

Disparities in Health Literacy Examined Through Diabetes Mellitus Resources

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Abstract

When an individual has a low health literacy level, their ability to successfully access and comprehend healthcare procedures and treatments is impaired. This resulting healthcare disparity is especially prevalent among individuals who speak English as a second language. The goal for our team's project was to revise a website's medical content in order to accommodate the English health literacy levels of individuals enrolled in the University of Dayton's Intensive English Program (IEP).

Problem

Individuals with a low health literacy level may not be able to recognize pertinent symptoms or comprehend treatment regimes and procedures. The reading level of the IEP students is at a 3rd-4th grade level, and the students wanted to learn more about the distinguishing factors among type 1 and type 2 diabetes as well as gestational diabetes. The overwhelming, text-dense, high literacy level of the available resource would have made comprehension difficult for these students.

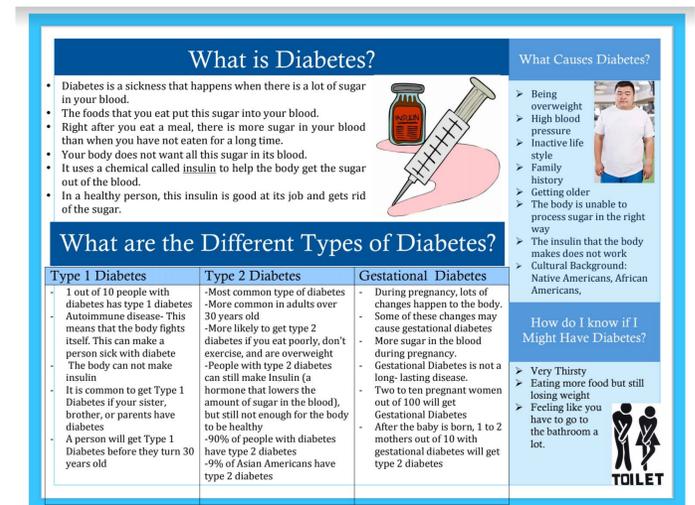
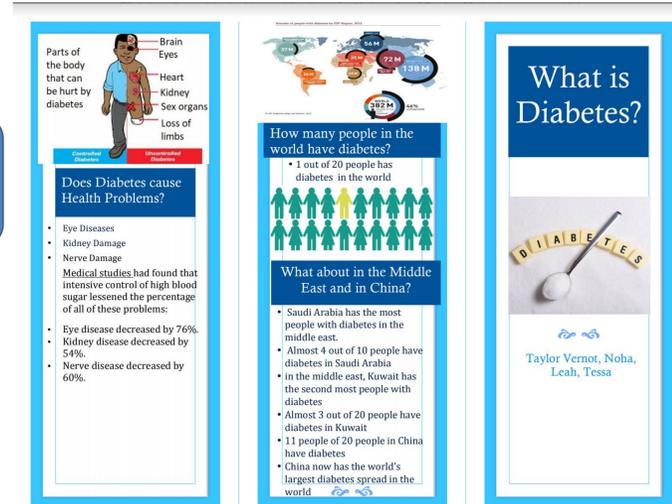
Method

Our team conducted a Health Literacy Load Test using the multidimensional model and a SMOG test in order to analyze the literacy of an existing Diabetes Mellitus resource published on MedicineNet.com. The original documents were found to be written at approximately a 12.4 grade level. We met with the IEP students to obtain feedback and assess comprehension in order to determine how to improve the existing resource. Our team condensed the wide breadth of information available on the website and narrowed down the information to subheadings that were of particular interest to the students. To reduce the literacy level of the documents, we removed confusing sentence structure as well as complex medical and scientific jargon. We also added visual aids like diagrams and charts in order to further comprehension of more advanced concepts.

Result

After revising the existing information, the brochure that our team created was retested with the SMOG test and concluded to be around a 5th grade literacy level. When we worked with the IEP students and gave them the revised brochure, they were able to understand the information concerning Diabetes Mellitus that they were originally inquiring about.

Revised Document



Conclusion

It is crucial for health care professionals to comprehend the effect that low health literacy can have on proper patient care. Many people can struggle with low health literacy. A patient could have a weak academic background, he or she may be highly intelligent, but has limited scientific or medical knowledge, or a person may speak English as a second language. Regardless of the civic, cultural, functional, or scientific barriers that a person may face, it is important that they do not fall subject to medical care disadvantages because of their health literacy disparities. Our team was able to see, first-hand, successful comprehension of pertinent health care information among IEP students when the information was presented at an appropriate health literacy level.

Original Document

4/9/2018 © Symptoms of Type 1 & Type 2 Diabetes: Treatment, Causes & Diet
utilized. However, glucose cannot enter the cells alone and needs insulin to aid in its transport into the cells. Without insulin, the cells become starved of glucose energy despite the presence of abundant glucose in the bloodstream. In certain types of diabetes, the cells' inability to utilize glucose gives rise to the ironic situation of 'starvation in the midst of plenty'. The abundant, unutilized glucose is wastefully excreted in the urine.

What is insulin?
Insulin is a hormone that is produced by specialized cells (beta cells) of the pancreas. (The pancreas is a deep-seated organ in the abdomen located behind the stomach.) In addition to helping glucose enter the cells, insulin is also important in tightly regulating the level of glucose in the blood. After a meal, the blood glucose level rises. In response to the increased glucose level, the pancreas normally releases more insulin into the bloodstream to help glucose enter the cells and lower blood glucose levels after a meal. When the blood glucose levels are lowered, the insulin release from the pancreas is turned down. It is important to note that even in the fasting state there is a low steady release of insulin than fluctuates a bit and helps to maintain a steady blood sugar level during fasting. In normal individuals, such a regulatory system helps to keep blood glucose levels in a tightly controlled range. As outlined above, in patients with diabetes, the insulin is either absent, relatively insufficient for the body's needs, or not used properly by the body. All of these factors cause elevated levels of blood glucose (hyperglycemia).

What are the risk factors for diabetes?
Risk factors for type 1 diabetes are not as well understood as those for type 2 diabetes. Family history is a known risk factor for type 1 diabetes. Other risk factors can include having certain infections or diseases of the pancreas.
Risk factors for type 2 diabetes and prediabetes are many. The following can raise your risk