Cultural Sensitivity with Diabetes Management

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Objectives

- Review the difference between cultural sensitivity, cultural competence, and cultural humility.
- Identify ways to overcome cultural barriers to improve patient outcomes.
- Review fasting recommendations for diabetes management.
Financial Disclosure

- I have no relevant financial disclosures.
Numbers of Diabetes

- In 2015, **30.3 million** American adults had diabetes, which is 9.4% of the population
  - Out of the 30.3 million, 23.1 million were diagnosed, and 7.2 million were still undiagnosed
  - 1.25 million American children and adults have type 1 diabetes
  - 84.1 million Americans age 18 and older have prediabetes
- Diabetes is the **7th leading cause** of death in United States in 2015
- The **number one** cause of adult-onset blindness, lower-limb amputation and kidney failure is Diabetes
- Approximately, **1.5 million** Americans are diagnosed with diabetes each year

(American Diabetes Association, 2018)
Race

- Based on PHYSICAL appearance of people to describe racial groups.

Ethnicity

- Self-characterization on the basis of physical traits, nationality and cultural/religious background.
- Relates to beliefs, family life, food preference and rituals.
Figure 1. Estimated age-adjusted prevalence of diagnosed diabetes by race/ethnicity and sex among adults aged ≥18 years, United States, 2013–2015

AI/AN = American Indian/Alaska Native.

Note: Error bars represent upper and lower bounds of the 95% confidence interval.

Data source: 2013–2015 National Health Interview Survey, except American Indian/Alaska Native data, which are from the 2015 Indian Health Service National Data Warehouse.
Let’s Define

- Cultural Sensitivity
- Cultural Competence
- Cultural Humility
Cultural Sensitivity

- The delivery of care is based on ethnic/cultural values, norms, social beliefs, environmental and historical factors which are specific to the patient population.
Cultural Competence

- The ability and knowledge to work with culturally diverse population regardless of their customs, language, values and beliefs.
Cultural Humility

- A respectful and humble attitude towards other cultures which could push one to challenge their own cultural biases.
- Lifelong learning and understanding of other cultures.
Cultural Barriers to Insulin use in Hispanic/Latinos

Perception of Insulin
- Believe to cause more complication or harm
- Imply failure
- Fear of injection

Family
- Lack of family support
- Family members influence patient to avoid using insulin

Social Factors
- Viewed as a burden on family

Religion
- Use of prayer to improve health rather than taking insulin
- Diabetes viewed as punishment
Cultural Barriers to Insulin use in African Americans

Perception of Insulin
- Believed to lead to organ damage
- Insulin cause negative emotions
- Fear of injection

Social Factors
- Viewed as interfering with schedule or cause inconvenience
- Cause feelings of embarrassment

Family
- Patients often value family input and support
- Fatalistic view on starting insulin

Religion
- Use prayer to cope with diabetes
- Use prayer to change unhealthy behaviors
Cultural Barriers to Insulin use in Asians

Perception of Insulin
- Insulin implies failure
- Insulin can lead to more complications or cause harm
- Fear of injection

Family
- Lack of family support with insulin use

Social Factors
- Viewed as form of handicap
- Indicative of severe illness
- Interfere with social/personal life
- Cause feelings of embarrassment

Religion
- May interfere with religious obligations
- Muslim may question the insulin’s origins
- Insulin making life less flexible
Ways to overcome Cultural Barriers

- Use of **effective communication** during provider-patient interactions.
- Important to consider with population with low literacy, non-English speakers and **english proficiency**.
- Use of **verbal and non-verbal communication** style.
- Provide patient with **culturally sensitive** information to enhance understanding.
- Be **sensitive and respectful** with ALL patients regardless of ethnicity, race and socioeconomic status.
Fasting Recommendations

- Fasting is a challenge with all patients, especially who are insulin dependant diabetics.
  - Understand reasons for fasting: Labs, procedure, surgery or religious reason.
  - Identify duration of fast.
- Goal for diabetes management during fasting is to prevent hypoglycemia (BG <70).
- Reviewing signs and symptoms of hypo/hyperglycemia.
- Importance of adequate nutrition and hydration.
Fasting Recommendations for labs & diagnostic procedures

- Fasting time approximately 8-12 hrs.
- Schedule labs, surgery or procedures for early morning.
- Stop short-acting insulin before meals until patient is able to eat.
- Lower basal insulin dose by 1/2 – 1/3.
- Recommend to eat a meal/snack and to resume their normal regimen following labs or procedures.
Colonoscopies

● Schedule for early morning.
● Prep requires clear liquid diet one day before the procedure.
● Test blood sugars frequently to monitor of hypo/hyperglycemia.
● Stay well hydrated.
● The day of the procedure:
  ○ Use 1/3 to 1/2 of their dose for intermediate- or long-acting insulin.
  ○ Use mealtime insulin only when patient is able to eat.
  ○ Use fast-acting insulin to correct hyperglycemia if needed.
Prolonged fasting: **Ramadan**

- Month long fast observed by Muslims around the world.
- Suhoor - meal taken pre-dawn before starting fast.
- Iftar - meal taken when the fast is broken at sunset.
- Alters meals time along with sleeping patterns.
- Pre-Ramadan education is essential to avoid complications.
Mean continuous glucose monitoring profiles before and during Ramadan in healthy subjects (A) and patients with diabetes (B)

(Diabetes and Ramadan: Practical guidelines, 2017)
Recommended timings to check blood glucose levels during Ramadan fasting

1. Pre-dawn meal (suhoor)
2. Morning
3. Midday
4. Mid-afternoon
5. Pre-sunset meal (iftar)
6. 2-hours after iftar
7. At any time when there are symptoms of hypoglycaemia/hyperglycaemia or feeling unwell
**Non-insulin dose modifications for patients with T2DM**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metformin</strong></td>
<td>Daily dose remains unchanged. Immediate release: OD – Take at iftar; BID – Take at iftar and suhoor; TID – Morning dose at suhoor, combine afternoon and evening dose at iftar. Prolonged release: Take at iftar.</td>
</tr>
<tr>
<td><strong>Acarbose</strong></td>
<td>No dose modifications. Dose can be taken with iftar or suhoor.</td>
</tr>
<tr>
<td><strong>TZDs</strong></td>
<td>No dose modifications. Dose can be taken with iftar or suhoor.</td>
</tr>
<tr>
<td><strong>Short-acting insulin secretagogues</strong></td>
<td>TID dosing may be reduced/redistributed to two doses taken with iftar and suhoor.</td>
</tr>
<tr>
<td><strong>GLP-1 RAs</strong></td>
<td>Once appropriate dose titration has been achieved no further dose modifications are needed.</td>
</tr>
<tr>
<td><strong>DPP-4 inhibitors</strong></td>
<td>No dose modifications.</td>
</tr>
<tr>
<td><strong>SU</strong></td>
<td>Switch to newer SU (gliclazide, glimepiride) where possible, glibenclamide should be avoided. OD – Take at iftar.* Dose may be reduced in patients with good glycaemic control. BID – Iftar dose remains unchanged.** Suhoor dose may be reduced in patients with good glycaemic control.</td>
</tr>
<tr>
<td><strong>SGLT2 inhibitors</strong></td>
<td>No dose modifications. Dose should be taken with iftar. Extra clear fluids should be ingested during non-fasting periods. Should not be used in the elderly, patients with renal impairment, hypotensive individuals or those taking diuretics.</td>
</tr>
</tbody>
</table>

*(Diabetes and Ramadan: Practical guidelines, 2017)*
Insulin dose modifications for patients with diabetes

**Insulin therapy**
Switch to insulin analogues where possible
- **Long- or intermediate-acting basal insulin:**
  - OD – NPH*/detemir/glargine/degludex. Take at iftar. Reduce dose by 15–30%
  - BID – NPH/detemir/glargine. Take usual morning dose at iftar. Reduce evening dose by 50% and take at suhoor
- **Rapid- or short-acting prandial/bolus insulin:**
  - Take normal dose at iftar. Omit lunch-time dose. Reduce suhoor dose by 25–50%
- **Premixed insulin:**
  - OD – Take normal dose at iftar
  - BID – Take usual morning dose at iftar. Reduce evening dose by 25–50% and take at suhoor
  - TID – Omit afternoon dose. Adjust iftar and suhoor doses

Dose titration should be performed every three days and dose adjustments made according to BG levels

<table>
<thead>
<tr>
<th>Fasting/Pre-iftar/Pre-suhour BG</th>
<th>Pre-iftar**</th>
<th>Post-iftar**/Post-suhoor***</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 70 mg/dL (3.9 mmol/L) or symptoms</td>
<td>Reduce by 4 units</td>
<td>Reduce by 4 units</td>
</tr>
<tr>
<td>70–90 mg/dL (3.9–5.0 mmol/L)</td>
<td>Reduce by 2 units</td>
<td>Reduce by 2 units</td>
</tr>
<tr>
<td>90–126 mg/dL (5.0–7.0 mmol/L)</td>
<td>No change required</td>
<td>No change required</td>
</tr>
<tr>
<td>126–200 mg/dL (7.0–11.1 mmol/L)</td>
<td>Increase by 2 units</td>
<td>Increase by 2 units</td>
</tr>
<tr>
<td>&gt; 200 mg/dL (11.1 mmol/L)</td>
<td>Increase by 4 units</td>
<td>Increase by 4 units</td>
</tr>
</tbody>
</table>

**Insulin pump:**
- Basal rate – Reduce dose by 20–40% in the last 3–4 h of fasting. Increase dose by 0–30% early after iftar
- Bolus rate – Normal carbohydrate counting and insulin sensitivity principles apply

(Diabetes and Ramadan: Practical guidelines, 2017)
Fasting holidays

- Patients who are pregnant or patients with poorly controlled diabetes should be advised against fasting.
- Frequent monitoring of blood sugar is essential.
- Fast should be broken if hypoglycemia develops.
Cultural competence is the ability and knowledge to work with culturally diverse population regardless of their customs, language, values and beliefs.

a. True
b. False
Mr. Lopez has history of uncontrolled diabetes for many years, his wife and his mother are present in the office today. After refusing to start insulin in past visits, Mr. Lopez is ready to start insulin therapy today.

**What are some of the cultural barriers in Hispanic/Latinos culture?**

a. Mr. Lopez might feel that he is a burden on his family members

b. Mr. Lopez’s family might influence his compliance with insulin therapy

c. Insulin therapy could mean failure

d. All of the above
Ms. Habiba, your 56 y.o. female patient is planning to start her Ramadan fast next week and wants to discuss her diabetes plan with you:

Recent A1c 7.5%, not having any profound hypoglycemia
Serum creatinine 0.91
Current Diabetes Regimen: glargine 60 units at bedtime and lispro 20 units three times a day before meals

**What is your recommendation regarding her insulin dose?**

a. Lower glargine 48 units at bedtime and lispro 10 units for AM dose (suhoor), skip dose of lunch, take 20 units before dinner dose (iftar).

b. Lower glargine 48 units at bedtime and only take lispro 20 units before dinner (iftar)

C. Continue glargine 60 units at bedtime and take lispro 10 units for AM dose (suhoor), skip dose of lunch, take 20 units before dinner dose (iftar).

d. Ms. Habiba should be advised not to fast for Ramadan
Mr. Aly is a 68 y.o. male patient with history of hypertension, hyperlipidemia and type 2 diabetes. His diabetes has been well controlled while taking metformin 1000mg bid and glimepiride 4mg twice a day before meals. He called the office to inform you that he is planning to fast for Ramadan. What is your best advice for him regarding his regimen?

a. Take metformin 1000mg twice a day before meals (suhoor and iftar) and skip glimepiride dose

b. Take metformin 1000mg and glimepiride 4mg with first meal (suhoor) and metformin 1000m with dinner (iftar) and skip pm dose of glimepiride.

c. Take metformin 1000mg and glimepiride 4mg with first meal (suhoor) and metformin 1000m and glimepiride 5mg with dinner (iftar).

d. Mr. Aly should be advised not to fast for Ramadan.
Cultural Education Resources for Patient Education

CDC Diabetes health information in Spanish.


Cultural and Ethnic Food and Nutrition Education Materials: Contains a list of cultural and ethnic food and nutrition education materials (books, pamphlets and audiovisuals).
Thank You
References


Cultural Differences and Considerations When Initiating Insulin. Julio A. Rebolledo, Regina Arellano. Diabetes Spectrum Aug 2016, 29 (3) 185-190; DOI: 10.2337/diaspect.29.3.185
