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NUTRITION & YOUR CHILD

PEPPERMINT OIL AND ITS EFFECT ON BELLY PAIN

Peppermint oil has been used for thousands of years to help with digestion. It can relax certain muscles in the intestine, affect the speed at which food moves through the gut and can affect different types of intestinal bacteria. Roughly 10% of both school-aged children and adults experience recurring abdominal (belly) pain, making it important to understand how peppermint oil might work in younger populations. Researchers at the USDA/ARS Children's Nutrition Research Center (CNRC) at Baylor College of Medicine organized a study to find how children with belly pain metabolized peppermint oil at different dose levels and how those doses affect intestinal function.

"Previous studies, primarily done in adults, show that there is some benefit to using peppermint oil to relieve some types of belly pain. However, few studies in kids have been done to try to understand what dose of peppermint oil should be used and how it might impact the function of the intestine in children," said Dr. Robert Shulman, professor of pediatric nutrition at Baylor and lead author of the paper.

Belly pain in children can result from multiple factors including the intestines being overly sensitive or hypersensitive, an abnormal intestinal bacterial profile or a sensitivity to certain foods. While peppermint oil is believed to influence some of these pathways, the purpose of the study was not to test whether peppermint oil reduces symptoms. Instead, the team focused on how children absorb and break down menthol, the active ingredient of peppermint oil, and how different doses affect intestinal movement.

The research team wanted to find the maximum dose to give children without overloading their

ability to absorb menthol. The researchers gave different amounts of peppermint oil to the children to follow the children's metabolism, while also studying how peppermint impacted the movement of food through the intestines; this was done by measuring intestinal movement and contraction.

"We found that the higher doses of peppermint oil we tested did impact the rate at which food moved through the intestine, and these doses also appeared to relax parts of the intestine," Shulman said.

The dose that impacted intestinal function the most without overloading the body's ability to process the menthol was 900 mg of peppermint oil per day, divided into five doses. In the study, children took a peppermint capsule with meals and snacks: breakfast, lunch, afterschool snack, dinner and at bedtime. This dose was for research purposes only, not a clinical recommendation.

Shulman and the team hope to do a large, multicenter clinical trial now that the appropriate dose has been determined.

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HOW PARENTS SHAPE PRESCHOOLERS' EATING HABITS

What young children eat can affect their health for years to come. To learn more about what shapes these eating habits, Dr. Sheryl Hughes, investigator at the Children's Nutrition Research Center and professor in the Department of Pediatrics at Baylor College of Medicine and her colleagues studied how food parenting, defined as specific practices parents use to shape their children's eating habits, and family mealtime routines influence the diets of preschool-aged children in Hispanic families.

The researchers wanted to find out which parents' routines strongly influenced their children to eat healthy foods, like vegetables and whole grains, and which routines discouraged eating unhealthy foods, like sugary drinks and fatty snacks. To do this, the team asked 253 Hispanic mothers of children ages 3 to 6, about how they tried to shape their children's eating habits, how often their families ate meals together, and what their children typically ate.

Some of the most influential food parenting practices were to have regular meals and snack times, to serve measured portions that are appropriate for the child's age, and to monitor what children eat. Children whose parents reported these practices were more likely to eat vegetables and whole grains and less likely to consume sugary drinks. On the other hand, pressuring children to eat or using food as a reward was linked to unhealthy eating.

Parents who kept kids from eating candy, ice cream, and junk food had children who ate less of both healthy and unhealthy foods. Experts know that limiting foods can hurt kids' health because of the 'forbidden fruit' effect. This happens when people want something more just because they can't have it. When certain foods are off-limits, kids are more likely to eat them and become overweight or obese over time.

Surprisingly, regularly eating dinner together as a family had little influence on children's diets. This goes against the belief that eating meals as a family often leads to healthier eating. These findings suggest that how parents feed their children may be more important than how often they eat together.

Based on the study's findings, here are some practical tips for parents:

- **Stick to a routine**: Serve meals and snacks at consistent times.
- **Watch portions**: Offer measured servings of food according to the child's age to help children learn appropriate amounts.
- **Monitor intake**: Pay attention to what and how much your child eats.
- **Avoid pressure**: Don't pressure children to eat or use food as a reward.
- **Encourage exploration**: Gently introduce new foods without coercion.

By Ana María Rodríguez, Ph.D., lead science writer at Baylor College of Medicine

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A randomized trial would place kids into a peppermint oil or placebo group to determine whether peppermint oil actually helps reduce belly pain in children.

"A multicenter trial would help us recruit a large number of kids, which will give us a better possibility of detecting a peppermint effect," Shulman said. "Another benefit of a large trial is that it would provide a broader demographic, which would improve our ability to determine how effective peppermint is in a 'real world' setting—that is, outside of a clinical trial. That would make the results more universally applicable."

By Homa Warren, senior communications associate at Baylor College of Medicine

EMOTIONAL SUPPORT NETWORKS HELP PARENTS OF CHILDREN WITH TYPE 1 DIABETES

Type 1 diabetes, an endocrine disease, affects about one in every 350 children in the U.S. The management of it is an ongoing and intensive responsibility. Parents and families of children with type 1 diabetes carry out demanding tasks several times a day such as checking blood glucose levels, administering insulin through a pump or injection, deciding what their child eats, overseeing physical activity and more.

Due to this, researchers at the USDA/ARS Children's Nutrition Center (CNRC) at Baylor College of Medicine and Texas Children's Hospital sought to learn about the emotional support parents of children with type 1 diabetes receive and how they would like to be supported.

"The need to continually perform these tasks, combined with their importance to the child's health, may affect a parent's stress level and their ability to routinely conduct diabetes-related tasks," said professor of pediatric nutrition at the CNRC, Dr. Deborah Thompson.

"One of the things we hear a lot is that many parents have a really hard time. They feel exhausted and worried about the well-being of their child with diabetes," said Dr. Marisa Hilliard, professor of pediatric psychology at Baylor and principal investigator of this study. "We wanted to more fully understand this experience to be able to help parents and develop resources and interventions to support them. We needed to know what their experiences are, what they want or what they prefer."

There also is a financial aspect.

"There are a lot of costs associated with managing diabetes. Insulin is very expensive. The devices are very expensive. The costs can all add up," Hilliard said.

Studying 23 parents of children with type 1 diabetes from different demographics, researchers found that many parents look to others, such as close family and other resources, like their healthcare providers, for emotional support.

"Healthcare providers can offer validation as a form of emotional support. They can also notice when parents have unmet support needs and can help them get resources, whether referring them for mental healthcare or telling them about community resources," Hilliard said.

She adds that some families also look to their child's school or feel supported by the school nurse, and many families go online for emotional support and information about the disease.

"Emotional support does not require deep knowledge or familiarity with managing the child's diabetes. Some parents told us they felt really emotionally supported when someone offered to pick up prescriptions or pick up or make dinner if they are too busy," Hilliard said.

"This study suggests that emotional support from a variety of sources is important for parents of children with type 1 diabetes," Thompson said.

Researchers plan to use this information to refine the types of interventions needed to help families manage the challenges of caring for children with this complex condition.

Type 1 diabetes resources for families:

- Diabetes Mental Health Directory – American Diabetes Association
- Breakthrough T1D – Greater Houston Chapter

By Taylor Barnes, senior communications associate at Baylor College of Medicine

Baylor College of Medicine

USDA/ARS CHILDREN'S NUTRITION RESEARCH CENTER

Office of Communications & Community Outreach
One Baylor Plaza, Suite 176B
Houston, Texas 77030-3411

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Children's Nutrition Research Center
1100 Bates St.
Houston, TX 77030-2600
cnrc@bcm.edu
bcm.edu/cnrc

Center Director
David B. Allison, Ph.D.

Publication Advisors
Jayna M. Dave, Ph.D.
Michael Dzakovich, Ph.D.
Marta L. Fiorotto, Ph.D.
Sheryl O. Hughes, Ph.D.
Nancy E. Moran, Ph.D.
Stephanie Sisley, M.D.
Deborah Thompson, Ph.D.
Robert A. Waterland, Ph.D.

Editors
Taylor Barnes and Julie Garcia
Office of Communications & Community Outreach
Baylor College of Medicine
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JOIN A CNRC NUTRITION STUDY!

Houston-area residents are invited to participate in the nutrition research projects designed to help CNRC scientists learn more about the nutritional needs of children. Parking is free and financial compensation is provided for most studies. **For questions on becoming a CNRC research volunteer, call Noemi Islam at 713.798.7002 or email nislam@bcm.edu**

Baylor Infant and Toddler Biomarker of Nutrition Study (BITBONS) H-5292 bcm.edu/healthcare/clinical-trials/h-52929 We are enrolling infants (4-24 months) to complete 6 visits that include growth measurements, skin scans, small blood/milk sample, and a vision test. Receive up to $600, free parking, and refreshments. To learn more, complete the eligibility screener, contact us at 713.798.0517 or BITBONStudy@bcm.edu

Energy and Screens Study H-56253 We are inviting families to measure how screen vs. non-screen activities may impact energy use and sleep in 3–5 year-old kids. Includes 1 home & 1 center visit. Compensation provided. For more information, email energyscreens@bcm.edu or text 346.626.4466.

Goodnight Screen Media Study H-52269 Help us learn about the effects of screen media use on children's sleep, memory and attention. Parents and children age 4 are encouraged to learn more about an exciting new study at the Children's Nutrition Research Center in Houston. Participants may be compensated up to $510 for participation. Free Parking. To learn more please visit https://redcap.link/goodnight You can also contact us at: 713.798.0557 or GoodNightScreenMedia@bcm.edu

PASS Study: Physical Activity and Stopping evening Snacking H-56321 Children between the ages of 12-18 years old diagnosed with prediabetes are invited to join our 8-week study to explore the effects of physical activity and evening snacking on metabolic health. Compensation provided. Call 713.798.7182 or email PASS-study@bcm.edu

SCREENS Study H-53533 Join our study! Help us learn about screen media exposure and sleep health among school-aged children 8-11 years old. Up to $500 compensation for participation. To learn more: https://redcap.link/SCREENS Screens_Study@BCM.edu 713.798.0555 Your child does not need to use electronic scree regularly to be part of this study.

Technology Effects on Child Health (TECH) Study H-52282 Join the 12-month TECH study to help us understand how screen time may affect your 3–4 year old's sleep, growth and development. You will receive $410, a report of your child's screen use, & an informational video at the end. Contact us at 713.798.0388 or visit https://redcap.link/techstudy.

Teen Talk Study H-46202 Researchers at the Children's Nutrition Research Center, Baylor College of Medicine, seek 14–17 year-olds and parents living in rural areas for a panel to help develop a digital obesity prevention program. Compensation provided. Contact Chishinga at 713.798.0506 or Noemi at 713.798.7002.

Please scan the QR code and join the legions of families helping the CNRC advance science through research. Our researchers are interested in studying children of all ages on diverse topics.

Be part of our volunteer registry!

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