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Increasing the use of Probiotics concurrently with Acute Antibiotic Treatment: A Community Perspective in Newtown, CT

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Increasing the use of Probiotics concurrently with acute antibiotic treatment: A community perspective in Newtown, CT

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Rotation 1 (May-June 2019)
Project Mentor: Dr. Eurica Chang, MD
• Patients at Newtown Primary Care being treated for bacterial Upper/Lower Respiratory infections with antibiotics often present with side effects of nausea, bloating, and diarrhea.

• These associated symptoms may deter patients from taking the full course of prescribed antibiotics promoting bacterial resistance, delayed recovery, and increased patient healthcare costs.

• Safely tolerating antibiotic regimens is essential for treatment along with careful consideration for patients at risk for severe gastrointestinal disturbances including pseudomembranous colitis via Clostridrium Difficile infection.
Public Health: Antibiotic Associated Diarrhea (AAD)

- In the United States, AAD can occur in up to 35% of patients resulting in significant gastrointestinal perturbance (1).

- The spectrum of AAD includes mild diarrhea, colitis, and pseudo-membranous colitis via *Clostridium Difficile* infection (CDI) (1).

- In 2013 alone there was 453,000 cases of CDI with 29,300 deaths and healthcare costs ranging from $3427-9960 per patient (2).

*Clostridium Difficile, Source: CDC.gov*
Community Perspective

“We are learning a lot about the brain-gut axis and the benefits of maintaining healthy gut flora - Newtown residents can benefit from regularly consuming probiotics to treat gastrointestinal symptoms and help prevent antibiotic associated diarrhea as many patients can encounter this during treatment.”
- Dr. Eurica Chang, MD, Family Medicine Physician

“Probiotics are needed in the Newtown community for good gut health for all age groups, especially when the person is started on antibiotics, but it is helpful to all patients as we do not always eat the best diets.”
- Elaine Dronzek, RN BSN, Care Coordinator
**Goal:** Increase tolerability and compliance of prescribed antibiotic courses and ultimately reduce the occurrence of antibiotic gastrointestinal (GI) side effects.

**Intervention:** To increase patient awareness of the probiotic options available in local groceries to maintain healthy gut flora and reduce occurrence of GI side effects while on antibiotic courses and for general wellbeing (3,4).

**Methodology:** Create an educational, easy-to-read handout for patients starting an antibiotic course on how to better maintain healthy gut microflora via probiotic supplements not limited to capsular forms including naturally fermented foods/beverages such as yogurt, kefir, kombucha, kimchi, and sauerkraut.
Response to Handout

“Its easy to read and well organized - I like that you added a recipe for patients to try, this will provide patients with a variety of options when figuring out which type of probiotic they would like to try”
- Dr. Eurica Chang, MD, Family Medicine Physician

“Clear, concise and gives good information”
- Elaine Dronzek, RN BSN, Care Coordinator
Proposed Efficacy Evaluation & Limitations

- When the handout has been distributed for 1 year at Newtown Primary Care to patients receiving antibiotic regimens, compare outcomes to patients from previous year (before handout) using chi-squared analysis.

- Outcomes of diarrheal illness, urgent care visits, repeat office visits, and days missed work/school can be tallied via patient phone follow-up call 2 weeks following completion of antibiotic regimen.

- Limitations: Other external factors may influence a patients recovery even with probiotics including but not limited to age, diet, degree of physical activity, comorbidities, immunosuppression, and concomitant medications.
Recommendations for future interventions

- Implement a free probiotic taste test in the Primary Care waiting room during winter months (higher frequency of respiratory infections) to introduce patients to different types of natural ways to keep their gut healthy.

- Short patient survey to assess general knowledge of probiotics to determine impact of handout.

- Provide resources for patients to produce their own fermented foods including vegetable medleys, kimchi, and sauerkraut all with items easily purchased from the local grocery.

Image Source: How to make easy kimchi at home
https://www.thekitchn.com/how-to-make-easy-kimchi-at-home-189390


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Consented: Yes

Name: Dr. Eurica Chang, MD

Consented: Yes

Name: Elaine Dronzek, RN BSN