Anti-psychotics, Weight Gain, and Children’s Health: Making Informed Choices

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Acknowledgements

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Background

- One out of five children in the United States suffer a mental illness
- Most common occurring childhood mental illnesses:
  - ADHD, bipolar-spectrum disorders, MDD, Impulse control, autism related irritability, and disruptive behavior
- Complications if untreated
  - Lower academic achievement, criminal involvement, violent behavior, drug use, and poor social interactions
- Second Generation Antipsychotic (SGA) therapy is necessary to improve quality of life
- SGA therapy adverse effects
  - Metabolic and Cardiac problems
- Preventing weight gain may prevent complications

(CDC, 2018; Correll, et al., 2009; McIntyre, & Jerrell, 2008; Üçok & Gaebel, 2008; Vitiello et al., 2009)
Gap Analysis

• Gap identified by Edith Kanyongo as SGA related weight gain and weight related complications.
• Lack of knowledge and failure to take action by patients to prevent weight gain.
• Gap was identified by observation and root cause analysis through discussions with other providers.
Literature Review

• Strong relationship between SGA use and metabolic effects

• Strong association between Metabolic effects and complications
  ➢ DM, myocarditis, prolonged QTC interval,

• Strategies to manage SGA metabolic effects in children
  ➢ Guidelines - Barlows & NIH
  ➢ *Lets Go 5210* (Rogers & Motyka, 2009)

• Effective patient education—One of 3 main functions of a medical encounter
  ➢ multifactorial, individualized
  ➢ delivered in a variety of methods
    ➢ Use of videos and leaflets supported by multiple studies

( Abed et al., 2014; Krouse, 2001; Barlows, 2007; NIH, 2018; Polascek et al., 2014; Correll, et al., 2009; McIntyre & Jerrell, 2008; Rogers & Motyka, 2009)
Managing Second Generation Antipsychotic Related Weight Gain in Children -- Logic Model

Framework: Logic Model + Health Belief Model

Inputs
- Insurance companies
- Psychiatrist/Psych NP
- Patient and family
- MA Counselor
- Front desk
- Video production

Activities
- Let's go 5210
- Guidelines
- Educational video
- Commitment contract
- Pre and posttest
- Weight check

Products
- Studies showing lack of knowledge and evidence of weight gain with SGAs
- Educational video for patients and parents
- Barlow's recommendations
- 5210 Guidelines

Short-Term Outcomes
- Understanding of medication side effect
- Understanding of weight gain complications
- Choosing of attainable healthy action from 5210 commitment

Intermediate Outcomes
- Action on 5210 and practice of healthy habits consistently
- Understanding of 5210

Long-Term Outcomes
- Improved Patient emotional stability
- Weight gain prevention
- Increased self esteem
- Medication adherence
- Prevention of weight related complications

Logic Model – Project Change

Inputs - Provider, Patient, video
Activities - Let's go 5210
Products - Guidelines, video production
Short term outcomes - Knowledge
Intermediate outcomes - Taking action on 5210 choice
Long-term outcomes - Weight gain and complication prevention

Health Belief Model – 5210 Education

Perceived susceptibility - SGA related weight gain
Perceived severity - Obesity, cardiac problems
Perceived benefit - prevent complications
Perceived barriers - lack of family support, financial
Cues to action - awareness, weight gain, support from provider
Self-efficacy - confidence, taking action, social support

(Hochbaum, Rosenstock & Kegels, 1952; Weiss, 1972)
Inquiry Question

In mentally ill children aged 8 to 18 receiving SGA therapy, will an educational video on SGA side effects and use of the Let’s Go 5210 (Rogers & Motyka, 2009) recommendations increase awareness and help promote action to prevent weight gain compared to usual care?
Methods and Procedures

- **Design:** Quasi experimental one group pre and post-test comparison design

- **Population and Sampling.** Convenience sampling
  - **Inclusion criteria –**
    - Ages 8-18 years old on SGA therapy- current or new patients
  - **Exclusion criteria-**
    - Children with eating disorders, severe Intellectual disability, or those unable to learn
  - **Setting.** Outpatient mental health community clinic
  - **Data collection period.** Collected over 12 weeks
    - Visit 1: Weight, questionnaire, 5210 video, prescription
      - [https://drive.google.com/file/d/0ByZXUZolUPO6S2EzNHlmbmpPakE/view](https://drive.google.com/file/d/0ByZXUZolUPO6S2EzNHlmbmpPakE/view)
    - Visit 2: Reminders
    - Visit 3: Weight, questionnaire

- **Privacy and Confidentiality.**
  - IRB approval from both UTA and MHMR clinic.
  - Consent, assent and HIPAA forms signed
  - All information was protected as regulated by HIPAA
Data Analysis/Results

The Mann-Whitney U test - SPSS

- The level of significance set at 95%
- Age: mean (F) 11.61 & (M) 11.63, Gender: (M) 18 (F) 8, Race (H 38.5%; AA 38.5%; W 23.1%)
- 5210: F&V -14; Physical Activity -8; Screen time-2; Zero sugary -2

- No significant difference in zero sugary drinks and screen time
Discussion

• The results showed that giving an extra piece of education on SGA related weight gain is beneficial to clients.
• Parents and/or guardians were very appreciative of the extra education given outside the medication management visit.
• No significant differences in demographics
• Majority chose fruits/vegetables and physical activities vs screen time and zero sugary drinks
• Overall there was no significant weight difference between the pre and post-test groups.
Limitations

• Small sample size
• Missing appointments
• Unmedicated ADHD children
• SGA and stimulant therapy augmentation
• Lack of equal distribution of 5210 actions
• Different pre and post weight times
Implications

• Patients need knowledge and encouragement to take action in preventing weight gain.
• Children and adolescents enjoyed being involved in the decision making on 5210 action choices.
• Providers should spare time to teach their patients or offer them to watch a short video to bring awareness and promote action to prevent weight gain.
• Agencies should enforce providers to educate patients on weight gain prevention.
• 5210 video can be used for individuals or groups.
• It can be administered by MAs, Nurses, or Doctors.
Conclusion

• Healthcare providers need to educate and encourage patients to prevent SGA related weight gain.

• At least 2 of the *Let’s go 5210* (Rogers & Motyka, 2009) healthy habits are effective ways of preventing weight gain.

• Physical activity and fruits/vegetables were more favorable to children than limited screen time and zero sugary drinks

• Involving children in decision making promote positive outcomes.


