

The Art and Science of Treating Unexplained Symptoms in Primary Care
SGIM 32nd Annual Meeting, Miami, Florida May 13, 2009

Agenda (slide numbers)

- 10 min Introductions, announcements (Dr. Dwamena) (1)
 Learner objectives (Dr. Fortin) (2)
- 10 min Video Part I with discussion (3)
- 1 min Workshop Objectives (Dr. Dwamena) (4)
- 20min Classification and Diagnosis of MUS (Dr. Smith) (5 – 18)
- 15 min Introduction to treatment; Core Skill 1 (Dr. Fortin) (19 - 24)
- 30 min Treatment - Core Skills 2 - 5 (Dr. Dwamena) (25 - 35)
- 30 min BREAK
- 30 min Faculty demonstration of skills with discussion (Drs. Smith-
 Fortin; Dwamena) (36)
- 40 min Participant role-plays (small groups) (37)
- 5 min Video Part 2 with discussion (Dr. Dwamena) (38)
- 5 min Other Keys: Consultations and Hospitalization (Dr. Fortin) (39)
- 10 min Feedback and Evaluations (40)

The Art and Science of Treating Unexplained symptoms in Primary Care

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SGIM 32nd Annual Meeting, Miami Beach May 13 2009

Learner Objectives

Video Presentation:

- A 34 year old female with intractable diarrhea, nausea/vomiting, abdominal pain

Workshop Objectives

Participants will be able to:

1. Describe steps required to diagnose “Medically Unexplained Symptoms” (MUS) in primary care.
2. assist MUS patients in
 - understanding their illnesses
 - committing to participate in their care.
 - setting and achieving realistic goals
3. negotiate treatment plans with patients with MUS

What do we mean by MUS?

- Symptoms that are not adequately explained by the presence of organic disease (metaphor for psychic distress)
- ★ Becomes a problem when there is high utilization

How do MUS arise?

- Often understandable in context of patient history and circumstances
- Mechanism --- patient avoids emotion
 - Psychodynamic – ineffective emotional expression
 - Behavioral – reinforcement of illness behaviors
 - Socio-cultural – emotional suppression
 - Biological – gate control theory

DSM-IV Classification of MUS

- Somatoform disorders: not used in primary care
 - Somatization disorder (SD) – very rare
 - Hypochondriasis
 - Chronic pain
 - Conversion disorder
 - Miscellaneous
- ★ Only SD validated; Overlapping definitions limit use for classification

Syndromes of MUS in Medicine

- Chronic Fatigue Syndrome
- Fibromyalgia
- Irritable Bowel Syndrome
- Chronic pain: back, pelvic, head, neck, abdominal, chest etc. for each specialty
- ★ Overlapping definitions limit use for classification, but useful for labeling; not useful for diagnosing mild MUS / minor acute illness

Proposed Classification

- Better to think of MUS as one entity on a continuum with 3 parameters:

- Severity
- Duration
- Co-morbidity

Normal to Mild MUS (~80% MUS pts.)

- Characterized by:
 - Low severity (low utilization, few symptoms)
 - Acute Duration (days – weeks)
 - Co-morbidity not studied
- Diagnose by:
 - H&P + observation for 2 weeks (e.g., eye problem) - 3 months (e.g., back pain).
 - ★ Avoid unnecessary testing
- Treatment:
 - Reassurance, positive PPR, symptomatic treatment

Moderate MUS (~15% MUS pts.)

- Characterized by:
 - Moderate severity (high utilization, ≥ 2 symptoms)
 - Subacute duration (1-6 months)
 - Co-morbidity: 20% depression, anxiety or other psych disorder. Neurotic personality structure
- Diagnosed by:
 - H&P + observation initially, R/O organic disease with definitive work-up with increased utilization or recurrence
 - ★ Organic disease rare after negative definitive work-up
 - ★ Diagnose co-morbid psychiatric disease

Severe MUS (~5-6% MUS pts.)

- Characterized by:
 - High severity (High Utilization; multiple, persistent symptoms)
 - Chronic duration (>6 months)
 - Co-morbidity: $\geq 67\%$ or meet criteria for psychiatric disorder. 61-72% Personality disorder

Severe MUS (~5-6% MUS pts.)

- Diagnose by ruling out organic disease with:
 - Definitive lab and/or consultative investigation, e.g.,
 - MRI, or CT for chronic back pain
 - CT and colonoscopy for chronic abdominal pain with altered bowel habits
 - Laparoscopy for chronic pelvic pain
 - Observation over time
- * No need to repeat if definitive work-up was negative
- * Diagnose co-morbid psychiatric disease

Differential Diagnosis of MUS

- Organic diseases
 - rare (e.g. Wilson's Disease),
 - diffuse, vague, unusual presentations (e.g. MS, Lyme disease, porphyria, celiac sprue)
 - prominent psychological symptoms (e.g. carcinoma of pancreas, subdural hematoma or ulcerative colitis)
- Factitious Disorders (no external incentive)

Differential Diagnosis of MUS

- Malingering (external incentive)
- Psychiatric Co-morbidity
 - Depression, anxiety
 - Panic disorder
 - PTSD; also, sexual, physical abuse
 - Personality disorder
 - Substance abuse/dependence

Our Case – Ms G

- MUS was characterized by:
 - High utilization, Multiple symptoms
 - Chronic; recent acceleration
 - Both medical and psychiatric co-morbidity
 - Type 2 DM, OSA, depression, anxiety, dependent personality

Our Case – Ms G

To rule out organic disease,

- We reviewed med records
 - CT scan abdomen (2 non-obstructing stones), EGD, colonoscopy (2 years prior), cholecystectomy
- Ordered the following in hospital
 - stool studies, antiendomysial antibodies, repeat CT (same), 24^h urine VIP, 5-HIAA, ERCP with sphincterotomy, repeat colonoscopy with terminal ileum visualization (mild anemia)
- And followed her over time

Questions?

Treatment (mod - severe MUS)

(Smith et al. JGIM, 2006;21:671-677)

- Randomized controlled trial
 - 206 high utilizing patients with MUS
 - Primary care nurse practitioners
 - Intervention vs. usual care
 - Organized approach, empathic attitude
 - Communication + symptomatic treatment + antidepressant (usually)
 - Results
 - Improved mental function (OR = 1.92, CI = 1.08 – 3.40)
 - Improved patient satisfaction, physical disability (p<0.001, p=0.02 respectively)
 - Decreased use of narcotics and benzodiazepines (p = 0.043)
 - Increased use of full dose antidepressants (p = 0.037)

Core Communication Skills

1. Establish and maintain a successful doctor-patient relationship
2. Help patient to understand his/her illness (Education)
3. Help patient to **Commit** to actively participate in his/her care
4. Help patient to set realistic **Goals**
5. **Negotiate** and agree on pharmacologic and non-pharmacologic treatment elements

1: Establish & Maintain a Successful Doctor-Patient Relationship

- Awareness of Self
- Relationship-Building Skills
 - Listen
 - Ask about emotions
 - Express empathy

Developing Self Awareness

- Mindfulness
 - paying attention, on purpose, to one's own mental and physical processes during everyday tasks, so as to act with clarity and insight
 - a set of habits of mind and habits of practice in the moment
- Can be enhanced by:
 - Meditation
 - Journaling
 - Balint Groups
 - Advanced Communication Training with Personal Awareness Component
 - American Academy on Communication in Healthcare (AACH)
 - www.aachonline.org
 - Finding Meaning in Medicine Groups
 - www.meaninginmedicine.org

Relationship-Building Skills

LISTEN

1. **Nonfocusing**
 - silence
 - nonverbal encouragement
 - neutral utterances
2. **Focusing**
 - echoing
 - requests
 - summarizing

ASK ABOUT EMOTION

1. **Direct**
2. **Indirect**
 - impact
 - belief
 - self-disclosure

EXPRESS EMPATHY

1. **Name**
2. **Understand**
3. **Respect**
4. **Support**

Empathy

- “NURS” often
 - **Name:** “You say being disabled by this knee pain makes you angry.”
 - **Understand:** “I can understand your feeling this way.”
 - **Respect:** “This has been a difficult time for you. You show a lot of courage.”
 - **Support:** “I want to help you to get better.”

2: Help Patients Understand

ASK

What they fear

What do you think (fear) might be wrong?

- Good news is no life threatening disease
- We do not need any more tests

TELL

Confidently

- Illness is real, "not in your head"
- It is common, it has a name, and I have experience
- We think it is caused by...
- Bad news is it cannot be cured
- But you can feel better and get on with your life

ASK

If they **understand**

This is a lot to throw at you. Can you tell me what you understand so far?

What can you say to help patients understand...

- Chronic pain
- Chronic fatigue
- Unexplained syncope
- Conversion disorder; pseudoseizure
- Irritable bowel syndrome

3: Help Patients to Commit

ASK for commitment

*I am **committed** to helping you feel better, but I can't do it alone. A lot of effort, especially from you. We can go at your pace, but you have to be on board. Are you **ready**?*

ASK again and again

*• Are you really **committed** to walking? On scale 1 to 10 where would you put yourself? What would it take to do better?*

*• What 1 or 2 things can you **commit** to doing by our next visit?*

• You thought that walking 15 minutes 2X/week was possible for you. What got in the way?

What would you say to following patients?

- Multiple no-shows
- Passive and dependent
- Not making progress in changing unhealthy behavior

Commitment DOs and DON'Ts

DO

- Ask for commitment again and again; key to success
- Acknowledge patient's plight and obstacles
- Praise small victories
- Express curiosity and be patient **NURS!**
- Use contracts to emphasize plan and partnership

DON'T

- Use language that blames the patient
"You can't keep doing the same things expecting different results..."
- Give up when success is elusive or fleeting

4: Help Patients Set Goals

ASK

What would you be doing if you did not have these symptoms?

- Better relationships
- Improved work/school record
- e.g., • Improved functioning
- Improved symptoms

ASK for Long-term goals

Even though there is no cure, you can do/have some of these. What would you like to have/do in the next 6 to 12 months?

Assess and celebrate progress at each visit

To Operationalize Long Term Goals

ASK *What can you accomplish by next visit?*

- e.g., • Walk 3 blocks 3X/week for 2 weeks
- Meditate for 10 minutes everyday
- Swim for 30 minutes 3X/week

SUMMARIZE and record

• You will stretch for 10min each day and walk outside for 30 minutes on Mon, Wed, and Fri, right?

• What will you do if it rains?

Review, revise, update goals each visit

5. Negotiate – a) Non-Pharmacologic Treatment

- Regular Visits
- Agreement not to self-refer
- Exercise
- Physical Therapy
- Relaxation techniques
- Involvement of significant other

5. Negotiate – b) Pharmacologic Treatment

1. Antidepressants

- *Anyone going through this would be depressed.*
- *The test shows that you have major depression.*
- *X helps significantly to improve pain.*
- *We can stay away from X and try Y.*
- *It can help the pain and also help you to sleep.*
- *We can start low dose so you can get used to it.*
- *Would that be alright with you?*

Negotiate – b) Pharmacologic Treatment

2. Wean Narcotics and benzodiazepines

- *Z doesn't work very well in the long run.*
- *As X builds up in your system, we can wean Z.*
- *Don't worry; if we have to, we can add it right back.*
- *I want to help you feel better, not worse.*
- *Take Z the same way everyday. Don't skip or take more no matter how you feel.*
- *Think this week about which dose you can drop.*

How would you negotiate with a patient who

- Refuses to wean narcotics, instead wants to escalate use.
- Is reluctant to use antidepressants.

Putting it all together...

- Demonstration - Development of Initial Plan
- Discussion

Role-play

- Groups of 3
 - Patient
 - Physician
 - Observer
- Switch after 10 minutes
- Return to large group after 40 minutes

Our Case – Ms G

- Video
- Long term goals achieved:
 - Better work record (missed 63 days in 5 months vs. 5 days in 5 years)
 - Successful marriage
 - Two beautiful babies
 - Able to anticipate and control exacerbations
- ★ Low utilization (every two to 3 weeks to 2-3 times per year)

Consultation and Hospitalization

- Chose consultants who
 - understand MUS and after appropriate evaluation are willing to tell patient - "no organic disease"
- Prepare
 - consultants to prevent excessive testing and reinforcement of patient fears
 - patient to avoid feelings of abandonment
- Consult psychiatrist for unstable/suicidal patients, refractory symptoms
- Hospitalize only for physical/psychiatric instability

Please fill out your evaluations!!!

SCENARIO A – PATIENT

Development of Initial MUS Management Plan

You have headaches, abdominal pain, and constipation alternating with diarrhea intermittently for 18 years. Increased fiber in diet does not help. You use an enema occasionally with some relief. The headaches are the hardest to deal with. They come on suddenly for no apparent reason and sometimes become so severe that you do not want to do anything. Your previous physician gave you Propoxyphene for pain. You have been depressed on and off for about 18 years. When depressed, you lose motivation, sleep a lot, and become impatient with your children when they want you to spend time with them. You did not ‘tolerate’ antidepressants. You are tired of physicians suggesting that all your symptoms are from depression. You have been to the emergency room 10 times in the last 6 months for headaches.

You feel like your spouse and children are ‘too much work.’ One son is having a lot of trouble at school. Your spouse is too irresponsible to help raise the children.

Your father, who was the most important person in your life died when you were 10 years old. After that, you shut off your feelings.

The doctor has reviewed your previous records, performed several tests, and referred you to some specialists for evaluation. You are here for a follow-up visit. You are anxious to learn of the results of the tests and to finally get some help.

SCENARIO A - PHYSICIAN

Development of Initial MUS Management Plan

After a thorough work-up, including a complete history and physical exam, review of old records, referrals and any other lab and radiological tests (e.g. MRI of the brain) you think are necessary, you decide there is no organic disease basis for the patient’s symptoms. You make a diagnosis of tension headaches, irritable bowel syndrome and co-morbid depression, i.e. your diagnosis is severe MUS.

The patient is here for a scheduled follow-up visit to discuss her results and to begin treatment. Use empathic, open-ended questioning to learn of new symptoms and to maintain and monitor the doctor-patient relationship (DPR). Use ECGN to develop the initial treatment plan with the patient.

SCENARIO B – PATIENT

Development of Initial MUS Management Plan

You have had chronic back pain for about 12. It started with a sharp pain in your neck and low back when a lady hit your car, forcing you to hit a curb. You were diagnosed with whiplash shortly thereafter and had some physical therapy, but never really got better. Over the last 3 years the pain seems to be moving to different parts of your body and now you hurt everywhere. You've seen a chiropractor, a massage therapist and get pain shots periodically from a pain clinic. You also take Oxycodone everyday.

Your husband of 31-years was abusive, especially during the last year of your marriage and finally divorced you about 11 years ago. Your first husband also was abusive. You married him to get away from your mother who also abused you. You grew up in a large family but you were not close.

The doctor has reviewed your previous records, performed several tests, and referred you to some specialists for evaluation. You are here for a follow-up visit. You are anxious to learn of the results of the tests and to finally get some help.

SCENARIO B - PHYSICIAN

Development of Initial MUS Management Plan

After a thorough work-up including a complete history and physical exam, review of old records, laboratory and radiological studies, referral to Rheumatologist and any other test you feel is required, you are convinced there is no organic disease basis for the patient's symptoms and you make a diagnosis of fibromyalgia. You also think there might be connection between history of abuse and patient's symptoms

The patient is here for a scheduled follow-up visit to discuss her results and to begin treatment. Use empathic, open-ended questioning to learn of new symptoms and to maintain and monitor the doctor-patient relationship (DPR). Use ECGN to develop the initial treatment plan with the patient.

SCENARIO C – PATIENT

Development of Initial MUS Management Plan

You are here because of severe fatigue and insomnia. You have had intermittent, severe cramping and abdominal pain for 20 years. After many negative tests, you were told you had endometriosis and had hysterectomy, but pain has continued. Your last doctor prescribed an antidepressant, which helped a little, but you quit taking it because you don't like taking medicines. You have been told you have GERD, but the medication prescribed does not work. You believe you have food allergies because corn makes your ears plug up, soy makes you depressed and fruits give you yeast infections.

You are always 10 to 15 minutes late to work because it takes you too long to get ready in the morning. You just don't feel good when you wake up. You stay up late most nights watching TV or reading because you don't feel like sleeping. You don't have very many close friends. You never have. Because of your father's work you moved 13 times by the time you were 13, so you couldn't make friends. After 10 years of marriage, you and your spouse are not very close.

The doctor has reviewed your previous records, performed several tests, and referred you to some specialists for evaluation. You are here for a follow-up visit. You are anxious to learn of the results of the tests and to finally get some help.

SCENARIO C - PHYSICIAN

Development of Initial MUS Management Plan

After a thorough work-up including a complete history and physical exam, review of old records, basic laboratory evaluation (including CBC, comprehensive panel, CXR, TSH) and referral for sleep study, you make a diagnosis of unexplained chronic fatigue, insomnia and comorbid minor depression as patient does not meet criteria for major depression.

The patient is here for a scheduled follow-up visit to discuss her results and to begin treatment. Use empathic, open-ended questioning to learn of new symptoms and to maintain and monitor the doctor-patient relationship (DPR). Use ECGN to develop the initial treatment plan with the patient.

ANNOTATED BIBLIOGRAPHY

A. Diagnosis of MUS

1. Smith RC and Dwamena FC. Classification and Diagnosis of patients with Medically Unexplained Symptoms J Gen Intern Med, 2007 22(7);685-91

This paper discusses the MUS diagnostic scheme discussed in this workshop

Evidence supporting:

a. Recommendation for limited testing in patients with mild MUS

- Kroenke K, mangelsdorff AD. Common symptoms in ambulatory care: incidence, evaluation, therapy, and outcome. Am J Med. 1989;86(3):262-6
This review of the charts of 1000 ambulatory care patients revealed an organic cause in only 16% of patients even though diagnostic tests were performed in 70% of them
- Kroenke K, Jackson JL. Outcome in general medical patients presenting with common symptoms: a prospective study with a 2-week and 3-month follow-up. Fam Pract. 1998;15(5):398-403
This prospective study of 500 ambulatory clinic patients showed that 70% of patients improved after two weeks and that this improvement was sustained after 3 months.

b. Recommendation for more definitive testing in patients with chronic symptoms:

- Neurological symptoms:
 - Moene FC, Landberg EH, Hoogduin KA, et al. Organic syndromes as conversion disorder: identification and frequency in a study of 85 patients. J Psychosom Res. 2000;49(1):7-12.
Ten (11.8%) of 85 patients referred to a psychiatric hospital with a diagnosis of conversion disorder were found to have a neurological disorder after median follow-up period of 2.4 years.
 - Mace CJ, Trimble MR. Ten-year prognosis of conversion disorder. Br J Psychiatry. 1996;169(3):282-8
False positive rates for conversion disorder have been found to be as high as 15 % in this comparable study with 10 years of follow-up
 - Crimlisk HL, Bhatia K, Cope H, et al. Slater Revisited: 6 year follow-up study of patients with medically unexplained motor symptoms. BMJ. 1998;316(7131):582-6
False positive rate low as 4.7 % in this 6-year follow-up study conducted at secondary and tertiary neurological centers
- Gynecological symptoms:
 - Kresch AJ, Seifer DB, Sachs LB, Barrese I. Laparoscopy in 100 women with chronic pelvic pain. Obstet Gynecol. 1984;64(5):672-4.
Laparoscopic studies in 100 women with pelvic pain for at least 6 months revealed organic pathology including endometriosis, adhesions and others, in 83%.
- Gastroenterological symptoms

- Tribble JA, Sigthorsson G, Foster R, et al. Use of surrogate markers of inflammation and Rome criteria to distinguish organic from nonorganic intestinal disease. *In this study of 602 new referrals to a gastroenterology clinic, the Rome criteria yielded a sensitivity of 85% and a specificity of 71% for diagnosing IBS.*
- Vanner SJ, Depew WT, Paterson WG, et al. Predictive value of the Rome criteria for diagnosis of the irritable bowel syndrome. *AM J Gastroenterol.* 1999;94(10):2912-7 *In this other study that used both retrospective and prospective designs, adding the absence of red flags to the Rome criteria yielded a sensitivity of 63% and a specificity of 100% in the retrospective study, and a positive predictive value of 98% in the prospective study. However, the study used gastroenterologists' evaluation as the 'gold standard' and only 45% of patients 45 years or younger had their colon investigated.*
- Smith RC, Greenbaum DS, Vancouver JB, et al. Psychosocial factors are associated with healthcare seeking rather than diagnosis in irritable bowel syndrome. *Gastroenterology.* 1990;98(2):293-301. *In this prospective study of 97 referred patients that sought to determine the utility of six psychosocial factors for diagnosing IBS, Smith et al. found that the psychosocial factors did not distinguish between IBS and organic disease. Instead, psychosocial factors were related to high utilization in both IBS and organic disease. The authors concluded that psychosocial criteria were of limited value in differentiating irritable bowel syndrome from organic disease.*

B. Treatment of MUS

1. Smith RC, Lyles J, Gardiner J, Sirbu C, Hodges A, Collins C, Dwamena FC, Lein C, Given B, Godeeris J. Primary Care Clinicians Employ the Provider-Patient relationship to Treat Patients with Medically Unexplained Symptoms. *J Gen Intern Med.*2006;21:671-677

This lead article was accompanied by an editorial highlighting its unique features of using the classification system discussed in this workshop to identify primary care patients with moderate to severe MUS; and of demonstrating that primary care clinicians can effectively treat these difficult patients.

2. Luo Z, Goddeeris J, Gardiner JC, Smith RC. Costs of an intervention for primary care patients with medically unexplained symptoms: A randomized control trial. *Psychiatr Serv.* 2007;58(8) 1079-86 *The intervention in the RCT described above did not cost more than usual care. The authors concluded that coupled with the improved health benefits, this finding suggested that the intervention may have been cost-effective.*
3. Margalit AP, El-Ad A. Costly patients with unexplained medical symptoms: A high-risk population. *Pt Educ and Couns.* 2008;70:173-178. *This article demonstrates cost-effectiveness of similar approach.*

Other evidence supporting the treatment plan

1. Antidepressants
 - O'Malley PG, Jackson JL, Santoro J., et al. Antidepressant therapy for unexplained symptoms and symptom syndromes. *J Fam Pract.* 1999;48(12):980-90. *In this systematic review, 64 out of 94 trials (69%) demonstrated some benefit of antidepressants in patients with MUS. Patients receiving antidepressants were more than 3 times as likely to experience symptomatic improvement than patients receiving placebo. Meta-regression did not differentiate effect across different classes of antidepressants, however studies of tricyclic*

antidepressants were more likely than studies of selective serotonin re-uptake inhibitors (SSRIs) or antiserotonin agents to have a beneficial outcome ($p=0.02$). Depression was assessed in only 49 (52%) of studies and association between depression and response to treatment was performed in only 24 studies (25% of all studies). Of the 24 studies, only 8 (33%) demonstrated a correlation between physical symptom response and depressive response. The study demonstrated significant publication bias.

In Smith et al's RCT, 65 (68.4%) intervention patients, compared with 20 (19.8%) usual care controls increased use of antidepressants to full doses ($p<0.001$). Similarly among patients who were previously using controlled substances, 26 (70.3% of using intervention patients) compared with 6 (14.3% of using control patients) reduced usage ($p < 0.001$). Increase in use of full antidepressant ($p = 0.001$), but not reduction in use of controlled substances ($p=0.26$), was associated with improvement in the primary endpoint of the trial. Thirty-seven (80%) of patients who improved took full dose antidepressants, suggesting that full dose antidepressant use was a significant, but not the only contributor to improved patient outcome.

2. Cognitive Behavioral Therapy (Education, commitment, goals, negotiation - ECGN)

- Kroenke K, Swindle R. Cognitive-behavioral therapy for somatization and symptom syndromes: a critical review of controlled clinical trials. *Psychother Psychosom.* 2000;69(4):205-15.
This systematic review of 31 controlled trials (29 randomized, 2 nonrandomized), revealed that specialty conducted CBT significantly improved physical symptoms in 20 (71%) of the 28 studies that assessed them, and showed a trend toward improvement in another 3 (11%). Similarly, CBT definitely ($n=9$, 47%) or possibly ($n=5$, 26%) improved functional status in 17 studies. In contrast only 38% and 8% of 26 studies showed definite or possible improvement respectively in psychological distress with CBT. Benefits obtained at the end of treatment persisted at follow-up (range: 1 month – 24 months) in 29 of 30 studies that studied durability of outcome.

The primary care intervention by Smith et al demonstrated that primary care providers could effect clinically significant changes in MUS patients using a treatment similar to the one used in the workshop. CBT was a prominent part of that intervention. Both antidepressants and non-antidepressant aspects of treatment contributed to patients' improved outcomes. The number needed to treat was only 6.4.

3. Relaxation/meditation/exercise/physical therapy

- Keefer L, Blanchard EB. The effects of relaxation response meditation on symptoms of irritable bowel syndrome: results of a controlled treatment study. *Behav Res Ther.*2001;39(7):801-11;
Keefer L, Blanchard EB. A one-year follow-up of relaxation response meditation as a treatment for irritable bowel syndrome. *Behav Res Ther.* 2002;40(5):541-6.

This non-randomized controlled trial of a convenience sample of 16 patients showed that 15 minutes of relaxation response meditation twice a day for six weeks reduced symptoms recorded in symptom diary, especially pain and bloating, in patients with irritable bowel syndrome. The effects of the program persisted after 1 year of follow-up.

- Mannerkorpi K, Nyberg B, Ahlmen M, Ekhdal, C. Pool exercise combined with an educational program for patients with fibromyalgia syndrome. A prospective randomized study. *Rheumatol.* 2000;27(10):2473-81.

This prospective, randomized trial of 58 patients revealed that swimming pool exercises matched to patient's threshold of fatigue and pain significantly improved Fibromyalgia Impact Questionnaire score and 6-minute walk test compared with usual care controls. Follow-up was after 6 months.

In addition to better improvement in the primary end-point, the RCT trial by Smith et al. demonstrated significant improvement in disability scores of intervention patients ($p = 0.001$), but not in the scores of control patients.

- Loisel P, Abenhaim L, Durand P. et al. A population-based, randomized clinical trial on back pain management. *Spine*. 1997;22(24):2911-8.

This population-based randomized controlled trial showed that occupational therapy, including ergonomic redesign of strenuous job tasks facilitated return to work and reduced progression towards chronicity of low back pain.

- Cherkin DC, Deyo RA, Battie M, et al. A comparison of physical therapy, chiropractic manipulation, and provision of an educational booklet for the treatment of patients with low back pain. *N Engl J Med*. 1998;339(15):1021-9.

This randomized trial demonstrated some, albeit marginal, benefits of the McKenzie method of physical therapy and chiropractic manipulation on outcomes compared to an educational booklet.

4. Telephone calls

- Wasson J, Gaudette C, Whaley F, et al. Telephone care as a substitute for routine clinic follow-up. *JAMA*. 1992;267(13):1788-93.

This single site randomized controlled trial of 497 primary care male patient showed that substituting telephone call care for selected visits significantly reduced number of scheduled and unscheduled clinic visits (19%, $p < 0.001$), medication use (14%, $p = 0.006$) hospital days (28%, $p = 0.005$) and intensive care unit days (41%, $p = 0.03$) after 2 years. Telephone care also improved function and possibly mortality ($p = 0.06$) in patients with the poorest overall health at baseline.

C. Other Resources

1. Self Awareness

- Novack DH, Suchman AL, Clark W, Epstein RM, Najberg E, Kaplan C: Calibrating the physician: personal awareness and effective patient care. *JAMA* 1997; 278: 502-509.

This paper discusses common physician attitudes, emotional responses, and present examples of organized activities that can promote personal awareness.

- Smith RC, Dwamena FC, Fortin A. Teaching Personal Awareness. *J Gen Intern Med*, 2005 20(2) 201-207

This paper discusses a systematic method of teaching students and residents to develop self-awareness and discusses qualitative evaluation of the method.

2. Core Skill 1: Evidence-based medical interviewing

- Smith, RC, Lyles JS, Mettler BE et. al. The effectiveness of intensive training for residents in interviewing: A randomized, controlled study. *Annals of Internal Medicine* 1998;128(2):118-126

In this randomized, controlled study, residents using the patient-centered interviewing model showed greater skill and confidence in interviewing all types of patients.

- Smith, RC. *Patient Centered Interviewing*. 2nd ed. Philadelphia: Lippincott Williams & Wilkins, 2002.

This book presents the patient-centered interviewing model (which is used to build and maintain effective relationships with patients with MUS) in a step-by-step fashion, with an ongoing vignette that gives suggestions of words to say. It also discusses how to circumvent common physician and patient barriers.

- Smith, RC. Videotapes: (1) Patient-Centered interviewing and (2) Doctor-Centered Interviewing. Marketing Division, Instructional Media Center, Michigan State University. Contact information: P.O. Box 710, East Lansing, MI 48824; 517-353-9229 (tel); 517-432-2650 (fax); <http://www.msu-vmall.msu.edu/imc>
- Putnam SM, Lipkin M, Lazare A, Personality styles. In: Lipkin M, Putnam SM, Lazare A, eds. *The Medical Interview*. New York: Springer-Verlag, 1995:251-274.

This chapter presents how certain personality types, usually within the range of normal, can affect the DPR.

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