SYSTEMATIC REVIEW MDM UNIT

Objectives:

To reflect on the therapeutic strategies necessary in practicing minimally disruptive medicine to achieve the most appropriate treatment plan for patients.

"Minimally disruptive medicine seeks to advance patient goals for health, health care, and life, using effective care programs designed and implemented in a manner that respects the capacity of patients and caregivers and minimizes the burden of treatment – the healthcare footprint – the care program imposes on their lives." From www.minimallydisruptivemedicine.org

Assignment:

1. Review the below scenario.
2. Review the appended citations.
3. Appraise and reflect on the systematic review and on the methodological challenges of complex interventions. What do you think about health related quality of life outcomes for minimally disruptive medicine studies? Do you have enough information about these complex interventions to replicate them in your clinical setting?

Clinical Scenario:

You sigh as you reflect on your clinic list for tomorrow. Elizabeth is a very pleasant 63 yo woman with multiple medical co-morbidities who lost her husband 5 years ago, and is just not doing well physically. Her problem list is and medication list are shown below. She is minimally active, does not have a healthy diet and has a 40 pack year smoking history. You feel that you keep just adding more medications to her already complex regimen without making much improvement. She is largely adherent, but her side-effects are limiting her function, and her persistent vomiting from gastroparesis is likely impairing her medication absorption. You tried to modify her regimen of PPI+domperidone due to concerns about cardiac complications, but this precipitated worsening of the vomiting.

You are concerned because she has type 2 diabetes and at the last visit was refusing to take any more medications. She states emphatically that she "doesn't have diabetes". In the last year her HbA1c has gone from 7.5 to 13.2. She was in to clinic 2 weeks ago with the worst vaginal yeast infection you have ever seen which you treated and implored her to start on the metformin – which she agreed to "not because she has diabetes, but because it will help prevent the yeast". As she was leaving, she said " You know, I just keep feeling worse and worse despite all of these medications, its all your fault, before I came here I didn't have any of this, you just keep finding more things to treat." You are at your wits end as to how to help her.

You wonder if you are pursuing the right end points with intensifying therapy, wouldn't it be more helpful to find interventions that would improve her health related quality of life? You decide to search the literature to see what you might find about optimizing diabetic therapy to improve quality of life.

Search Strategy:

You open up Pubmed and click on the clinical queries option – systematic review and "narrow". Your search terms are: "Diabetes and optimize". The search yields 67 hits including:

Zhang X, Norris SL, Chowdhury et al. The effects of interventions on health-related quality of life among persons with diabetes: a systematic review. Medical Care 2007; 45(9):820-834.

Problem List

1. Diabetes Type 2
2. Gastroparesis
3. Chronic Renal Impairment GFR 54 mLmin/1.73m2 & elevated microalbumin/creatinine ratio
4. Hypomagnesemia (Magnesium 0.50 mmol/l)
5. Myocarial infarction (NSTEMI) 3 y ago (post-op cholecystectomy)
6. Aortobifemoral bypass 10 y ago
7. Hypertension (BPtru 133/82)
8. Hyperlipidemia
   TC 5.12 mmol/L
   TG 4.09 mmo/L
   HDL 0.82 mmol/L
   LDL 2.44 mmol/L Ratio 6.2
9. Chronic Obstructive Lung Disease (35 pky cigarette smoking, pneumovax, annual flu shots complete, non-oxygen dependent, last acute exacerbation 2 y ago)
10. Osteoarthritis L spine
11. Central obesity: BMI 33.
12. Family history: both parents had coronary artery disease

Medications

Metformin (new)
Rabeprazole (proton pump inhibitor) - Domperidone (reduced to twice daily dosing to due cardiac concerns with this medication, however is the only combination that prevents the post-prandial vomiting)
Magnesium Rougier (chronic hypomagnesemia contributed to by the PPI)
Clopidogrel
Cozaar
Rosuvastatin (max)
Salbutamol
Advair
Spiriva
Tylenol
Diclofenac cream

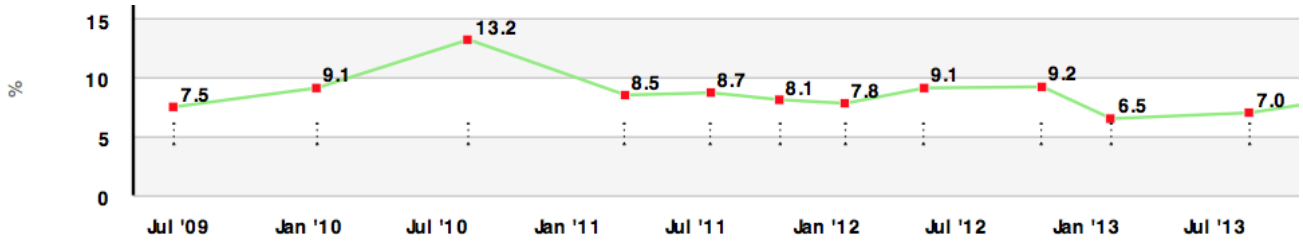
Allergies/Intolerences

ACE-inhibitors

Clinical Scenario Resolution:

Elizabeth returned to clinic, and rather than seeking an action scenario, you spent the time talking about her health, and reviewed your concerns about her trajectory. She is worried, but lacks confidence in her ability to change. You decided together that there might be some lifestyle measures she could add to the metformin. You carved out some significant time from your schedule for a series of 30 minute visits q 3 weeks for several months which you organized with some of your interdisciplinary team in the office (mental health, dietician) to implement a personalized behavioural intervention plan for her. She is not able to participate in evening groups as she lives a significant distance away in the country. During these visits you do SMART (specific, measurable, actionable, relevant and timely) goals with motivational interviewing. You are amazed when her HbA1c reduces to 8.5 with these changes and metformin 500 mg po TID (the max she can tolerate due to GI side effects). She also quits smoking with the assistance of champix !!You are both amazed when her HbA1c continues to decline to 7.8 as she continues her walking and her improved dietary choices. She is feeling significantly improved with regards to her chest and finds she does not need the inhalers any longer. Her pain is improved and she requires less tylenol and diclofenac cream. Overall you are both very pleased with the improvement in her health related quality of life and her disease metrics, thus you are distressed when you see her next HbA1c of 9.1. Unfortunately the claudication has returned and is limiting her walking. She has been distressed by the symptoms and has fallen off of her dietary modification. Fortunately, her claudication was amenable to a revision of her aortofemoral bypass. You are gratified that post-revision of the bypass her quality of life has improved, with resumption of her walking and diet, and improvement in her HbA1c.

HbA1c



Enclosed Materials:

1. Zhang X, Norris SL, Chowdhury et al. The effects of interventions on health-related quality of life among persons with diabetes: a systematic review. Medical Care 2007; 45(9):820-834.
2. Supplemental material on interpretation of minimally important difference for SF-36: Wyrwich KW, Tierney WM, Babu AN, Kroenke K, Wolinsky FD. A comparison of clinically important differences in health-related quality of life for patients with chronic lung disease, asthma or heart disease. Health Services Research 2005; 40(2): 577-592.
3. Campbell-Scherer D, Saitz R. Improving reporting and utility of evaluations of complex interventions. Evid Based Med 2016;21(1):1-3.
4. Critical appraisal worksheet for systematic review.
5. Interesting Web Site from Dr Victor Montori: http://minimallydisruptivemedicine.org/