glucometer

by Kkkkkk Kkkkkk

Submission date: 07-Apr-2021 02:10PM (UTC-0700)
Submission ID: 1553093788
File name: nursing_informati.edited.docx (16.29K)
Word count: 1185
Character count: 6464

A GLUCOMETER

Author's Name

Institutional Affiliation

Instructor

Date

A glucometer, also known as a blood glucose meter, is a small medical device used by clinicians to determine the estimated glucose concentration in one's blood. This machine is portable and is mainly used by diabetic's clinicians to help monitor and control their patient's blood glucose levels (Clements & Staggs, 2017). Often, patients use these devices outside the clinic setting. Many different types of clinical glucose meters are available for use. These types range from basic meters which only measure blood glucose level, to more advanced ones which have special features like memory for storing information, audio competencies for visually impaired people, USB port for loading information directly to computers, preloaded test strips for the physically disabled and a backlit screen to enable people to see even in deem light. The cost of glucometers varies according to size, type and features.

A glucometer provides data by perceiving the glucose level in a person's blood. A person begins by washing the hands thoroughly with soap and water or disinfects using alcohol to get the reading. After washing, one must ensure the hands are completely dried. Next, the person pricks the tip of the figure and puts a drop of blood into the test strip inserted in a meter while ensuring that only blood touches the strip and not their skin. The blood put must be adequate to give a precise reading. Once the blood gets into the strip, the blood's glucose reacts with the chemical containing glucose specific enzymes present within the strip, causing an electric current (Mustapha et al., 2021). The monitor analyzes the blood and converts the currents into a glucose concentration, giving a blood-glucose reading in units of mg/dL or mmol/L on its digital display. The result usually comes back in one minute.

The use of a glucometer to obtain blood glucose level often has a lot of pros and cons. Among the advantages of using the glucometer include; it helps the patient and clinician obtain blood glucose level, making it easy to make therapeutic adjustments that lead to better patient

health. It helps the patient confirm the progression of hypo and hyperglycaemia hence taking necessary precautions. It also improves a patient's knowledge of diabetes and its management by giving the patient more self-care responsibilities. Besides, it helps the doctor monitor the patient's progress and know whether the patient is using works or if it needs to be changed. However, using the glucometer in obtaining data on a patient's blood sugar level also has several weaknesses. These include; it mostly produces inaccurate results since it is highly affected by many factors such as the quality of the strip, it may cause infections to the patient, especially if it is being shared, anxiety about one's glucose level and physical pain caused by pricking the figure may make one's glucose level to change hence giving false reading, and it is costly as a patient can only use the strip once. Also, the use of the glucometer may cause noncompliance as it is not easy to get used to the pain of having to prick yourself daily (Allison, Goldstein & Musso, 2019).

Further, the use of the glucometer usually involves the risk of obtaining errors. These errors come about due to the quality of the meter or strip used, the ability to use the instrument correctly, the environment, level of hygiene, changes in meter or strip, and the compatibility of the test strip. If these factors are not taken into consideration, the data obtained is likely to be inaccurate. Due to the errors experienced while collecting data and improper use of the glucometer, one may experience some unintended consequences that may threaten a patient's safety. Dome of the unintended consequences are; inaccurate results may affect the daily logs of blood glucose numbers of a patient, making the doctor make a wrong diagnosis and administer an unfair treatment. A patient may have complications such as kidney, heart and eye dysfunctions. The device's use in the wrong way may lead to cross infections, especially if the patient shares the glucometer.

To transform data obtained from the glucometer into information, a clinician must have certain knowledge synthesis. First, he or she has to understand the procedures involved in monitoring the blood glucose level. Next, they should be able to determine if any conditions may affect the readings. After determining g, the clinician should be able to bring the set of data together and study it characteristically, metaphysically, potentially and statistically. From there, the clinician should be able to draw findings and come up with information. Besides, one should also be able to develop a framework for synthesis that guides the process of planning, interpreting and describing results. After transforming the data into information, a clinician should make a clinical decision. Before arriving at a clinical decision, the clinician must consider numerous competing factors and make a diagnosis. After making the diagnosis, the clinician must assess how severe the condition is and manage it. An example of a clinical synthesis is when doctors do a systematic review on managing disease, for example, on managing anxiety in adults.

Wisdom-clinical experience and expertise are defined as a combination of practical and theoretical knowledge about a system that enables clinicians to show intuitive capacities to make critical decisions effectively and understand the nature of a particular situation. When analyzing data and information received from a glucometer, this knowledge is important because it enables clinicians to identify unexpected clinical results and address them conveniently, therefore, ensuring deep understanding that helps in better analysis of data. It ensures proper analytic abilities that lead to the proper diagnosis of disease while addressing problems without improvident consideration of unprofitable alternatives. Generally, having theoretical and practical knowledge of the glucometer ensures there is no error in data analysis.

In nursing, wisdom is considered an intellectual, intuitive, moral and emotional process. For a nurse, having wisdom is a key qualification. Wisdom ensures that they understand the problems they deal with, make distinctions between alternatives, think critically, and develop creative solutions (Fackler, 2019). It also enables them to involve moral values in their day to day activities and desire to do what is right. Finally, being intuitive and emotional enables them to connect and empathize with their patients, promoting a good relationship.

Reference

Allison, R., Goldstein, D., & Musso, M. W. (2019). Challenges in diagnosing euglycemic diabetic ketoacidosis in a patient with multiple sclerosis taking a sodium-glucose cotransporter two inhibitors. *The Journal of emergency medicine*, *57*(1), e1-e3.

Clements, M. A., & Staggs, V. S. (2017). A mobile app for synchronizing glucometer data impacts adherence and glycemic control among youths with type 1 diabetes in routine care. *Journal of diabetes science and technology*, *11*(3), 461-467.

Fackler, C. A. (2019). Retaining older hospital nurses: Experienced hospital nurses' perceptions of new roles. *Journal of nursing management*, *27*(6), 1325-1331.

Mustapha, M. T., Ozsahin, D. U., & Ozsahin, I. (2021). Comparative evaluation of point-of-care glucometer devices in the management of diabetes mellitus. In *Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering* (pp. 117-136). Academic Press.

glucometer

ORIGINALITY REPORT

1%	0%	0%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to EDMC Student Paper	1%

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		