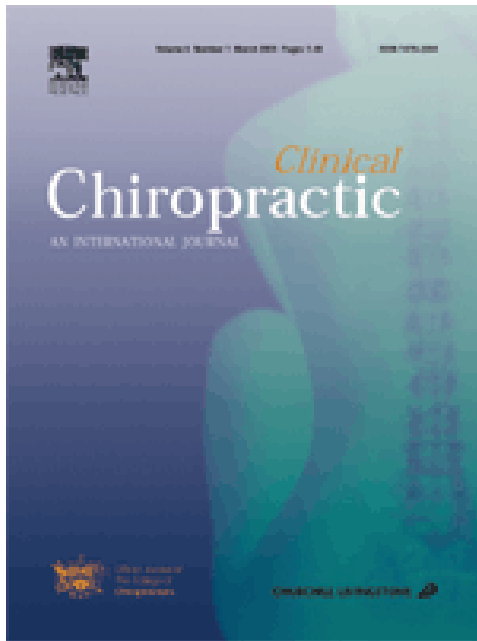


Back pain: Therapy for chronic low back pain

Depression: features and screening opportunities in clinical practice

Relief of depressive symptoms in an elderly patient with low back pain

Rowell RM, Lawrence DJ, Hawk C.



Clinical Chiropractic 2006 Mar;9:34-38.

<http://web.ebscohost.com/ehost/viewarticle?data=dGJyMPPp44rp2%2fdV0%2bnjisfk5le46bdQr62zS7Ok63nn5Kx95uXxjL6trUmvpbBlrq2eSa%2bwrki4qbc4v8OkjPDX7lvf2fKB7eTnfLujs0y0qbZPrqy1PurX7H%2b72%2bw%2b4ti7e7bepIzf3btZzJzfhruorki3p7NLsaqxPuTI8IXf6rt%2b8%2bLqbOPu8gAA&hid=7>

Type of Study: Therapy

Study Design: Case Report

Rowell RM et al. Relief of depressive symptoms in an elderly patient with low back pain. *Clinical Chiropractic* 2006 Mar;9:34-38.

<http://web.ebscohost.com/ehost/viewarticle?data=dGJyMPPp44rp2%2fdV0%2bnjisfk5le46bdQr62zS7Ok63nn5Kx95uXxjL6trUmvpbBlrq2eSa%2bwrki4qbc4v8OkjPDX7lvf2fKB7eTnfLujs0y0qbZPrqy1PurX7H%2b72%2bw%2b4ti7e7beplzf3btZzJzfhuorki3p7NLsaqxPuTI8IXf6rt%2b8%2bLqbOPu8gAA&hid=7>

- **Title relevance:**
 - Key words focus on patient with low back pain and depression
 - “Relief of depressive symptoms” is clinically relevant to patient
- **Journal: Clinical Chiropractic**
 - Double-blind peer review process, editorial board
 - Official Journal of The College of Chiropractors
 - Formerly The British Journal of Chiropractic
 - 1997-present

Rowell RM et al. Relief of depressive symptoms in an elderly patient with low back pain. *Clinical Chiropractic* 2006 Mar;9:34-38.

- **Authors**

- Multiple publications related to chiropractic and musculoskeletal conditions
- Affiliations: Palmer Center for Chiropractic Research, Southern Cal University of Health Sciences
- Institutional facility funding from NIH

- **Site of study**

- Chiropractic office (private? outpatient setting?)
- Patient sought chiropractic care

Rowell RM et al. Relief of depressive symptoms in an elderly patient with low back pain. *Clinical Chiropractic* 2006 Mar;9:34-38.

Selection rationale / Summary

- PICO question:
 - What are [**I**= effective therapies] to relieve [**P**= chronic low back pain in adults] and [**O**= hasten the return to normal activities / work or alleviate depression]?
 - For [**P**= adult patients with chronic low back pain, is [**I**= chiropractic OR CAM OR conservative OR nonoperative treatment as effective as [**C**= surgery OR education OR exercise] to [**O**= alleviate pain OR symptoms of depression]?
- Research question / objective:
 - Descriptive case report
 - Describe case of adult (elderly) female with chronic low back pain whose depressive symptoms improved while under chiropractic care for LBP
 - Discuss clinical features of depression, screening

Rowell RM et al. Relief of depressive symptoms in an elderly patient with low back pain. *Clinical Chiropractic* 2006 Mar;9:34-38

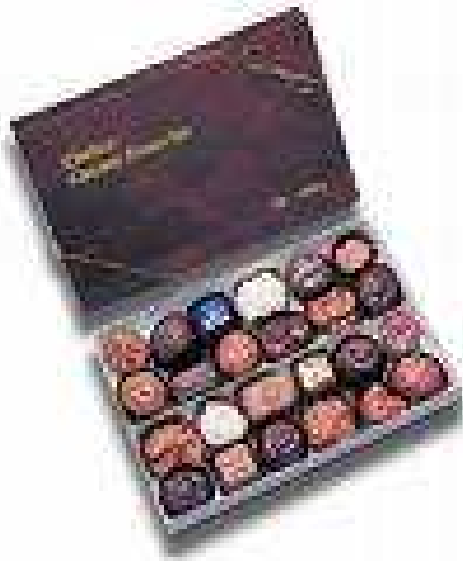
Selection rationale / Summary

- **Intervention:**
 - Flexion-distraction chiropractic care
 - Moist hot packs, interferential, “usual” chiropractic care
 - 1x/wk; 11 weeks
- **Outcomes measured:**
 - Decrease in pain symptoms
 - Improvement of depressive symptoms
 - Using Beck Depressive Index (BDI): decrease in BDI scale

Rowell RM et al. Relief of depressive symptoms in an elderly patient with low back pain. *Clinical Chiropractic* 2006 Mar;9:34-38

Significance:

- Patient sought care for chronic LBP from chiropractor
- Authors described clinical features of depression and depression screening methods which could be performed in private practice.

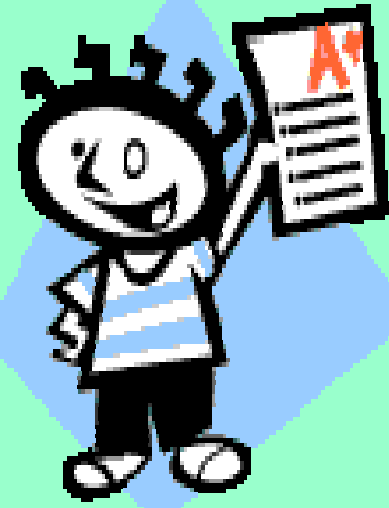


Case Series, Case Report, Case Study Characteristics

- Descriptive study
- Highly detailed and methodologically sophisticated clinical and laboratory studies of a patient (case study) or small group of patients (case series)
- Clearly defined question / purpose
- Case series: well described patients or small population
- Case report / case study: detailed description a single case
- Definition of “case”
- Should have a very detailed, well-defined description of the patient



Case Series, Case Report, Case Study Characteristics



- Describe rare events or early trends
- Elucidate mechanisms of a disease or health issue and treatment
- Describe unusual manifestations of a disease or health issue
- Describe an unusual response to an exposure or intervention
- Describe a new or unique feature of patient management

Case Series, Case Report, Case Study Characteristics

- Clear reasoning for reporting case
- Adequate references supporting reporting of case
- Impact on health care and society is clear, strong.
- Adequate literature review and incorporation
- Rich source of ideas, hypotheses about disease, conditions, risk, prognosis and treatment.
- Not typically useful or strong enough to test a hypothesis
- Initiate issues and trigger more decisive studies



Case Series, Case Report, Case Study Characteristics



- An accurate diagnosis is provided.
- Diagnostic tests are presented and described adequately.
- Normal values and references of less common diagnostic tests provided.
- Evidence supporting diagnosis provided.

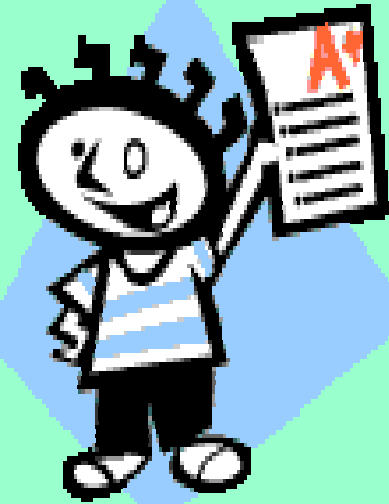
Case Series, Case Report, Case Study Characteristics

- Well-described, referenced intervention
- Adequate case management
- All subjects receive treatment / intervention (at least some of the time)
- Blinding can be maintained



Case Series, Case Report, Case Study Characteristics

- Use of validated outcome measure(s)
- References to measurement tools (surveys, tests, instruments) provided
- Case series: appropriate statistical analyses mean, median, mode
p value
- Case report / study: no statistical analysis; determination of “chance” cannot be made



Case Series, Case Report, Case Study Characteristics

- Well-described results
- Appropriate figures, tables, graphs
- Discussion, conclusion supported by data
- The case is compared with previously reported cases and studies.
- Study limitations are reported and are reasonable.
- Alternate explanations considered and successfully refuted or included



Case Series, Case Report, Case Study Characteristics



- Suggestions for future research are proposed.
- Implications for current clinical practice are pointed out.
- Impact statement communicating importance of case to the profession
- The conclusions are appropriate and relate to research question stated.
- Funding sources, affiliations are disclosed and acknowledged

Patient Description & Significance

- 71 yo female
- Sought chiropractic care for chronic (12 years) LBP
- Complete physical history, description, including radiography
- (Stable) anterior compression fractures
 - T11, L1, L2, L3
- Screening and history included depression screening using Beck Depression Inventory
 - Initial score 8
 - Currently experiencing depression
 - Never “diagnosed”
 - No history of depression



Methods: Intervention

- Initial visit: physical exam, history, radiography
 - Anterior compression fractures
 - Advised to seek medical care
 - Family physician advised against chiropractic
- Patient returned 12 weeks later
 - Self-reported LBP improvement
 - BDI remained = 8
- Chiropractic care commenced as described

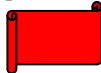


Methods: Intervention

- Flexion-distraction to lumbar spine
 - L2-L5
 - Flexion motion (initial)
 - Increasing repetitions through course of care
 - Lateral flexion and circumduction added with improvement
 - 1x/w; 11 weeks
- Moist hot packs
- Inferential current (not described)



Outcomes Measured

- Depressive symptoms
 - Beck Depression Inventory, version 1 (BDI-1)
 - Baseline (initial visit)
 - 1st treatment (12 weeks after initial visit)
 - 16 weeks (4th treatment)
 - 24 weeks (after 11th treatment)
 - Global Well-Being Scale (GWBS)
 - No concurrence or diagnosis sought from mental health professional 
 - Validated (references provided)
 - Reliable (references)
 - Standard use (references)



Outcomes Measured

- Pain
 - Visual Analogue Scale (VAS)
 - Validated (references provided)
 - Reliable (references)
 - Standard use (references)



Results

Table 1 Patient outcomes at baseline and follow-up intervals.

| | Baseline | First treatment | 16 weeks | 24 weeks |
|--------------|----------|-----------------|----------|----------|
| BDI (points) | 8 | 8 | 4 | 0 |
| VAS (mm) | 33 | 46 | 11 | 7 |
| GWB (mm) | 17 | 52 | 23 | 77 |

BDI-1 Scoring (0 – 100 mm scale)

- 0 – 4: no or minimal depression
- 5 – 7: mild depression
- 8 – 15: moderate depression
- 16 and greater: severe depression

Results

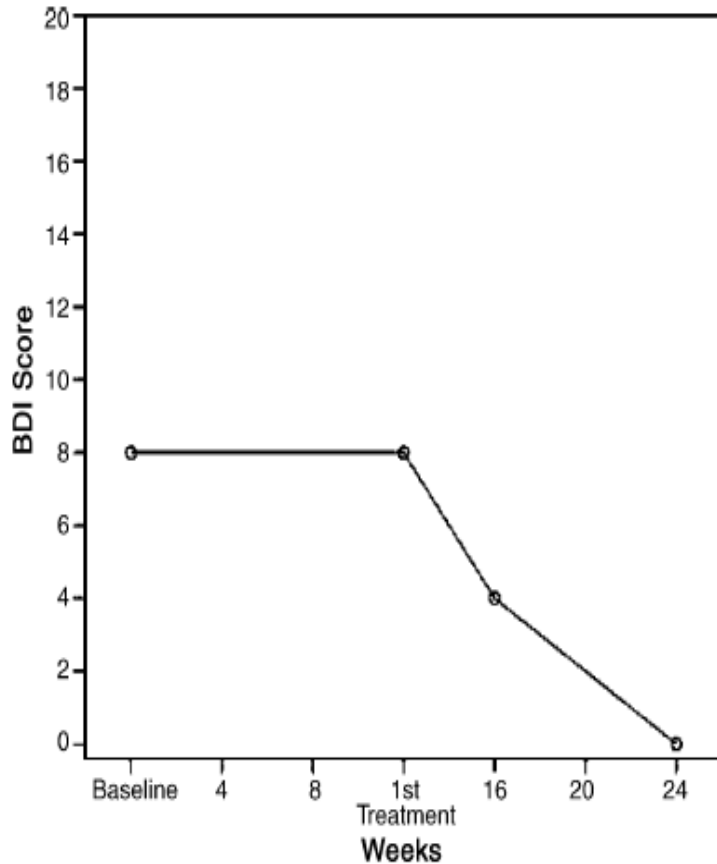


Figure 1 Beck Depression Inventory (BDI) scores at baseline, first treatment, and 16- and 24-week follow-up. The

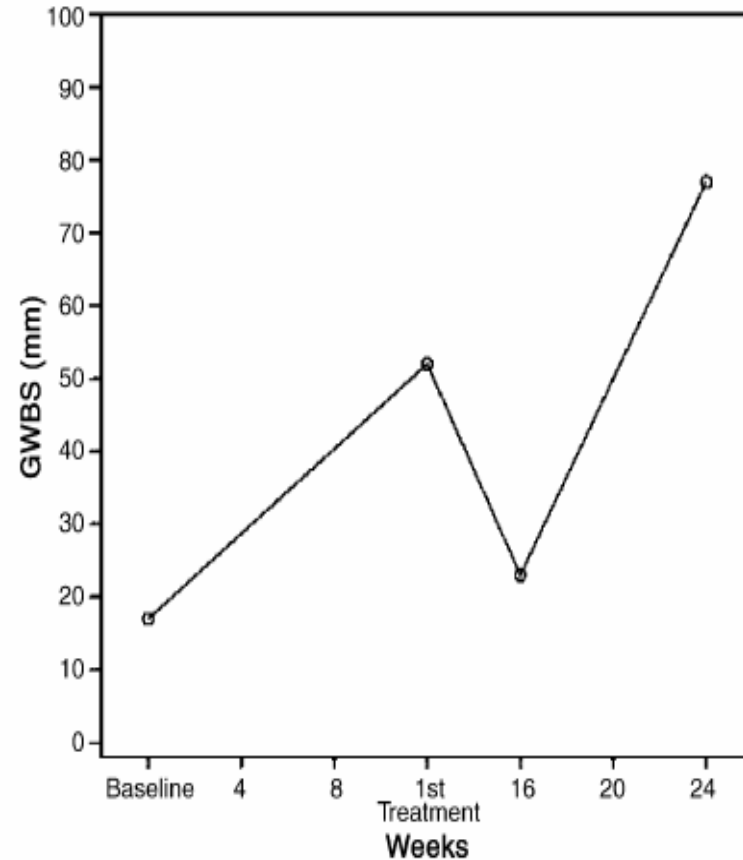


Figure 3 Global Well-Being Scale (GWBS) measurements at baseline, first treatment, and 16- and 24-week follow-up. The GWBS is a 100 mm line anchored with 0 = worst you could possibly feel and 100 = best you could possibly feel.

- Depression scores improved
- Patient perception of well-being improved with concurrent decrease in low back pain following treatment

Results: Pain

- Experienced reduced low back pain
- 0 = no pain at all
- 100 = worst pain ever felt

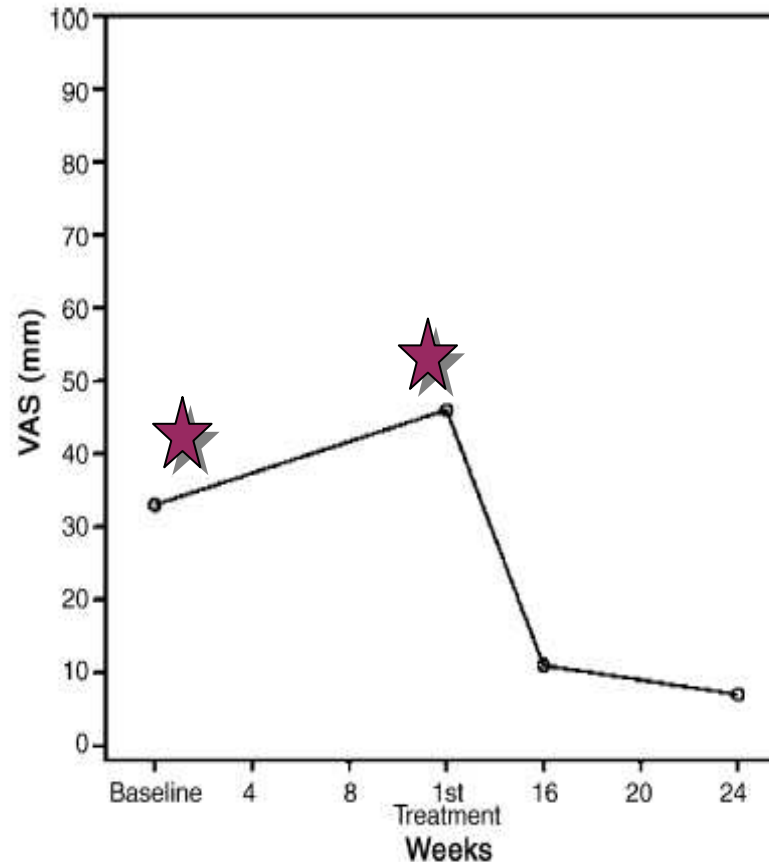


Figure 2 Visual Analog Scale (VAS) measurements at baseline, first treatment, and 16- and 24-week follow-up. The VAS is a 100 mm line anchored with 0 = no pain and 100 = worst pain you have ever felt.

Validity

- Patient well described
 - No bias – patient sought care
 - No recruitment
 - Office protocol included screening for mood, depression associated with pain
 - Single case (no inclusion / exclusion used)



Validity

- Intervention
 - “Standard” protocol
 - Complete description
 - References
 - Ancillary treatment (moist packs, inferential) noted
 - Adequate visits & follow-up



Validity

- Results
 - Baseline results compared to same outcome measurements during treatment and at end of treatment
 - Same measurement tools used throughout



Validity

- Follow-up
 - Final assessment following final treatment
 - No further assessment reported or indicated
 - Without treatment for any time period





Validity

- No blinding
 - Practitioner delivering treatment
 - Practitioner assessing outcome
 - No patient blinding, placebo, wash-out
- 12 week interval between initial visit and first treatment
- Patient reported “some improvement” in pain
- BDI-1 index remained the same (= 8; moderate)



Clinical Significance

- Excellent discussion of depression, depression screening tools and management
- Discussion highlights originality and significance of this case report 
- Text definitions, symptoms and criteria, references including links to information are valuable to all health care practitioners 
- National Institute of Mental Health (NIMH)
 - <http://www.nimh.nih.gov/index.shtml>
- Mental Health Topics >> Depression
 - <http://www.nimh.nih.gov/health/topics/depression/index.shtml>



Clinical Significance

- 9.5 % of US population (20.9 million American adults) suffer from a depressive illness
 - Robins LN, Regier DA (Eds). *Psychiatric Disorders in America, The Epidemiologic Catchment Area Study*, 1990; New York: The Free Press.

<http://www.nimh.nih.gov/health/topics/depression/index.shtml>

- 15-30% affected by depression at some point
- 12% women, 7% men, 4% adolescents (annually)
- Less than 1% visits to chiropractors for mental health complaints
 - Simon et al; study of general mental health visits to CAM practitioners
- 10X higher for other health care professions

Clinical Significance

- NIH encouraging screening for depression at primary health care visits
- Presentation of depression screening (practical) 
 - Validation of new screening survey tool underway by NIH
 - Private health care practitioners encouraged to participate
 - Grant funds available to support effort to validate and incorporate into practice
- U.S. Preventive Services Task Force recommends depression screening for all adults 
 - By private health care practices with protocols in place to assure accurate diagnosis, effective treatment, careful follow-up, adequate referral

Clinical Significance

- Beck Depression Inventory, Version 1 (BDI-1)
 - 13 questions
 - Simple scoring for none / minimal, mild, moderate, or severe depression
 - Corresponds to Diagnostic and Statistical Manual, 4th Edition (DSM-IV) classification
- Geriatric Depression Scale
 - 15 (short) or 30 (full) questions
- US Preventive Service Task Force (USPSTF)
 - 2 questions
 - AHRQ (www.ahrq.gov) clinic >> depression
- All screening tools validated, referenced

Author's conclusions

- Importance of case:
 - Illustrates the need for chiropractors to be aware of screening for depression in their patient population
 - Health care practitioners should be knowledgeable about screening and management of depression
 - Especially elderly
- No clinical trials for manipulative intervention for depression prior to this study
 - Clinical trials for St. John's Wort and other botanicals
 - Other clinical trials with CAM focus:
<http://www.nimh.nih.gov/health/trials/depression.shtml>

Comments

- Strengths:
 - Descriptive case study
 - Focus on depression information, screening, management, practical practice recommendations
 - Discussion highlights originality and significance of this case report
 - Text definitions, symptoms and criteria, references including links to information are valuable to all health care practitioners
 - Makes this paper a valuable, beneficial read for all
- Limitations:
 - Potentially: initial depression score not verified by mental health professional
 - None specific; limitations inherent to a case report

Comments

- Does this research add to the literature in any way?
 - Yes.
 - Few publications regarding chiropractic AND depression or manipulation AND depression as valid clinical research studies
 - Links to current research with CAM focus
 - Practical screening for depression
 - Practical scales to assess patient's well being

Comments

- Is this study potentially useful for your patient and in your practice?
 - Yes. Potentially, 9.5% of patients could be affected by a mental disorder or depression.
 - Depression screening as part of the initial physical exam and history could be done easily.
 - Treatment for physical conditions could effectively improve depressive symptoms.

Clinical Impact

- The patient described was female and elderly compared to the current patient (James, 32).
- However, the depression definitions and symptoms were valid and reliable for adults. The BDI-1 is valid for patients 13 – 80 year old. This makes the report relevant to the current patient as well as the majority of patients in any private practice.

Clinical Impact

- This study is a quick “must-read” for the health care professional seeking to provide excellent care for patients efficiently. Use of the screening tools and management recommendations will support and solidify the doctor – patient relationship as well as improve patient characteristics regarding low back pain and / or mild to moderate depression.
- This paper could be used as practice evidence in a CAM health care practice.

Discussion

