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The Impact of COVID-19 on the Pediatric Population

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The coronavirus disease 2019 (COVID-19) is a novel *Betacoronavirus* strain in the severe acute respiratory syndrome family (SARS) which was initially identified in Wuhan, China in December 2019. [1,2] The virus itself is a zoonotic, enveloped, and single-stranded ribonucleic acid (RNA) virus that rapidly mutated to create an atypical virus strain, which quickly spread from animals to humans.[1]

Children comprise 22% of the US population and 7.3% of all COVID-19 cases as of August 3rd, 2020.[3] While the reported incidence in children has been lower in comparison to adults, the number of cases in children in the US have been steadily increasing. Amongst the children population, boys are more commonly affected than girls. Children younger than 3 years old and those with congenital heart disease are disproportionately impacted.[4]

As the pandemic progresses, it is important to note the social and health disparities caused by COVID-19 that affect the pediatric population. The pandemic forced many workers to work from home; therefore, children in crowded houses or with chronic health conditions are more susceptible to adverse outcomes due to increased risk of exposure. Another population which has been unproportionally affected is the African American population.[4] Despite accounting for 13% of the US population, African Americans account for 30% of COVID-19 related deaths.[4] Due to this, African American children are more likely to be uninsured and to lack a usual source of care which is an impediment to accessing COVID-19 testing and testing services.[3]Therefore, it is pivotal to take steps to ensure equal access to medical services during this pandemic.

COVID-19 appears to spread from person-to-person through close contact and droplet exposure from distances less than six feet. Air-borne transmission is also a possible cause but more evidence is still needed. In children, the virus is thought to reside in the upper respiratory tract, which makes it easier for the virus to spread from child to child. There is currently no evidence which suggests that the virus is foodborne, but it can live on cardboard and harder surfaces for one to three days.[2] Table 1 includes strategies to optimize health, in association with COVID-19 infection.

Table 1: Strategies to promote good health: [1]

Intervention
• Social distance at least 6 feet
• Avoid large gatherings
• Avoid touching the mouth, nose and eyes
• Wear a mask when in public
• Practice good hygiene (handwashing)
• Regularly monitor children for symptoms

The current gold standard for testing is the reverse transcriptase-polymerase chain reaction (RT-PCR). This method employs a nasopharyngeal swab which detects viral RNA. Serology testing for COVID-19 antibodies allows past infection to be determined, so patients can determine if they had the virus previously.[5]

Clinical presentation in children is similar to adults with active COVID-19 infections. The most common symptoms associated with the virus are: chills, shivering, muscle aches, headache, sore throat and a loss of taste and/or smell.[6] A distinguishing sign that has been noted amongst children is "COVID-

toes." These are lesions on the skin in which a child may experience a burning sensation, pain, or tenderness for approximately 2 weeks. Skin lesions are common with viral illnesses in childhood, so it is important for parents to not to be alarmed upon seeing this occur and to contact their Pediatrician for evaluation.[7]

In May 2020, the National Institute of Health published treatment guidelines for COVID-19. For mild to moderate cases, supportive care with sufficient fluid and calorie intake is recommended. Vitamin D supplement may play a role in reducing the risk of COVID-19 infections but there is insufficient evidence to support this homeopathic claim.[8] If a child is clinically suspected of or has a laboratory-confirmed case of COVID-19, isolation should be utilized. Children with severe cases may need to be hospitalized and receive respiratory support and management of symptoms. In certain severe cases, pharmacological treatments such as RNA synthesis inhibitors, monoclonal antibodies or protease inhibitors may be employed.[9]

COVID-19 has created a global health emergency and claimed 1 million lives as of October 2020. Vaccine development is important for the future and long-term protection of all age groups. Until then, it is important to continue practicing social distancing and wearing a mask properly when around others. Although children appear to be less affected by COVID-19, it is important to continue to practice good hygiene for the safety of others.

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Running Towards New Pharmacological Treatments for Pediatric Irritable Bowel Syndrome

Written by Gigi Sani, Pharm. D. Candidate 2023

Background

Irritable bowel syndrome or the acronym IBS, is more prevalent today, whether in an ad, a pamphlet at the doctors' office, or even a discussion with a pharmacist. With a growing presence in media and a heightened awareness of the disease, more treatments have become available to treat IBS. Since the disease can begin as early as 10 years old, these treatments have extended to the pediatric population.

IBS is a chronic disorder of the bowel that leads to bloating, cramping, chronic or intermittent diarrhea, chronic or intermittent constipation, urgency with defecation, incomplete sensation of defecation, and passage of mucus in the stool[1]. While these symptoms are difficult to deal with in everyday life by themselves, they are often accompanied by pain. For patients of this age, the manifestation of symptoms causes a decrease in the quality of life due to constant need to use the bathroom and frequent abdominal discomfort.

The pediatric population shows that about 14% of high school aged students and 6% of middle school aged students complain about IBS symptoms[1]. Unfortunately, the cause of IBS is not well understood but may have to do with a highly sensitive colon. When it comes to children, things that can contribute to irritation are mechanical problems with how food moves through the digestive system, hypersensitivity of the inside of the bowel regarding stretching and movement, stress, and an overgrowth of bacteria in the bowel[1]. In order to receive a diagnosis of IBS, a pediatric patient is required to undergo a host of confirmatory tests to assess the cause of their abdominal symptoms. These tests include blood tests, urine analysis and culture, stool sampling, stool sampling for occult blood, a lactose breath hydrogen test, an abdominal X-ray or ultrasound, or an endoscopy[1].

ranges from a carefully balanced diet, nutrition changes, biofeedback, acupuncture, and medications. Since the first description of IBS symptoms in the late 1800s, many new approaches to treatment have become available.

Drugs and how they work

There are many patient catered pharmacological treatments which include prokinetics medications and drugs that can affect gastric accommodation of postprandial distress and nausea[3]. Prokinetic treatment promotes movement of material through the gut. These agents can be effective in aiding the restoration of areas where movement is altered, which is causing the patient to experience symptoms. Treatments include erythromycin or lubiprostone for those > 18 years of age. By altering these areas with a drug, proper function could potentially be restored. Since low-grade inflammation and immune activation may be present in IBS, anti-inflammatory agents can alleviate some of the associated symptoms. Similarly, when pain gets too much for the patient to handle analgesics can be employed but they have major CNS effects. If the pain from IBS becomes unmanageable, analgesics may be employed, where agents have varying levels of CNS effects. Other drug classes that may be effective in symptom management are antispasmodics (dicyclomine, hyoscyamine, loperamide), antidepressants (amitriptyline), selective serotonin reuptake inhibitors, acid suppressants (famotidine, omeprazole, esomeprazole, lansoprazole, pantoprazole, rabeprazole), and antibiotics[3]. Antispasmodics can alleviate GI pain symptoms but are associated with anticholinergic adverse effects.

Antidepressants have been found to be effective for constipation as well as GI pain and are associated with lengthening of QT-interval that results in a heart arrythmia. Selective serotonin reuptake inhibitors (SSRIs) prevents serotonin from carrying out its function in colonic motility, however there is a black box warning for use in young adults. Acid suppressants whether they are histamine blockers or proton pump inhibitors are used to alleviate GI pain in pediatric patients.

Non-pharmacologic treatments

Many non-pharmacological treatments exist that have had a positive impact on some patients. Peripheral electrical nerve field stimulation to external ear and gastric electrical stimulation on the basis that neuromodulation can alleviate pain associated with IBS have been used in patients. Dietary intervention such as introduction of a low fermentable oligo-, di-, mono- saccharides and polyols or FODMAP diet to remove foods that have been shown to aggravate the gut. Examples of these foods include garlic, onion, soybeans, avocado, apples, watermelon, sausage, things containing wheat, cashews, pastries, cheese, ice cream, yogurt, and much more. It can be difficult to start a diet like this, because it does not allow for a great variety for children and adolescents. However, finding out trigger foods is essential to treating the symptoms of IBS. Also proven to be helpful have been probiotics, prebiotics, and symbiotics (a combination of both pre- and pro- biotics) to help restore balance of good bacteria in the gut biome to promote motility and less irritation. More recently, psychological non-pharmacological therapy has been explored for adolescents with IBS including exposure based cognitive behavioral therapy, acceptance and commitment to therapy, and mindfulness meditation. Learning to mentally deal with IBS can be a huge step in management of symptoms and well-being.

How could this impact the pediatric population?

The human digestive system is a dynamic environment that continues to unwind its complexity. The more that is understood about IBS the better the treatment that is available to patients. Symptoms of IBS can be inconvenient and uncomfortable, which may decrease quality of life. Ideally, pediatric patients can be treated with just one or a mixture of non-pharmacological and pharmacological treatments to decrease impact on daily activities. Appropriate management of IBS could greatly impact the lives of the 14% of high school aged students and 6% of middle school aged students that suffer from IBS and related symptoms.

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Vaccines in Pediatric Solid Organ Transplant Recipients

Written by Chelsea James, Pharm. D. Candidate 2022

Infections can negatively impact outcomes for pediatric patients receiving solid organ transplants. In order to prevent transplant rejection, as well as mortality, it is encouraged for these patients to receive vaccinations against preventable diseases such as, influenza, varicella, meningitis and pertussis. In becoming immunized, these children will have a greater chance not only for post-transplant survival, but a decreased risk of transplant rejection.

Implemented strategies to reduce pediatric transplant recipients' chances of getting infection include vaccination and antimicrobial prophylaxis. The current influenza vaccine guidelines provided by the American Society for Transplantation is that solid organ transplant recipients receive the inactivated influenza vaccine no earlier than 3 months following the transplant, unless there is high influenza activity, then the vaccine can be given as early as 1 month following the transplant. However, ISDA recommends vaccination within 2-6 months post-transplant or earlier if there is an outbreak situation. Table 1 summarizes multiple studies on the immune response to the inactivated influenza vaccine in pediatric patients receiving liver and kidney transplants.

TABLE 1 Influenza vaccination studies in pediatric transplant recipients

	Year, citation, Study type	Vaccine type, season, # of doses	# of patients vaccinated	Age at immunization	Transplant type	Timing of vaccine administration posttransplant	Immunogenicity results	
SOT	2008 PC [15]	TIV 2004-2005 2005-2006 2 doses	n = 41 liver recipients n = 19 healthy controls	Liver recipients median: 8 y range: 1-18	Liver	Mean: 52.3 mo range: 3-170	Seroconversion to either H1N1 or B: Healthy controls—75% Liver recipients—<50%	Seroprotection (control vs Liver): Liver recipients pre-100 vs 50% H1N1-100 vs >75% B-100 vs >75%
	2011 PC [18]	TIV 2007-2008 1 dose	n = 66 kidney recipients n = 21 healthy controls	Kidney recipients age range: 8-17 y	Kidney	Median: 2.5, steroid-free median: 2.4 y, steroid range, overall: 1.3-6.9	Seroconversion (control vs steroid-free vs +steroid): H1N1: 95.2 vs 44.4 vs 43.6% H3N2: 57.1 vs 14.8 vs 41% B: 57.1 vs 29.6 vs 38.5%	Seroprotection (control vs steroid-free vs +steroid): H1N1: 95.2 vs 85.2 vs 84.6% H3N2: 85.7 vs 66.7 vs 76.9% B: 57.1 vs 44.4 vs 43.6%
	2015 RCT [19]	TIV 2011-2012 HD vs SD 1 or 2 doses	n = 38	Median: 12.8 y IQR: 6.9-15	Liver, kidney, lung, heart, liver+intestine	Median: 2.2 y range: 0.6-16.1	Seroconversion (SD vs HD): H1N1: 68 vs 47% H3N2: 13 vs 54% B: 33 vs 18%	Seroprotection (SD vs HD): H1N1: 80 vs 95.5% H3N2: 80 vs 86% B: 47 vs 46% H3N2: 57.1 vs 14.8 vs 41%
HSCT	1993 PC [37]	TIV, 1988-1989 2 doses	n = 48	Median: 21 y range: 1-50	Allo, Auto	Median: 14.5 mo range: 2-82	Data not provided	Seroprotection: H1N1: 35% H3N2: 33% B: 29%
	2004 PC [38]	TIV, 2003-2004 1 dose	n = 5	Median: 13 y range: 5-14	Allo, Auto	Median: 14.8 mo range: 3.3-21.6	No significant increase in influenza A–specific IgG postvaccine	
	2010 PC [39]	TIV, 2007-2008 1 or 2 doses	n = 61 n = 51 evaluable n = 27 ≤ 18 y	Median: 14 y range: 2-54	Allo, Auto	6-11 mo: 7.8% 12-13 mo: 41.2% ≥24 mo: 51%	Seroconversion: H1N1: 60.9% H3N2: 56.5% B: 47.8%	Seroprotection: H1N1: 91% H3N2: 100% B: 100%
	2011 PC [34]	Adjuv, split pH1N1, 2009-2010 2 doses	n = 78	Median: 50 y range: 11-72	Allo, Auto	Median: 27 mo range: 1-290	Seroconversion: after the first vaccine: 16.7% after the second vaccine: 41.7%	Seroprotection: baseline: 17.9% after the first vaccine: 44.2% after the second vaccine: 48.8%
	2013 RCT [32]	TIV, 2010-2011 1 or 2 doses	n = 73 n = 17 ≤ 17 y	Median: 40 y range: 4-68	Allo	Median: 0.9 y range: 0.2-19.7	No significant differences between 1 and 2 dose subjects. Multivariate associations were found for increased immunogenicity with ≥1 y posttransplant and higher # of CD19 + B cells	

PC, prospective cohort; SD, standard dose; HD, high dose; Allo, allogeneic; Auto, autologous; IQR, interquartile range; Adjuv, adjuvanted.

Varicella infections pose a great health risk to pediatric solid organ transplant recipients. In order to combat this, it is recommended that pediatric patients get vaccinated before transplants occur, due to the varicella vaccination being a live vaccine. However, AST and IDSA do support giving the vaccine in a carefully controlled setting as long as the individual is receiving minimal immunosuppressive agents and has not experienced recent graph rejection. Table 3 summarizes Prospective and Retrospective Studies on varicella vaccination in pediatric patients receiving a liver or kidney transplant. The studies indicate vaccination is not recommended posttransplant, and is especially not encouraged for children

receiving renal or liver transplants, as the vaccine could cause immunosuppression of and possible graft rejection.

TABLE 3 Varicella immunization studies in pediatric transplant recipients

	Year, study type, citation	# patients vaccinated	Age at immunization	Transplant type	# of vaccine doses	Timing of vaccine administration posttransplant	Selected adverse events associated with immunization
SOT	1994 PC [89]	n = 17	Mean: 11.6 y range: 4.4-18.4 y	Kidney	1 dose	Mean: 52 mo range: 3-124 mo	1 subject with mild VZV disease 15 d postvaccine
	2002 PC [79]	n = 7	Not reported	Liver	1 dose	Not reported	None
	2005 PC [83]	n = 6	Median: 13.5 y range: 10-17 y	Kidney	1 or 2 doses	Median: 33.5 mo range: 12-91 mo	None
	2006 PC [84]	n = 16	Median: 26 mo range: 13-76 mo	Liver, Intestine	1 dose	Median: 393 d range: 257-2045 d	Rash: 4 subjects, 2 with <5 vesicles each, 2 with no vesicles
	2006 RC [85]	n = 35	Median: 46 mo range: 12.5-180 mo	Liver	1 or 2 doses	Median: 38.7 mo range: 4-173 mo	Vesicular rash + tactile fever: 3 subjects
	2008, 2015 PC [87,88]	n = 35	Median: 44 mo range: 34-396 mo	Liver	1 or 2 doses	Median: 44 mo range: 26-192 mo	WT VZV disease: 1 subject (2 weeks postvaccine)
	2012 PC [86]	n = 36, 32 evaluable	Not reported	Liver	1, 2, or 3 doses	Median: 3.1 y range: 1-13.4 y	Vesicular rash: 5 subjects, n = 2 with 5-50 vesicles, n = 1 with >50 vesicles Generalized rash: 3 subjects
HSCT	1997 PC [92]	n = 15	Mean: 9 y range: 2-16 y	Allo, Auto	1 or 2 doses	Median: 18 mo range: 12-23 mo	None
	2010 RC [94]	n = 68	Median: 4.6 y range: 0.4-17.2 y	Allo, Auto	1, 2, or 3 doses	Median: 32 mo range: 16-144 mo	Maculopapular rash: 2 subjects Low-grade fever: 1 subject Zoster: 1 subject
	2011 RC [93]	n = 46	Median: 4.5 y range: 0.1-19 y	Allo	1 or 2 doses	Median: 4 y range: 0.92-14.04 y	Vesicular rash: 3 subjects (all resolved without antiviral Tx)
	2016 RC [96]	n = 31	Median: not reported range: 1.5 y-18.4 y	Allo	1 dose	Median: not reported range: 4.8-112.1 mo	Mild wild-type VZV disease: 1 subject (13 d postvaccine)

PC, prospective cohort; RC, retrospective cohort; WT, wild type; ELISA, enzyme-linked immunosorbent assay; Allo, allogeneic; Auto, autologous; IFA, immunofluorescence assay.

Overall, in order to protect pediatric patients who are in need of solid organ transplantation, it is recommended that live vaccinations such as varicella and MMR be completed a prior to transplant and inactive vaccinations like influenza and PCV be completed no earlier than 2 months post-transplant.

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Liraglutide in Children and Adolescents with Type 2 Diabetes

Written by: Emily Royal, PharmD Candidate Class of 2022

Diabetes mellitus is a group of metabolic diseases characterized by chronic hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Type 1 diabetes results in beta-cell destruction leading to absolute insulin deficiency, or in other words the pancreas stops producing insulin.[1] Type 2 diabetes is also known insulin resistance.[1] The pancreas still produces insulin, but the body does not respond to it.

Children with type 2 diabetes may present as symptomatic or asymptomatic. In symptomatic patients, the three P's of diabetes are a common clinical sign (polyuria, polydipsia, and polyphagia) as well as hyperglycemia.[3] One of the biggest and most common risk factors for type 2 diabetes is obesity. The American Diabetes Association recommends screening for type 2 diabetes beginning at 10 years of age or the onset of puberty in children who are overweight.[5] Additional indications for screening can be seen in Table 1.[5] Diagnostic criteria are the same in children as for adults as seen in Table 2.[5]

TABLE 1

Indications to Screen for Type 2 Diabetes Mellitus in Children and Adolescents

Patient is overweight (body mass index > 85th percentile for age and sex, weight for height > 85th percentile, or weight for ideal height > 120th percentile)

Plus any two of the following risk factors:

- Family history of type 2 diabetes (first- or second-degree relatives)
- High-risk race/ethnicity: Asian, black, Hispanic, Native American, or Pacific Islander
- Maternal history of diabetes or gestational diabetes
- Signs of insulin resistance or conditions associated with insulin resistance (e.g., acanthosis nigricans, hypertension, dyslipidemia, polycystic ovarian syndrome, small-for-gestational age birth weight)

Note: Screening should be performed at 10 years of age or onset of puberty, whichever is earlier. If results are negative, screening should be repeated at least every three years (more frequently if body mass index increases).

Adapted with permission from American Diabetes Association. Type 2 diabetes in children and adolescents. Diabetes Care. *2000;23(3): 386, with additional information from references 2, 6, and 11.*

TABLE 2

Diagnostic Criteria for Type 2 Diabetes Mellitus

A1C ≥ 6.5%

Fasting (more than eight hours) blood glucose ≥ 126 mg per dL (7.0 mmol per L)

Random plasma glucose ≥ 200 mg per dL (11.1 mmol per L) with signs or symptoms of type 2 diabetes (e.g., polyuria, polydipsia, unintentional weight loss)

Two-hour plasma glucose ≥ 200 mg per dL during oral glucose tolerance test using 1.75 g glucose per kg body weight (up to 75 g)

Adapted with permission from American Diabetes Association. Type 2 diabetes in children and adolescents. Diabetes Care. *2000;23(3): 382, with additional information from references 2, 6, and 11.*

First line therapy for children with type 2 diabetes is lifestyle interventions including nutrition counseling, physical activity, and family involvement. If signs and symptoms cannot be properly controlled with these interventions, pharmacologic therapy is next in line.[3,5] While there are large number of agents available for the treatment of diabetes in adults, metformin and insulin are currently the only drug classes approved for use in children diagnosed with type 2 diabetes.[4,5] Metformin is the first line

therapy in children 10 years and older. While newly diagnosed diabetes may respond to metformin and lifestyle changes, there are some instances where insulin therapy may need to be initiated, such as signs of ketoacidosis, random glucose levels >250 mg/dL, or A1C greater than 9%.[5]

The evaluation of liraglutide, a GLP-1 agonist, recently completed phase 3 clinical trials for its use in children with type 2 diabetes. Results from the trial showed superior efficacy of liraglutide in improving glycemic control in children who did not have an adequate response with metformin treatment.[4] Liraglutide also showed faster lowering of plasma glucose and lowering patient's A1C to <7%.[4]

Major components of the study include patients who were between the ages of 10 and 17 were randomly assigned to groups: one receiving Liraglutide + metformin (with or without insulin) and the other receiving placebo + metformin (with or without insulin) for a 26-week period followed by a 26-week open label extension period.[4] Patients were included if their BMI was >85th percentile, A1C between 7 and 11% (if on diet and exercise alone) or between 6.5 and 11 (if taking metformin), and a diagnosis of type 2 diabetes.[4] Patients were excluded if they had type 1 diabetes, maturity-onset diabetes, if they were using any antidiabetic agent other than metformin or insulin within 90 days of screening, or with a history of pancreatitis.[4] Full inclusion and exclusion criteria can be found in the supplementary appendix.[6]

The primary efficacy end point was a change in hemoglobin A1C levels at weeks 26 and 52 with secondary end points of a change in fasting plasma glucose levels from baseline. Results can be seen in Figure 1.[4] Glycated hemoglobin levels (A1C levels) were measured at week 26 and at completion of the trial. Levels in the group receiving liraglutide were greatly reduced from baseline by 0.64 percentage points, while levels in the placebo group increased by 0.42 percentage points over time throughout the trial as shown in box A of Figure 1.[4] Fasting plasma glucose levels, seen in box B of Figure 1, showed a superior reduction in the liraglutide group versus the placebo group which showed an increase in levels. Twice as many patients (63.7%) in the liraglutide group reached hemoglobin A1c levels of less than 7% compared to 36.5% in placebo group.[4] BMI z scores (body mass index standard deviation, a measure of relative weight adjusted for child age and sex) did not show any favor towards patients receiving liraglutide. Mean body weight decreased in both groups (-2.3 kg with liraglutide and -0.99 kg with placebo) regardless of treatment received shown in box C of Figure 1.[4]

Most patients did not receive the max dose of 1.8 mg/day of liraglutide or placebo because fasting glucose levels of 110 mg/dL were achieved with the lower dose (0.6 mg/day or 1.2 mg/day).[4] Overall, patients receiving Liraglutide had a higher percentage of adverse events, especially GI related, including nausea, vomiting, diarrhea, and some abdominal pain.[4] The percentage of patients experiencing hypoglycemia was also higher in patients receiving liraglutide than those receiving placebo.[4] This is not shocking because patients are receiving two medications instead of one now that lower plasma glucose levels.

While the trial showed potential therapy benefits, it was not without limitations. Limitations of the study include a limited diversity of the trial population (therefore results may not be generalizable to other populations), escalating the dose too quickly (as most patients did not even receive the highest dose, limiting data related to the safety profile of using liraglutide), and a long recruitment period (problems inherent in getting youth participants).[4]

Ultimately, the use of liraglutide in combination with metformin showed superior treatment efficacy, at the cost of increased gastrointestinal adverse events, compared to metformin therapy alone in treating children with type 2 diabetes.

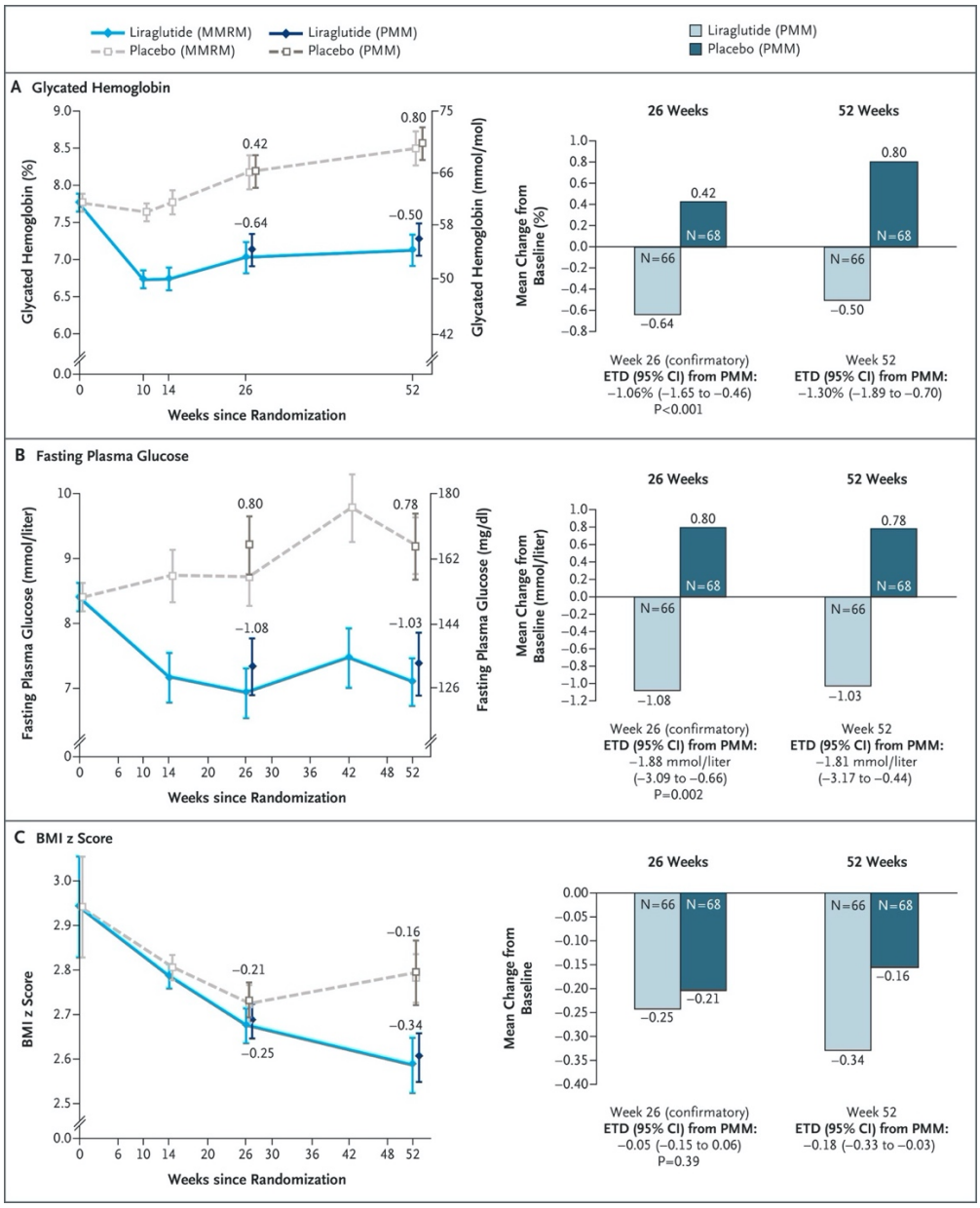

FIGURE 1

There is a growing problem of diabetes in the young people of the United States, but the good news is diabetes can be prevented! A major risk factor for type 2 diabetes is insulin resistance. Children, adolescents, and adults who are overweight are more likely to have, or develop, this resistance.[2] As long as insulin is being produced, blood sugar levels remain normal. Eventually, the pancreas is unable to keep up causing blood sugar levels to increase, leading to type 2 diabetes.

Another risk factor is physical activity. Those with lower levels of exercise are at higher risk for developing insulin resistance. Physical activity helps the body use insulin better, so it is important to make sure children and adolescents are getting enough exercise on a daily basis.

Parents can do a lot to help prevent type 2 diabetes in their children. It's as simple as exercising and having a healthy, consistent diet!

- Tips for a healthy diet[2]
    - Drink more water and fewer sugary drinks (sodas and juices)
    - Eat more fruits and vegetables
    - Eat slowly, not fast
    - Smaller portion sizes – it is better to ask for seconds than overstuff
    - Let kids be involved in making healthier meals!
- Tips for exercising[2]
    - Turn chores into games!
    - Limit "screen time" during the day and encourage children to play outside
    - Aim for ~60 minutes of physical activity a day
    - Focus on progress and always stay positive!

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