**Health Variations 2: Case study**

**Assessment Questions**

**Part A**

        Explain the 11 components of a valid routine subcutaneous insulin medication order and why this is important. Support your answer with academic or clinical guideline references. (5 marks)

A valid routine subcutaneous insulin has patient’s URN, family and given names, address, DOB, and sex which is on the address label for verification.  Another component is the first prescriber ID label which must be checked. This will prevent the wrong ID label being placed on the form which could lead to the prescription of insulin to the wrong patient (Gale, 2014). The National Inpatient Medication Chart (NIMC) should also be marked to cross reference the insulin order hence preventing omission of insulin during hospital omission and after discharge medications. The fourth component is the hospital details for identification and record purposes. Another component is the doctor to notify when any BGL is out of range or issues with diabetes management. Printed name and signature of the prescriber must also be included to validate the order. The date is also another important component for monitoring the records (Gale, 2014).

Most importantly, the name of the insulin must also be included to avoid confusion as most insulins look alike and also to specify the type of insulin administered. Another component is the dose to specify the time or meal when it is going to be administered. Meal or time for the dose should also be indicated to determine when the insulin is to be administered. Lastly, the doctor’s initials should be indicated to verify the order (Gale, 2014).

Explain why Ben has been prescribed this medication. Relate to the pathophysiology of type 1 diabetes and the mechanism of action of NovoRapid insulin. Support your answer with academic references. (10 marks)

Ben was prescribed with subcutaneous insulin to implement intensive diabetes management which aims at lowering levels of blood sugar and improving lifestyle flexibility. Therefore, Ben will experience increase satisfaction with the treatment and decrease in the impact of diabetes (Tabangcora & RN, 2017).

Type 1 diabetes occurs when the patient’s body produces little or no insulin due to destruction by the reaction. As a result, glucose accumulates in the bloodstream. NonoRapid insulin is used to lower the blood glucose levels as a result of the accumulation of glucose in the bloodstream due little or no insulin being produced as a result of diabetes. The insulin works for about 3 to 5 hours (Tabangcora & RN, 2017).

What are the onset, peak, and duration of action for NovoRapid insulin according to Bullock and Manias (2017)? Explain when NovoRapid should be administered about food intake and why. Support your answer with academic references. (5 marks)

According to Bullock and Manias (2017), the onset of NovoRapid is between 0 to 0.25 hours while the peak is between 1 to 3 hours. On the other hand, the duration of action for the insulin is 3.5 to 5 hours. NovoRapid should be administered before a meal to ensure there is the fast onset of action immediately after injection.  This could be about 10 to 15 minutes before the meal (Bullock & Manias, 2017).

Discuss the definition, causes, symptoms, and treatment of hypoglycaemia, a common adverse effect of NovoRapid. Support your answer with academic references. (5 marks)

Hypoglycaemia is a common effect of insulin which occurs when the blood sugar is too low. The condition is usually caused by too much use of insulin, missing meals and excessive exercises (Taylor, Thompson, & McDermott, 2016). Some of the common symptoms of hypoglycaemia are cold sweat, weakness, hunger, seizures, and headache among many other signs. The condition can be treated by eating food and drinks that contain sugar. Further, the patient can be injected with glucagon or treated with intravenous glucose (Taylor et al., 2016).

Discuss the importance of understanding the medication before administration. Support your answer with academic references. (5 marks)

Understanding the medication before administration is important in avoiding errors such as repeating administration of drugs, or administering the wrong drug. Further, understanding the medication before the administration ensure that all the procedures are followed (Bullock & Manias, 2017). This ensures there are efficiency and order in the whole process. This will even give an opportunity for the nurse to concentrate on other activities such as the teaching of the patient. Avoiding errors also save on costs and improve patient outcome (Abraham et al., 2016).

Discuss the five rights of medication administration and why it is important for nurses to follow this procedure. Support your answer with academic references. (5 marks)

The five rights of medication administration are the right time, right dose, right drug, right patient, and right route. This procedure is important in reducing errors in medication administration which might cause harm. By following this right, nurses will not be blamed for any errors which might occur. It also acts as a guideline to the nurse during medical administration (Holt, Cockram, Flyvbjerg, & Goldstein, 2017).

What is the most appropriate insulin pen needle length for Ben and why? Support your answer with academic references. (5 marks)

A 4mm needle length is the most appropriate insulin pen needle length for Ben. This is because Ben is still a teenager. Therefore his subcutaneous layer can still be reached using a short needle length (Crisman et al., 2017). The shorter pen needle is also less painful and also important in relieving anxiety since Ben is being injected for the first time. A four mm needle is also appropriate for patients of any age (Crisman et al., 2017).

What diabetes-specific nursing assessment would you conduct before administration of NovoRapid insulin to Ben and why? Support your answer with academic references. (5 marks)

Before the administration of NovoRapid, diabetes-specific nursing assessment should be done on the cautions or risks such as the history of allergy to ensure that proper monitoring and adjustments on doses can be done. Further, a physical assessment to identify a baseline before administration should be done (Gale, 2014). Additionally, assessment can also be done on blood pressure pulse and respiration to determine the potential risk factors when insulin is administered. Lastly, the assessment should be done on the skin areas to be injected to determine any areas which could prevent absorption of insulin (Gale, 2014).

Identify the site and angle you would inject the NovoRapid insulin and explain why this was selected for Ben. Discuss infection control considerations. Support your answer with academic references. (5 marks)

Upper arms are the most appropriate site for injecting NovoRapid insulin for Ben. This is because insulin gets easily and consistently absorbed into the body because it contains a decent layer of fat. The angle for injection is 45 degrees to ensure that the injection is deep enough so that the insulin can easily be absorbed into the body and at the same time avoid injecting into the muscle (Marks, Wilson, & Crisp, 2014).

What would you document and where? Why is documentation important? Support your answer with academic or clinical guideline references. (5 marks)

During the administration of insulin the time of giving, the initials of the administrator, and initials of another person checking must be documented on the administrator’s record (Gale, 2014). Further, in case a dose has been withheld the reasons must be documented in the healthcare record. Additionally, all patient management are also documented in the healthcare record. This is important for follow-up and decision making on the administration of the insulin (Gale, 2014).

Explain the diabetes-specific nursing assessment you would provide for Ben post administration of insulin, when you would provide it and why. Support your answer with academic references. (5 marks)

After administration of the insulin, assessment should be done on dosing, self-monitoring, and Hypoglycemia. Assessment of insulin dosage will be based on the individual’s needs and goals of the treatment.

Further, blood glucose levels, food and type of insulin used must be considered (Abraham et al., 2016). This should be done immediately after the administration of the insulin. On the other hand self-monitoring assessment would aim at assisting patients to manage the day-to-day variation of glucose levels. Various variables must be assessed including hormonal changes, food consumption, and exercise. Hypoglycemia assessment would aim at preventing excessive insulin which would result in the hypoglycaemia condition (Abraham et al., 2016).

**Part B**

Discuss the potential impact of type 1 diabetes on Ben.

Discuss the daily physical challenges of living with type 1 diabetes that Ben may face. Support your answer with academic references. (5 marks)

Ben may experiences sight challenges due to vision conditions such as cataracts caused by damage to the blood vessels of the retina. Due to nerve damage, Ben might experience foot damage (Crisman et al., 2017). Any wounds or cuts might develop into serious infections which might result into foot complications. Ben will also experience skin and mouth conditions due to infections. Further, he might experience gum disease or even dry mouth. Ben might also feel numbness due to damage caused by diabetes on the nerves.

Discuss the potential emotional impacts of living with type 1 diabetes that Ben may face. Support your answer with academic references. (5 marks)

Ben will experience feelings of anxiety and depression related to having diabetes because he will struggle to change the health condition. Further, he might be worried about his future considering the complications associated with the condition. Ben might also experience challenges with relating to others because of his condition. Due to his condition, Ben might be forced to take a break from his sports career which may affect him psychologically. Further, Ben might also feel ashamed of being a burden to his family considering the impacts of diabetes. Ben is also likely to be stressed about how he will manage his life with the condition considering that he is a student (Holt et al., 2017).

**Reference**

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