Fasting in Diabetes Management: Clinical Interventions for Cultural, Spiritual and Therapeutic Fasting

Learning objectives

- Review fasting practices among PWD
- Explore the religious, cultural and health related fasting strategies and how they impact diabetes outcomes and care
- Review the results of a national survey from PWD relating to why they fast and what are their expectations from healthcare providers to support their needs
- Strategize effective DSMES interventions for fasting among PWD
Disclosure to Participants

- Conflict of Interest (COI) and Financial Relationship Disclosures:
  - Barbara Eichorst, MS, RD, CDE – No COI/Financial Relationship to disclose

Review fasting practices among PWD

Does one have to fast?

- Clinical indications for fasting in diabetes
- Evidence based approaches for fasting in diabetes
Benefits of fasting

- Improves glucose management & reduces insulin resistance (1-3)
- Reduces inflammation (4-7)
- Improves cardiovascular health (8-10)
- Aids in weight loss (11-13)
- Improves mental health & emotional well-being (14-16)
- Increases growth hormone secretion (17-20)
- Could delay aging & extend longevity (21-26)
- May aid in cancer prevention & increase effectiveness of chemotherapy (27-28)

Clinical indications for fasting in diabetes

- Metabolic control
- Weight management
- Symptom management
- Psycho/social

Evidence based approaches for fasting in diabetes

Will add

Will add
Explore the religious, cultural and health related fasting strategies and how they impact diabetes outcomes and care.

**Fasting guidelines and information**
- Religious fasting: Ramadan, Lent, Yom Kippur
- Intermittent Fasting: 16:8 method, Eat-stop-eat, 5:2

**Health Effects of Fasting**
- Body weight
- Diabetes management: glucose, A1C, insulin sensitivity

**Medical Nutrition Therapy during fasting**
Muslims in the United States

Origin of Muslims in USA

Fasting Guidelines and Information

Ramadan: Ninth month of the Muslim calendar year. Fasting is compulsory for healthy adults except for those for medical conditions.

In 2020, in the USA
Ramadan begins on the evening of April 23rd and ends on the evening of May 23rd
Ramadan Explained

- Fasting occurs from dawn to sunset
- Ramadan officially begins with the sighting of the new moon and ends at the sighting of the next new moon, 29-30 days
- Obligatory for adult Muslims
- Exceptions: illness, traveling, elderly, pregnant, breastfeeding, diabetes, menstruation

Suhoor Foods

Iftar Foods Around the World

- Haleem from Pakistan
- Koofteh from Iran
- Jollof Rice & Chicken from Nigeria
Lent Explained

Fasting:
- 1 meal and 2 small meals

Abstinence:
- Abstinence from meats on Fridays
- Fish is acceptable

Religious observance in the Christian calendar. Begins on Ash Wednesday and ends six weeks after on Holy Saturday

Adults between 18 and 69
Exceptions: Unsound mind, sick, pregnant or nursing women, etc.

Who fasts?
- Fasting on Ash Wednesday and Good Friday
- Abstinence on Fridays

Fasting vs. Abstinence

Jewish Fasting Holidays

Yom Kippur – Day of Atonement
- Total abstention from food and drink from sunset until nightfall of the following day.

Tisha B’Av – Mourning destruction of the First and Second Temples
- When? 2019: October 8th (after sunset on October 7th - August 29th – 2nd day of Hebrew Calendar)
- Who fasts? 13 and older
- Exceptions? Nursing women, pain, feel weak
**Intermittent Fasting Explained**

<table>
<thead>
<tr>
<th>Type of Fast</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Complete Alternate-Day Fasting</td>
<td>Alternating fasting days with eating days</td>
</tr>
<tr>
<td>Modified Fasting Regimens</td>
<td>Consumption of 20-25% of energy needs on scheduled fasting days: 5:2 severely energy restriction for 2 days</td>
</tr>
<tr>
<td>Time-Restricted Feeding</td>
<td>Ad libitum energy intake within specific time frames</td>
</tr>
</tbody>
</table>

**Effects of Alternate Day Fasting**

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<th>Sample Size</th>
<th>Participant description</th>
<th>Intervention duration</th>
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<th>Lipids</th>
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**Effects of Modified Day Fasting**

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</table>
Effects of Time Restricted Fasting

- Sample Size
- Participant description
- Intervention duration
- Type of fasting
- Glucoregulatory markers
- Lipids

The Impact of Religious Fasting on Health

- Sample size
- Participant Description
- Glucose
- Lipids

Medical Nutrition Therapy

- Interview
  - What questions to ask?
- Meal planning recommendations
  - Sample Meal
  - Meal Modifications
- Resources
Example of Iftar Meal

- Home made vegetable soup
- Green salad or other vegetable salad
- Stuffed vegetables (squash/eggplant/grape leaves)
- Baked chicken breast
- Drink water with lemon slices and mint leaves

http://www.emro.who.int/nutrition/nutrition-infocus/dietary-recommendations-for-the-month-of-ramadan.html

Example of a Suhoor Meal

- 2 slices of bread
- Vegetable omelet or hard boiled egg
- Sliced vegetables (use more than one vegetable)
- Labane or cheese with added za'atar and olive oil
- Herbal tea
- Water

http://www.emro.who.int/nutrition/nutrition-infocus/dietary-recommendations-for-the-month-of-ramadan.html
Resources

www.daralliance.org

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Disclosure to Participants
Conflict of Interest (COI) and Financial Relationship Disclosures:
- Presenter: AN, MS – Speaker’s Bureau: Boehringer-Ingelheim, Eli Lilly, Novo Nordisk
Review the results of a national survey from PWD relating to why they fast and what are their expectations from healthcare providers to support their needs.

Demographics including fasters v non-fasters, diabetes type, age distribution, length of time with diabetes, reasons for fasting, challenges experienced while fasting with diabetes, including medication adherence, analysis of PWD conversations with hcp, spiritual leaders and peers in fasting options, tools and tricks, lessons learned regarding fasting with diabetes, advice to share with others considering fasting.

National Survey – DiabetesSisters

Do you fast?
240 responses

- 52.4% Yes
- 47.6% No

Respondent distribution:
- Female (80%), Male (20%)

Type of diabetes:
- Prediabetes (4%), Type 1 diabetes (40%), Type 2 diabetes (52%), Other, such as MODY, LADA (4%)

Length of time with diabetes:
- 0-9 years (35%), 10-19 years (16%), 20-29 years (18%), More than 30 years (21%)

Treatment method(s)*:
- Diet (79%), Exercise (67%), Oral Medication(s) (38%), Insulin (70%), Other injectable, not insulin (11%)

n=248
*some respondents selected more than one answer
Of those surveyed,
100% agreed that fasting meant no food consumption
while 77% included liquid as well

Of those who fast,
68% did so for religious reasons,
11% for spiritual reasons,
19% for health reasons (such as lipid management), and 70% for diabetes reasons*

Half fast 1-9 times per year, while the other half fast more than 10 times per year

n=248
*some respondents selected more than one answer

Challenges to fasting while living with diabetes, including reasons for breaking their fast

Hypoglycemia
Nauseous
Extreme hunger

n=248
*some respondents selected more than one answer

For those advised against fasting, respondents share these insights

• wanted to fast but was told not to
• wanted to do it for religious reasons but was advised not to
• wanted to do it for health reasons but was advised not to
• wanted to do it for spiritual reasons but was advised not to
• wanted to do it for cultural reasons but was advised not to
• wanted to do it for personal reasons but was advised not to
• wanted to do it for family reasons but was advised not to
• wanted to do it for community reasons but was advised not to
• wanted to do it for other reasons but was advised not to

• frustrated
• angry
• upset
• sad
• disappointed
• disappointed
• angry
• upset
• sad
What respondents wish they had known when they began fasting

- Benefits of basal insulin testing
- Hydration is key
- Reaction(s) of medication(s)
- Finding a good blood sugar range so I don’t experience hypoglycemia
- What foods should be eaten to sustain energy longer and keep blood sugars up as well
- Since my goals overlap spiritual and medical reasons, I wish I had a more open mind about fasting and knew about the various supplements (whey, etc.) that prevent fasting from being a significant medical concern
- Adjusting medications
- I wish I had known how effective, safe, and historically prevalent it was. Fasting for me is like hitting a glucose control reset. Every blood sugar measure improves for me. It’s a remarkable result that permits me to recharge my metabolic and emotional reserves.

National Survey – DiabetesSisters

Joy Pape
MSN, RN, FNP-C, CDE, WOCN, CF CN, FAADE, CILC
Weill Cornell Medicine
Comprehensive Weight Control Center
City, ST

1. Research
2. Adjust medication(s)
3. Seek information from more than one source
4. There are many different types of fasting that can fit into your lifestyle. Try it out and see if you like it.
5. Plan and dream on your own and from your own experiences. It’s all about finding what works best for you. Your body reminds you when you neglect the right to your body. It’s crystal clear when you don’t listen.
6. Do not worry about keeping a “perfect” fast. Plan it as best you can, but do not stress over changing or breaking it. You achieve your goal by planning, even if you cannot stick to it due to forces outside your control. Learn from and move on!
8. Many recommend Dr. Jason Fung’s book.
9. Get advice from your endo, educator, nurse, physician, etc.
10. #AADE
Disclosure to Participants

Joy Pape, FNP-C, CDE, FAADE

Conflict of Interest (COI) and Financial Relationship Disclosures:
- Intellihealth/Evolve-Consultant

Strategize Effective Interventions

- Medical risks, monitoring, exercise, fluids, medications
- Know your meds: effects, side effects, can you hold? Change timing
- Continuous glucose monitoring
- Complications of fasting: Fasting medications, hypoglycemia, dehydration, hyperglycemia, ketosis
- What to do: Prevention and Treatment
- Know glucose levels, know your meds
- When to break the fast
- How to break the fast

Strategic DSMES interventions for fasting among PWD

*SHARED DECISION MAKING!
*KNOWLEDGE IS THE BEST PREVENTION!
Strategize Effective Interventions

Discuss with patient:
- Why Are You Fasting?
- Do You Want to Fast?
- What Does Your Fast Consist of?
- Do You Have a Plan?
- Do You Have a Plan to Break The Fast?

Strategize Effective Interventions

Discuss with patient:
- Do You Have to Fast?
- Glucose Levels?
- Medications?
- Present Meal Plan (including fluid intake)?
- Present Activity?
- Anything else?

Medical Risks to Discuss and Prevent
- Hypoglycemia
- Hyperglycemia
- Dehydration
### Prevention of Risks

**Assess glucose levels prior to and during fast**
- CGM preferred
- Frequent fingersticks if no CGM

### Strategize Effective Interventions

**Medications**
- Insulin and sulfonylureas can cause hypoglycemia.
- Not taking medications can cause hyperglycemia, DKA & as can feasting after fast.
- Dehydration can occur due to decreased fluid intake and/or hyperglycemia.
- Need to match medications with food intake.

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**Assess and teach re: Medications**
- Insulin and sulfonylureas can cause hypoglycemia.
- Need to match medications with food intake.
- Not taking medications can cause hyperglycemia, DKA & as can feasting after fast.
- Dehydration can occur due to decreased fluid intake and/or hyperglycemia.
Strategize Effective Interventions

Prevention of Risks
Medications

What can be held?
What can be changed?

Strategize
Effective
Interventions

What To Do?
How to start
How to recognize, & treat hypo and hyperglycemia
When to stop fast
How to break fast

#AADE

Case Study

STRATEGIZE EFFECTIVE INTERVENTIONS
Strategize Effective Interventions

Disclosure to Participants

- Notice of Requirements For Successful Completion
  - Please refer to learning goals and objectives.
  - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours.

- Conflict of Interest (COI) and Financial Relationship Disclosures:
  - Presenter: XX, PharmD, CDE – Speaker's Bureau: XYZ Pharmaceuticals; Advisory Board: ABC, Inc
  - Presenter: XX, MS, RD – No COI/Financial Relationship to disclose

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