Holistic care nurse essay

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The name and other identifying information about the patient included within this piece of work have been changed to protect confidentiality, as required by The Code of Professional Conduct (Nursingand Midwifery Council, 2008). For this reason, the patient included in thiscase studywill be given the pseudonym of Sam Jones.

The purpose of this assignment is to identify one client problem and provide an evidence-based plan of care for the individual. The purpose of care planning is to show a logical and systematic flow of ideas through from the initial assessment to the final evaluation (Mooney and O'Brien, 2006).

The nursing model that will be incorporated in this care plan will be the Roper, Logan and Tierney's model (2000). This model was chosen because is it extremely prevalent in the United Kingdom and is the most widely used model familiar to nurses. The model of nursing specifies 12 activities of daily living which are related to basic human needs and incorporates five dimensions of holistic care, physiological, psychological, sociocultural, politicoeconomical and environmental (Roper, Logan and Tierney's model, 2000).

Care plans are based on evidence-based practice, allowing the nurse to determine the best possible care and rationale for the chosen nursing interventions (Roper, Logan and Tierney, 2000). They take into account the psychological, biological and sociological needs of the person and therefore provide a holistic approach to care (Roper, Logan and Tierney, 2000). The main activity of living that will be affected within this care plan will be

maintaining a safeenvironmentas Mr. Jones may have a potential problem of death, due to hypovolemic and/or metabolic shock caused by ketoacidosis.

Diabetic ketoacidosis (DKA) usually occurs in people with type 1diabetesmellitus, but diabetic ketoacidosis can develop in any person with diabetes (Diabetes UK, 2013). DKA results from dehydration during a state of relative insulin deficiency, associated with high blood levels of sugar level and ketones (Diabetes UK, 2013). This happens because there is not enough insulin to allow glucose to enter the cells where it can be used as energy so the body begins to use stores of fat as an alternative source of energy, and this in turn produces an acidic by-product known as ketones (Diabetes UK, 2013). It is evident that DKA is associated with significant disturbances of the body's chemistry, which should resolve with appropriate therapy (Diabetes UK, 2013).

Severe metabolic acidosis can lead to shock or death (Dugdale, 2011). The specific problem was chosen because there are measures that can significantly reduce the risk of metabolic and hypovolemic shock which can be caused by severe metabolic acidosis (Dugdale, 2011). Within the care plan relevant care interventions will be identified to prevent the possible development of shock for Mr. Jones. In practice the interventions would happen contemporaneously.

The interventions involve identifying the potential risk factors for the development of shock by using specific assessments. This will be done by following an assessment which includes planning, assessing, implementing and evaluating the care that will be provided to Mr Jones and to evaluate its effectiveness (Mooney & O’Brien, 2006).

Once the diagnosis was made, specific, achievable, measurable, realistic and time limitedgoalsof care for Mr. Jones were made. The NHS foundation trust specific guidelines for adult diabetic ketoacidosis suggest a series of immediate actions and assessments for suspected DKA which will allow for appropriate interventions to be made and will provide a baseline which will provide a measure of the effectiveness of the treatment (The Joint British Diabetes Societies Inpatient Care Group, [JBDS], 2012).

Mr Jones will need fluid and electrolyte management to clear ketones and correct electrolyte imbalance (Nazario, 2011). He will also require pharmacological involvement which will include administrating medication that is needed to reverse the acidosis, raised blood glucose and pH levels (Nazario, 2011).

Psychological intervention is also necessary to reduce hisanxietyand therefore reduce potential shock (Nazario, 2011). The goal of treatment for Mr Jones is to lower his high blood sugar level with insulin an hour after the insulin infusion is administrated with the expected outcome of maintaining a blood glucose level in the range of 8. 3mmol/l – 10. 0mmol/l within 72 hours (JBDS, 2012). Due to this it is vital that Mr Jones's blood sugar is monitored and regulated frequently (JBDS, 2012).

Another goal is to replace his lost body fluids; intravenous fluids will be given to treat dehydration and dehydration status will be assessed every hour by monitoring intake and output, skin turgor and vital signs (JBDS, 2012). Mr. Jones will be able to understand the care that is being given and why it is being given within 30 minutes of diagnosis and he will also be able to

express his fears and discuss his needs with nursing staff, which combined with improvements in his blood sugar levels will reduce his anxiety.

Intervention one: Fluid and Electrolyte Management

According to The Joint British Diabetes Society (2012) the usual cause of shock in DKA is severe fluid depletion secondary to osmotic diuresis leading to intravascular volume depletion. Diabetes Daily (2013) justify this by stating that dehydration can become severe enough to cause shock. So once a diagnosis of DKA has been established, fluid replacement should be commenced immediately (Park, 2006).

According to Oaks and Cole (2007) the development of total body dehydration and sodium depletion is the result of increased urinary output and electrolyte losses. They state that insulin deficiency can also contribute to renal losses of water and electrolytes (Oaks and Cole, 2007). The Joint British Diabetes Society (2012) suggests that the most important initial therapeutic intervention when treating a patient with DKA is fluid replacement followed by insulin initiation. They also state an adult weighing 70kg or above presenting with DKA may be up to 7 litres in fluid deficit with associated electrolyte disturbances (JBDS, 2012).

Rhoda, Porter and Quintini (2011) propose that a fluid and electrolyte management plan developed by a multidisciplinary team is advantageous in promoting continuity of care and producing safe outcomes. The development of a plan for managing fluid and electrolyte abnormalities should start with correcting the underlying condition (Rhoda, Porter and Quintini, 2011).

In most cases, this is followed by an assessment of fluid balance with the goal of achieving euvolemia (state of normal body fluid volume) (Rhoda, Porter and Quintini, 2011). The Joint British Diabetes Society (2012) propose the main aims for the first few litres of fluid replacement are to clear ketones and correct electrolyte imbalance.

The Joint British Diabetes Society (2012) has issued guidelines on the management of adults with DKA to each NHS foundation trust. The guidelines state that intravenous fluids should be commenced via an intravenous cannula (JBDS, 2012). It is recommended that 9% Sodium chloride 1000mls should be infused initially over one hour (JBDS, 2012).

Park (2006) clarifies this by stating that slower rates have been associated with a more rapid correction of plasma bicarbonate and it is recommended that 1000mls is to be infused in the first hour. Rhoda, Porter and Quintini (2011) propose that after fluid status is corrected, electrolyte imbalances are simplified.

To correct dehydration and achieve the goal of rehydrating Mr Jones, several assessments will need to be completed. Rhoda, Porter and Quintini (2011) suggest that after a plan is developed, frequent monitoring is vital to regain homeostasis. Mr Jones’s urine output, heart rate, blood pressure, respiratory rate and pulse oximetry will be monitored hourly to ensure the treatment being given is working effectively (JBDS, 2012).

Also, to assess the degree of dehydration a variety of specific observations will need to be carried out including observing neck veins, skin turgor, mucous membranes, tachycardia, hypotension, capillary refill and urine

output (JBDS, 2012). A strict fluid balance chart will need to be in place to monitor input and output (Mooney, 2007).

To continue with gradual rehydration and restoration of depleted electrolytes after the first 1000ml bag of 0. 9% sodium chloride has been administered to Mr Jones over one hour a second 1000ml bag of 0. 9% sodium chloride will be commenced over two hours and a third bag will then follow over another two hours (JBDS, 2012) . Following these two hourly bags of fluid another two bags of sodium chloride will follow at a rate of four hours and then another two bags will be commenced over six hours consecutively to ensure complete rehydration (JBDS, 2012).

Pharmacology Intervention

The medication that was needed to resolve Mr. Jones's acidosis and to prevent metabolic shock will be discussed in this intervention. A fixed rate intravenous insulin infusion is recommended by The Joint British Diabetes Society (2012) and stated on the NHS foundation trust DKA guidelines to reverse DKA.

An intravenous insulin infusion via a pump should contain 50 units of actrapid insulin in 50mls 0. 9% sodium chloride at a continuous fixed rate of 0. 1 units/kg/hour (JBDS, 2012). If you are unable to weigh the patient an estimated weight will need to be made to calculate the units per kg per hour (JBDS, 2012).

Whilst the infusion is running ketones and capillary blood glucose will be monitored hourly to screen for improvement (JBDS, 2012). Preedy (2010) and guidelines to DKA both state that if the patient normally takes long

acting insulin (e. g. Lantus, Levemir) this should be continued at their usual dose and time. According to The Joint British Diabetes Society (2012) it is no longer advised to administer a bolus dose of insulin at the time of diagnosis of DKA to allow rapid correction of blood sugar. Intravenous fluid resuscitation alone will reduce plasma glucose levels by two methods: it will dilute the blood glucose and also the levels of counter-regulatory hormones (JBDS, 2012).

If the blood glucose falls too slowly, the insulin rate should be doubled every hour until the target decrease is met (JBDS, 2012). If the blood glucose falls too quickly, the insulin rate can be halved to 0. 05unit/kg/hour, but for a short time only, as a rate of 0. 1 units/kg/hour is needed to switch off ketone production (JBDS, 2012).

If hypoglycaemia occurs prior to complete resolution of DKA, the insulin infusion should not be stopped, but extra glucose should be added to the IV fluids instead (JBDS, 2012). Diabetes Daily (2013) explain that if necessary, potassium should be administered to correct for hypokalemia (low blood potassium concentration), and sodium bicarbonate to correct for metabolic acidosis, if the pH is less than 7. 0.

For Mr. Jones neither of these was needed to correct his acidosis. JBDS (2012) can justify this as they clarify that intravenous bicarbonate is very rarely necessary. Similarly, Diabetes Care (2004) proposes the use of bicarbonate in DKA remains controversial. At a pH > 7. 0, insulin activity blocks lipolysis and resolves ketoacidosis without any added bicarbonate. Potassium is often high on admission but falls precipitously upon treatment with insulin (JBDS, 2012).

Potassium levels can fluctuate severely during the treatment of DKA, because insulin decreases potassium levels in the blood by redistributing it into cells (JBDS, 2012). A large part of the shifted extracellular potassium would have been lost in Mr. Jones's urine because of osmotic diuresis (Dugdale, 2012). Hypokalemia increases the risk of dangerous irregularities in the heart rate (Dugdale, 2012).

Therefore, continuousobservationof the heart rate is recommended as well as repeated measurement of Mr. Jones's potassium levels and addition of potassium to the intravenous fluids once levels fall below 5. 3 mmol/l (JBDS, 2012). By 24 hours Mr. Jones had improved and was able to eat and drink. The guidelines state that by 24 hours the ketonaemia and acidosis should have resolved but you should continue intravenous fluids if the patient is not yet drinking as per clinical judgement (JBDS, 2012).

The guidelines also suggest if blood glucose becomes lower than 14 mmol/L then 10% glucose should be prescribed to run alongside the sodium chloride (JBDS, 2012). Also, if Mr Jones's potassium had of dropped below 3. 5mmol/L in the first 24 hours of treatment then additional potassium would have needed to be given (JBDS, 2012).

Psychological Intervention

A third intervention would becommunication needsto reduce patient anxiety and keep the patient feeling secure. Communication plays an important part in the holistic care plan and biopsychosocial approach to care. Anxiety can be a barrier to communication; therefore, it is important to communicate with Mr. Jones clearly and supportively in order to make him feel free to discuss his fears and to allow him to participate in the decisions made in his

care. According to Sarafino (2008) anxiety appears to be caused by an interaction of biopsychosocial factors, including vulnerability, which interact with situations, stress, or trauma to produce added anxieties for the patient.

The nurse should take a step by step approach to build a plan of care and voice the plan of care to Mr. Jones so he does not become overwhelmed by the extensiveness of the treatment (Sarafino, 2008). Communication is identified as one of the essential skills thathealthcare professionals must acquire (NMC, 2010). The Nursing and Midwifery Council (2010) stipulate that, within the domain for communication and interpersonal skills, all nurses must do the following: communicate safely and effectively, build therapeutic relationships and take individual differences, capabilities, and needs into account, be able to engage in, maintain, and disengage from therapeutic relationships, use a range of communication skills and technologies, use verbal, non-verbal, and written communication, address communication in diversity, promote well-being and personal safety, and identify ways to communicate.

Communicating with Mr. Jones relatives is also important so that they develop an understanding of his condition and the care he is receiving (Webb, 2011) According to Webb (2011) health professionals who can communicate at an emotional level are seen as warm, caring, and empathetic, and engender trust in their patients, which encourages disclosure of worries and concerns that patients might otherwise not reveal. Additionally, informative and useful communication between the practitioner and the patient is shown to encourage patients to take more interest in their

condition, ask questions, and develop greater understanding and self-care (Webb, 2011).

Webb (2011) explains that this is particularly so when the patient is given time and encouragement to ask questions and be involved in their treatment decisions. By using the Roper, Logan and Tierney's nursing model (2000) a holistic approach to care was able to be implemented for Mr. Jones by taking into account his biological, psychological and social needs. By establishing a holistic care plan three interventions were identified that were equally vital in treating Mr. Jones's DKA to prevent hypovolemic and metabolic shock caused by his acidosis.

The first intervention was the management of fluid and electrolytes put in place to achieve the goal of rehydrating Mr. Jones in aim to correct his electrolyte imbalance and clear ketones to prevent hypovolemic and metabolic shock caused by his DKA. The second intervention included pharmacological input which included the administration of relevant medication to achieve the goal of reversing Mr. Jones's raised blood glucose and acidosis. Lastly the third intervention within the holistic care plan addressed Mr. Jones psychological needs by resolving his anxiety by utilising effective communication and interpersonal skills.

It can be concluded that the care plan and treatment for Mr. Jones was successful therefore he did not require escalation to the high dependency unit and additional treatment was not necessary. Therefore it is evident from the success of Mr Jones care; care planning provides a structured and holistic method which in turn addresses all elements of an individual's health and well being.

Appendix

The individual chosen for this care plan is Mr. Sam Jones (a pseudonym, as explained in the confidentiality statement). This gentleman was chosen for the care plan as caring for diabetic individuals is becoming a more common activity within health care today. Mr. Jones is a 58-year-old builder who was admitted after being found collapsed at his home by his brother.

He is 5ft 9” tall and weighs 88 kilogram’s. Mr. Jones lives alone in a centrally heated two bedroom semi detached house; he sleeps on the upper floor and is very independent and does not require a package of care. He has a daughter aged 22 who has two small children and also has a brother aged 64 who lives nearby with his wife.

Mr. Jones has been diagnosed with type 1 diabetes since the age of 18 and has struggled with the management of his condition resulting in numerous hospital admissions. Mr Jones stated he did not smoke but admitted to having an increased intake of alcohol. On arrival blood monitoring was performed which revealed un-recordable blood sugar levels which gave the clerking impression of diabetic ketoacidosis.

The health care team then had the problem of potential death due to hypovolemic and metabolic shock caused by ketoacidosis. On admission to the medical assessment unit (MAU) numerous assessments needed to be completed to discover the extensiveness of the condition and to provide baseline levels.

Firstly, rapid ABC was performed with measurement of pulse, blood pressure, Glasgow coma scale, respiratory rate and pulse oximetry. Urinalysis was

performed which indicated the presence of ketones, and glucose and samples were sent for microscopy, cultureand sensitivity. The patients' full blood count was taken as part of the 'septic screen'.

The patients' capillary blood glucose was taken and venous blood samples were be sent to the lab for U&Es which is essential in order to assess the baseline potassium as well as giving a biochemical indication of dehydration and renal function. Laboratory glucose is also an essential baseline investigation to identify glucose and evaluate blood sugar concentrations (Association for Clinical Chemistry, 2011).

A baseline ECG is a mandatory investigation for a patient with DKA (Turner 2012). Blood gas measurements were used to evaluate Mr. Jones's oxygenation and acid/base status and from the blood gas a pH result was obtained as well as a bicarbonate levels and PC02 (the amount of carbon dioxide released into the blood) levels (ACC, 2011).

The results of the numerous tests confirmed the diagnosis of metabolic acidosis. Metabolic acidosis is characterised by a lower pH and decreased bicarbonate, the blood is too acidic on a metabolic/kidney level. A pH less than 7. 4, low bicarbonate and low PC02 will indicate metabolic shock and DKA (ACC, 2011). The assessments that were undertaken on Mr Jones revealed that he fitted the criteria for diagnosis of diabetic ketoacidosis.

According to The Joint British Diabetes Society (2012) to diagnose DKA the three of the following must be present: blood glucose over 11mmol/l or known diabetic, blood ketones above 3mmol/l or urine ketone ++ or more and venous pH less than 7. 3 and/or bicarbonate below 15mmol/l. Once the

diagnosis was made, specific, achievable, measurable, realistic and time limited goals of care for Mr. Jones were made.