Diabetes in Minority Populations
Posttest/Rationale

1. The prevalence of type 2 diabetes is approximately how many times greater in adults aged 65 years or older compared with younger counterparts?
   A. 2
   B. 3
   C. 4
   D. 7***
   **Correct Answer: D**
   This answer is a fact from the Centers for Disease Control and Prevention (CDC). This question and answer underlines the fact that age is a significant independent risk factor for the development of diabetes. However, this risk factor may be magnified in minority groups. Hence, greater vigilance may be required for patients who are ≥ 65 years of age and are also a minority.

2. In the United States, which one of the following groups has the highest prevalence of diabetes:
   A. Caucasians
   B. African-Americans
   C. Native American and Native Alaskan people
   D. Hispanics
   **Correct Answer: C**
   This answer is a fact from the CDC. While African-Americans and Hispanics have an inordinately high prevalence of diabetes, Native American and Native Alaskan people have the highest. The reason for this is now known, but is probably at least partially a result of genetic factors.

3. The Insulin Resistance Atherosclerosis Study (IRAS) demonstrated which one of the following ethnic groups had a higher level of insulin resistance than did Caucasians, even after adjusting for age, body mass index (BMI), waist-to-hip ratio, gender, and clinic site?
   A. African-Americans and Hispanics***
B. Asian Americans
C. Native Americans
D. None of the above

Correct Answer: A

Data from IRAS. This study compared levels of insulin resistance in non-Hispanic Whites with that of African-Americans and Hispanics. Both the Hispanic and the African-American groups had higher levels of insulin resistance than did the non-Hispanic Whites. This may be part of the reason why these groups also have higher prevalence rates for type 2 diabetes; although the authors of the study did note that the greater insulin resistance in the Hispanic groups may have been a result of greater adiposity and perhaps other behavioral factors.

4. A meta-analysis evaluating the impact of culturally tailored diabetes education interventions (CTDEI) for ethnic minorities reported a statistically significant reduction in ____ associated with CTDEI.

A. Blood pressure
B. Proteinuria
C. High-density lipoprotein (HDL)
D. Glycosylated hemoglobin (hemoglobin A1C)***

Correct Answer: D

This result was demonstrated in the following reference: Nam S, Janson SL, Stotts NA, et al. Effect of culturally tailored diabetes education in ethnic minorities with type 2 diabetes: a meta-analysis. J Cardiovasc Nurs. 2012;27(6):505-518. Meta-analysis is, in many ways, the highest form of proof of a concept. The study, which was a well-designed meta-analysis, demonstrated the importance of adapting the content for diabetes education to the particular cultural group being educated. The study was not designed to evaluate the impact of CTDEI on blood pressure, proteinuria, or HDL.

5. Generally speaking, microvascular disease is more prevalent in ethnic minority groups, on the other hand, macrovascular disease is more prevalent in which one of the following ethnic minority groups (when compared with nonminority groups):

A. Hispanic individuals living in the United States
B. African-Americans  
C. Asian Americans  
D. None of the above***

Correct Answer: D

These data are presented in the monograph under the *Complications in Minority Populations* section. Rates are either lower or similar in minority populations. However, it is important to note that, while rates of macrovascular disease may not be higher in minority groups, mortality rates secondary to coronary artery disease may be higher.

6. The *Affordable Care Act* (ACA) (i.e., ObamaCare) did which of the following for patients with diabetes:
   A. It disallowed insurance companies from denying coverage to people with preexisting diabetes  
   B. It disallowed insurance companies from charging higher premiums to people with preexisting diabetes  
   C. Stopped insurance companies from placing caps on coverage for diabetes  
   D. All the above are true***

Correct Answer: D

Information presented in the review of the ACA in the section of the monograph entitled *Patient Protection and Affordable Care Act of 2010 (ACA)*. Diabetes may have been one of the more significant and common diseases that benefited from the ACA. Disallowing both caps and the denial of penalization coverage for patients with diabetes is likely to have a significant long-term impact.

7. The Alliance to Reduce Disparities in Diabetes (Alliance) is a multi-faceted initiative that has demonstrated a positive impact on the management of diabetes in minority populations. During the 2010-2013 period, mean A1C levels in these communities were reduced by
   A. No reduction was observed  
   B. -0.5 %***  
   C. -0.2%  
   D. -0.3%

Correct Answer: B
Information presented in the section of the monograph entitled *Alliance to Reduce Disparities in Diabetes*. In addition to being associated with a reduction in A1C levels, this program also demonstrated other positive results including an almost threefold increase in the number of adults in the grantee communities who were enrolled in Diabetes Self-Management Education and a fourfold increase in the cumulative numbers of providers in those communities that had received cultural awareness training. Also, this program demonstrated improvements in many self-reported markers of self-care.

**8. A federal initiative, the Special Diabetes Program for Indians has had a very substantial positive impact on its target population. One improvement was a 27.7% reduction in end-stage renal disease (ESRD) between 1995 and 2006. This reduction was:**

A. Similar to reductions observed in African-Americans

B. Less than reductions observed in Asian Americans

C. Greater than reductions observed in any other racial or ethnic group during that time***

D. Less than reductions observed in all other racial or ethnic groups during that time

**Correct Answer: C**

Information presented in the section of the monograph entitled *Special Diabetes Program for Indians (SDPI)*. This remarkable result was accompanied by many others. This result, however, is striking and substantial because some groups of Native Americans have very high rates of diabetes-related nephropathy. This program also reported many other very significant benefits.

**9. In a study that evaluated diabetic ketoacidosis (DKA) in African-Americans, the most frequent cause of DKA was discontinuation of insulin. In ___ of those cases, insulin was discontinued because the patient could not afford their insulin or they could not afford transportation to the hospital to pick up their insulin.**

A. Half***

B. One-third

C. One-fifth

D. None

**Correct Answer: A**
Data presented in Musey VC, Lee JK, Crawford R, et al. Diabetes in urban African Americans, I. Cessation of insulin therapy is the major precipitating cause of diabetic ketoacidosis. *Diabetes Care*. 1995;18(4):483-489. This study demonstrated that a very substantial fraction of the cases of DKA affecting this population of urban African-Americans experienced a case of DKA caused by the lack of access to medication. This is a very concrete cause that could be assuaged by an increase in access to medication.

10. Focus groups of African-Americans revealed which one of the following as potential barriers to physical activity:

A. Lack of child care
B. Lack of facilities or equipment
C. Lack of safe areas to walk
D. All the above***

**Correct Answer: D**

Information presented in the section of the monograph entitled *Other Socioeconomic Factors*. In addition to lack of access to care or medication (Q 9), other socioeconomic factors play a role in reducing the ability of individuals to undertake appropriate self-care. These factors are important, but are not always obvious to individuals outside of the minority group (or particular patient) of interest. On an individual basis, they must be uncovered by appropriate interview/discussion with the patient. Some of these factors are modifiable, while others are not.