Identify Each Variable to Treat Complex Health Conditions

Rhoda L. Ross-Williams

Independent Author, Advocate, and Researcher, North Central Florida, USA.

ABSTRACT

Medical care for complex health conditions requires medical professionals to identify each variable and determine the cause and effect of each variable. This is necessary to protect the patient from deadly treatments that conflict with complex health conditions like Prader-Willi Syndrome (PWS). This article uses Patient X to demonstrate the need for medical professionals to identify variables and the cause and effect of each variable before treating any of the variables. A complex health condition requires research before treatment to avoid life-threatening outcomes for the patient.

Keywords: Treat Complex, Identify, Variable,

Address for Correspondence Author

Rhoda L. Ross-Williams, Independent Author, Advocate, and Researcher, North Central Florida, USA.

E-mail: rosswilliamsrhoda@gmail.com

Crossred Doi: <https://doi.org/10.36437/irmhs.2019.2.6.X>

Introduction

Variables to Treat Complex Health Conditions

Innovation is changing medicine. The medical professionals of the 21st century are practicing medical researchers. Their method of holistic treatment of a condition requires listening to the patient or caregiver to identify the symptoms and write the orders for proper diagnostics (labs, imagining, E-G-G, EKG, etc...). Therefore, proper diagnostic testing will identify each problem. Each problem is a variable and the cause and effect of each variable determine the treatment and plan of care for the patient. Modern medical care is a holistic treatment and is only possible when the medical professional identify each variable to treat complex health conditions. This requires them to listen to the patients or caregivers to identify present issues along with past issues.

Listen to Your Patients/Caregivers

A patient or their caregiver will provide the data medical professionals need to administer proper care. The past medical history of complex patients is relevant to present concerns of the patient and caregiver. Therefore, never minimize their concerns because the smallest issue may be the moderating variable to create adequate care. Therefore, the textbook treatment for some variables (symptoms) may be the wrong treatment for a patient with a complex health condition. This researcher will share the medical care of patient X to provide examples to the readers of the importance of listening to the patient and caregiver. The purpose of sharing patient X with the scholarly community is to prove why medical professionals must listen and use critical thinking as they identify each variable before administering care. In the case of patient X, readers will learn the patient could die if each

variable of the complex condition does not receive treatment.

Patient X Complex Condition

This is not a case study or research. Patient X is an example and point of reference for the subject of this article. Patient X is a female with Prader-Willi Syndrome (PWS) age 15 at the time of the diagnostics. The writer of this article is only referencing to a unique combination of health conditions that cause hypoglycemia for Patient X. Therefore, a hypothalamic disorder is the cause patient X has multiple endocrine system disorders.

The discovery of patient X health issues is from information given by the caregiver. The caregiver tells the medical professionals that patient X is experiencing low glucose levels before meals and even lower levels after meals. Besides, both are causing patient X to pass out and have convulsions from the sudden drops in glucose with numbers low as 25. To treat patient X medical professionals must identify low glucose before meals as a variable (a) and low glucose after meals as a variable (b). This is important to discover the cause and effect of each variable because the variable a treatment appears to contribute to the cause of variable b. The medical professional has to identify the cause of the variable by ordering the proper diagnostics.

Therefore, blood work reveals that patient X has Adrenaline Insufficiency. This condition has three types primary, secondary, and tertiary (Yamamoto, 2018). Because patient X has a hypothalamic disease, they have tertiary adrenaline insufficiency (Yamamoto, 2018). This is only the cause of variable a. Therefore, the immediate treatment of steroid is given to stop the low glucose levels before meals (Bornstein, Allolio, Arlt, et al., 2016). The caregiver of patient X did follow the doctor's treatment of variable a despite no identification of variable b. Therefore,

patient X was still experiencing life-threatening low glucose levels within 15 to 30 minutes of eating and drinking. The caregiver had to demand that patient X doctors admit them into the hospital to collect data in a safe environment to avoid death. The treatment of a low dose steroid for variable a did not treat variable b. Despite, the caregiver informing the medical professionals of the drops in glucose getting worst when given glucose or food the medical professionals did not deviate from the textbook treatment of low glucose. Textbook treatment for low glucose is glucose by injection, tablets, juice, or food. All these treatments were life-threatening to patient X.

Therefore, the advocacy of the caregiver to admit patient X to gather data did save the patient's life. It is important that all medical professionals get the concept of listening to the patient or caregiver without bias and formatted responses of treatment. During patient X's hospitalization the caregiver had to demand glucose readings were taken before each meal and after each meal to collect data. The caregiver's advocacy did force medical professionals to become researchers. The hunt for the cause of variable b only took two days of data collection. The condition identified by the endocrinologist on patient X case is **Dumping Syndrome**. Dumping Syndrome is a condition usually caused by bariatric surgery or endocrine disease the patient releases a flush of insulin that causing rapid drops in glucose levels (Rodgers & Phillips, 2018). Patient X never had bariatric surgery and this was confusing to the medical professionals. Nonetheless, variable b is Insulin Dumping Syndrome causing low glucose levels after patient X ate or drank. This means anything ingested made the patient's glucose levels drop into dangerous low levels. The treatment for this condition requires a special diet that gastric bypass patients follow to prevent Insulin Dumping Syndrome. Therefore, patient X

complex health condition requires nontraditional treatment for hypoglycemia. Traditional treatment for hypoglycemia could cause death for patient X.

The doctor became very in tune to the unique condition and kept patient X in the hospital a few days to determine proper treatment. The treatments for patient X conditions defy all textbook rules of medicine. However, patient X hypothalamic disorder was the culprit causing the complex health condition. Patient X went on to receive treatment for many years seldom able to have glucose levels above 75 with steroid and special diet treatments for variables *a* and *b*. The case of patient X is proof that medical professionals need to gather all data before they treat a patient. It is very clear if the mediating variable in this case was not identified the cause of variable *a* and *b* would be unknown. The treatment for variable was deadly if glucose was given to increase patient X glucose level because of variable *b*. The right treatment can be the wrong treatment if not all variables of a complex condition are properly diagnosed.

Never Forget the Primary Diagnosis

Medical professionals must remember the primary health condition of a patient with a complex condition. In the case of patient X It is very important that the medical professionals remember, the patient has a chromosomal hypothalamic disorder. Patient X glucose levels were low even with the treatment of the variables. The mystery of patient X became more complex when the patient had seizures despite glucose levels of 80. The caregiver of patient X had to take patient X to a neurologist to address the seizures that were non-endocrine. Again, the seizures were not from low glucose levels. Patient X complex condition does not align with medical textbooks at all.

Therefore, the neurologist was very investigative and gathered data from the patient X caregiver to identify the correct variables to diagnosis and treat the seizures of patient X. The neurologist diagnosed patient X with **petit mal seizures** (absent seizures) (Vrielynck, 2013). The underlying reasons for absence seizures are interruptions of signals in the brain from brain injury or genetics in this case the hypothalamus disorder appears to be the cause of them. The neurologist treatment for the seizures is Zonisamide (Zonegran). This medication is good for epilepsy and other neurodegenerative disorders (Kumar, Medhi, Modi, Saikia, Attri, & Patial, 2018). The caregiver was instructed to start the medication immediately. The neurologist is familiar with patient X low glucose issues and wanted the caregiver to record glucose because hypoglycemia or hyperglycemia is a side effect of Zonisamide. The neurologist variables were low glucose (*c*) and seizure not caused by low glucose (*d*). Therefore, variable *c* and variable *d* were monitored closely to ensure the treatment was not creating any threats.

One month of collecting data showed patient X was responding well to the treatment. The treatment was so effective that patient X glucose levels were ranging from 89 to 100. The neurological medication is a good treatment for patient X low glucose levels as well. This proves the primary condition of a hypothalamic disorder is present in the diagnosis and treatment of patient X combination of health conditions. O to, Matsubara, Ayabe, Shiraishi, et al (2018) researched the hidden danger PWS hypothalamus issues causing deadly low glucose for PWS patients. Therefore, the complex health condition of patient X is because of PWS. Patient X is a medical anomaly and a good example of why medical professionals need to identify each variable when treating a patient with a complex health condition.

Conclusion

The key to effective medical treatment is data collection. Therefore, a medical professional needs to listen to past and present health issues of their patients. Each medical professional has to collect the data with an open mind. The patient and the caregiver are the most reliable source of information when treating complex health conditions. Patient X is a great muse for all medical professionals to practice as a researcher. They must identify each variable including the cause and effect of each variable before treatment. In the case of patient X standard treatment for hypoglycemia could cause death. In conclusion, all patients with complex health conditions are medical anomalies like Patient X and require proper identification of each variable.

References

1. Stefan R. Bornstein, Bruno Allolio, Wiebke Arlt, Andreas Barthel, Andrew Don-Waichope, Gary D. Hammer, Eystein S. Husebye, Deborah P. Merke, M. Hassan Murad, Constantine A. Stratakis, David J. Torpy, et al. (2016). Diagnosis and Treatment of Primary Adrenal Insufficiency: An Endocrine Society Clinical Practice Guideline. Vol 101, Issue 2, Pages 364–389, Doi: <https://doi.org/10.1210/jc.2015-1710>
2. Kumar, B., Medhi, B., Modi, M., Saikia, B., Attri, S. V., & Patial, A. (2018). A mechanistic approach to explore the neuroprotective potential of zonisamide in seizures. *Inflammopharmacology: Experimental and Therapeutic Studies*, 26(4), 1125. Doi: <https://doi.org/10.1007/s10787-018-0478-9>
3. Oto, Y., Matsubara, K., Ayabe, T., Shiraishi, M., Murakami, N., Ihara, H., Nagai, T. (2018). Delayed peak response of cortisol to insulin tolerance test in patients with Prader-Willi syndrome. *American Journal of Medical Genetics. Part A*, 176(6), 1369–1374. doi: <https://doi.org/10.1002/ajmg.a.38713>
4. Rodgers, L., & Phillips, C. A. (2018). Dumping syndrome: Causes, management, and patient education: Learn how to identify and manage this under-recognized syndrome. *American Nurse Today*, 13(1), 6–9. Link: <https://www.myamericannurse.com/dumping-syndrome/>
5. Vrielynck, P. (Volume 2013: 9) Pages 963—975. Current and emerging treatments for absence seizures in young patients. *Neuropsychiatric Disease and Treatment*. Doi: <https://doi.org/10.2147/NDT.S30991>
6. Yamamoto, T. (2018). Latent Adrenal Insufficiency: Concept, Clues to Detection, and Diagnosis. *Endocrine Practice: Official Journal of the American College of Endocrinology And The American Association Of Clinical Endocrinologists*, 24(8), 746–755. Doi: <https://doi.org/10.4158/EP-2018-0114>

How to cite this Article: Rhoda L. Ross-Williams*, [Identify Each Variable to Treat Complex Health Conditions](#)

Int. Res. Med. Health Sci., 2019; (2-6): 1-4

Source of Support: Nil, *Conflict of Interest:* None declared.

Received: 04-12-2019; **Revision:** 18-12-2019; **Accepted:** 22-12-2019