

Health And Social Care: Case Study

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Introduction

The aim of this health assessment report is to identify the health needs of the patient. This report considers the outcomes of patient symptoms and conditions received from the questionnaire (attached as Appendix 1 below) and identifies the patient's problem. The report will also highlight the behavioral changes that the patient needs to make in his lifestyle in order to manage his condition. The assessment will also consider the patient's health history as well as family history of various health conditions as highlighted by the questionnaire in order to identify the factors that are behavioral and environmental and separate them from the genetic ones. Also, the assessment report will highlight the disparities between the patient's physiological status and what is considered the normal range for such conditions, with the aim of advising the patient on how to take back such conditions to within their normal range.

Case study

Patient A has a BMI score of 31.3, which classifies him as obese. The 45-year-old patient has a height of 160 centimeters and a weight of 80 kgs, which when computed result in a BMI score of 31.3. He has a normal blood pressure of 114/90 mmHg, which indicates that the patient does not have significant cardiovascular health issues. However, Patient A has a family history of cardiovascular health issues since he has a family member who has suffered from a stroke in the past. He has not suffered from stroke. The patient, however, indicates that he has a high blood pressure although his blood pressure readings are less than 120/80 millimeters of mercury.

With regards to Diabetes Mellitus in context, Patient A has several behaviors that predispose him to the disease. First of all, he is unable to engage in physical exercise due to physical disability, which is one of the reasons why he has a high BMI score that ranks him as obese. His diet is also mixed and includes regular chips and fries, which means that it is generally not healthy and contributes to his weight and obesity status. Patient A is also a heavy

smoker given that he smokes between 40 and 60 cigarettes each day. He also consumes an average of 2 units of alcohol every day, which translates to about a pint of beer, two measures of spirit, or two glasses of wine.

Although the patient identifies as having high blood pressure, he has not suffered from angina and neither has he ever had a heart attack. He also cites never having a stroke or shock or any weakness down one side. In his family, however, he has members who have trouble with very high cholesterol. His family also has a history of a heart attack for an individual above the age of 60 years. The outcomes of this case study indicate that Patient A is highly prone to contracting Diabetes Mellitus since he has multiple predisposing factors for the condition. Some of the general predisposing factors for Diabetes Mellitus include weight and inactivity, whereby people with more fatty bodies are more prone to the disease than leaner people. Family history of the disease and its predisposing factors, age, and high blood pressure are also among the major predisposing factors for the disease. Patient A has a combination of almost all these factors, which make him highly vulnerable to the disease.

Health Assessment

Normal physiological conditions refer to the conditions in which a human body is when it is free from diseases or illnesses. These conditions include the blood pressure, weight, BMI rating, among other conditions. When these conditions are beyond the normal range, either above or below this range, the individual is said to be predisposed to certain illnesses which relate to the specific physiological factor. For instance, normal blood pressure in adults ranges from 10/80 mmHg and below, while if this goes to below 90/60 mmHg it is considered to be low blood pressure. Similarly, for most adults, the ideal or normal BMI score ranges between 18.5 and 24.9. In this case, adults with BMI scores of less than 18.5 are classified as underweight while those

above 24.9 but lower than 30 are overweight. Individuals with BMI scores over 30 are classified as obese.

In the case of Patient A, his BMI score ranks him as obese because he has a score of 31.3 which is above 29.9. Calculating for the BMI score accounts for height and weight, and for children between the ages of 2 years and 18 years, age and gender also count as additional factors. Patient A is a male adult aged 45 years, thus only his age and body weight are factors for his body mass index. This index is calculated using the formula $BMI = \frac{kg}{m^2}$ where kg represents the individual's weight in kilograms and m^2 represents the individual's height in meters squared. Patient A has a body weight of 80 kilograms and a height of 160 centimeters, or 1.6 meters. His high BMI score classifies him as obese and this makes him highly vulnerable to diabetes mellitus (Malone & Hansen, 2019).

There is a significant correlation between obesity and diabetes mellitus. In an obese individual, the amount of glycerol, hormones, NEFA, cytokines, and proinflammatory substances which are involved in the development of insulin resistance by cells and tissues in the body are all increased. This results in the impairment of β -cell function impairment and insulin resistance, which then results in the development of diabetes. Research indicates that obesity and being overweight increases stress inside the cells and specifically in the endoplasmic reticulum. When the endoplasmic reticulum has more nutrients than it can manage to process, it sends out a signal that it needs to dampen its insulin receptors on the surface of the cell. The result of this dampening is insulin resistance development and a persistently high concentration of glucose in the blood. This is one of the signs of diabetes, and the feeding habits of Patient A put him in danger of developing insulin resistance and diabetes.

Patient A has a diet that not only contributes to his high BMI due to weight gains, but also makes him vulnerable to diabetes. The patient has a diet that is mixed but consists of regular chips and fries. These are classified as fast foods or junk foods and they contain a high amount of fats, carbs, and sugar. They also have less minerals and vitamin components than what is needed for a healthy diet (Kotsis et al., 2018). Such a diet means that the patient is consuming more unhealthy calories than his body can handle, and this leads to weight gain and obesity. This condition also increases the risk of the patient contracting cardiovascular diseases, which include high blood pressure which he already has (Malone & Hansen, 2019). His lack of physical exercise due to his physical disability means that he cannot utilize all the energy that is provided by the high-calory diet that he consumes. This results in the extra energy that is unused by the body, or the calories that are not burned by the body through physical exercise, are all stored by the body as fat. Therefore, his diet makes Patient A prone to overweight and obesity, which results in him being predisposed to diabetes (Kotsis et al., 2018).

Research has linked people with a family history of obesity and overweight with an increased risk of obesity and a higher BMI score. Patient A has a family history of hyperlipidemia, which is the condition in which the body stores excess calories that it does not need for energy in the form of triglycerides and cholesterol and this results in high level of such fats in the blood (Czech, 2017). This condition is most commonly associated with obesity and a sedentary lifestyle, and diabetes. Familial hypercholesterolemia is one form of hyperlipidemia and is the most dominantly inherited genetic disorders (Czech, 2017). A family history of this condition, therefore, means that Patient A is highly susceptible to having the condition and its associated health issues like diabetes. Genetic disorders are not preventable since they are not caused by environmental or behavioral factors, but the patient can reduce the impact of such

conditions on his health by monitoring the behavioral and environmental factors which predispose him to diabetes (Czech, 2017).

Recommendations

Lifestyle factors relating to dietary behaviors, obesity, and physical activity play a major role in the prevention and management of diabetes mellitus. While further research is needed and indeed ongoing on the strategies to combat the disease by changing lifestyle behaviors, progress has been made in this area in recent years (Kotsis et al., 2018). Some of the recommended changes to people's lifestyles include increased physical activity and weight loss as these are touted to be helpful in preventing or delaying the development of diabetes mellitus. Other behavioral interventions include regular physical exercises, dietary changes, drinking water and staying hydrated, and monitoring blood sugar levels. Individuals can adopt the behavioral changes that are practical and possible given their living conditions and abilities (Kotsis et al., 2018).

For the case of Patient A, the first behavioral changes that the patient needs to make with the objective of controlling diabetes involves quitting smoking. The health benefits of such a change begin right away as people who quit smoking tend to have better control of their blood sugar levels (Mirfeizi et al., 2017). Research has indicated that within eight weeks of quitting smoking, insulin starts to become more effective at lowering the levels of sugar in blood. The patient has been a heavy smoker and this is one of the reasons why his body is unable to control blood glucose levels (Mirfeizi et al., 2017). However, he needs to stop smoking in order to give his body a better chance to better utilize insulin and lower the blood sugar levels. It would be a difficult task for the patient to quit smoking as many cigarettes as he does in an instant and for

his case, there is a need to visit a doctor for assistance on how to reduce first, and eventually stop smoking (Mirfeizi et al., 2017).

The patient also needs to improve his physical activity levels. Physical activity is vital for the management of diabetes because the muscles use glucose for energy. Regular physical exercises help the body to utilize insulin more effectively (Plows et al., 2018). There are various activities that the patient can engage in although he has a physical disability. Some of the physical activities include walking, cycling, swimming, weightlifting, calisthenics, aerobic dancing, and team sports among others. Patient A needs to visit a physiotherapist for advice on how he can be physically active given his physical disability. Together with a healthy diet, regular exercises help in controlling diabetes by lowering the patient's body weight (Plows et al., 2018). This means that he will be managing his overweight and obesity statuses, which will result in a lower BMI score and an improved position against cardiovascular diseases.

Dietary factors are also an important aspect for consideration when managing diabetes. The patient has been on an unhealthy diet which contains high calory foods that, due to his inactivity and other predisposing factors, make him more vulnerable to obesity and diabetes (Guthrie & Guthrie, 2004). The patient needs to reduce his consumption of fatty foods like chips and fries, and, instead, adopt a diet that contains more healthy foods. He should eat less salt and red and processed meat and, on the other hand, increase consumption of vegetables, fruits, and healthier carbohydrates. He should also avoid consuming too much alcohol on a daily basis as that contributes to his unhealthy diet behaviors (Guthrie & Guthrie, 2004).

Conclusion

The assessment concludes that Patient A is highly predisposed to diabetes mellitus. Some of the factors predisposing him to the disease include obesity, high blood pressure, a family

history of cardiovascular diseases and weight problems, as well as lifestyle factors including smoking and alcohol consumption. Low levels of physical activities also contribute to the problem, but this is largely attributable to his physical disability. The recommendation for the patient to manage the condition include visiting a doctor for advice on quitting smoking, visiting a physiotherapist for advice on what physical activities he can engage in, and lowering alcohol consumption. Dietary changes have also been recommended so that his body will not have to deal with very high levels of blood sugar as well as unused calories that would then aggravate his obesity and cardiovascular conditions such as hyperlipidemia.

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Appendix 1**LIFESTYLE QUESTIONNAIRE****Introduction:**

In order to help us focus our Health Promotion activities in the practice, we would be grateful if you could fill in this short questionnaire. If you have already completed one on a previous visit, please return this questionnaire to the receptionist.

Name **Patient A** Date of Birth

...**01/01/1976**.....

Do you smoke? Yes ☒ No ☐

If Yes, do you –

smoke less than 1	cigarette/day	☐
1 – 9	cigarettes/day	☐
10-19	cigarettes/day	☐
20-39	cigarettes/day	☐
more than 40	cigarettes/day (40-60)	☒
smoke a pipe		☐
smoke cigars		☐

If No, have you –

never ever smoked	☐
given up smoking in the last year	☐
not smoked for more than 1 year	☐

Do you have high blood pressure? Yes ☒ No ☐

Have you ever had a heart attack
or suffered from angina? Yes ☐ No ☒

Have you ever had a stroke, “shock”
or any weakness down one side? Yes ☒ No ☐

Have any of the following –

mother, father, brothers
or sisters had –

a heart attack below the age of 60	Yes []	No [x]
a heart attack above the age of 60	Yes [x]	No []
a stroke	Yes [x]	No []
trouble with very high cholesterol	Yes [x]	
(hyperlipidaemia)	No []	

.....

Practice Use Only

Health Education Smoking

BP **114/90**

Height **160 cm**

Weight **80 kgs**

EXERCISE

Healthy exercise usually involves activity that lasts for at least 20 minutes, raises your pulse and produces hard breathing. In younger people this might be running, cycling or sport, or brisk walking for older people.

Do you take this type of exercise –

daily	[]
3 times weekly	[]
once weekly	[]
once monthly	[]
seldom	[]

I cannot take exercise because of disability [x]

DIET

Please tick the one category which is closest to your usual eating pattern.

- ☐ I eat no meat, fish or dairy produce
☐ I eat no meat
☐ I eat a mixture including daily fruit and vegetables
☒ I eat a mixture including regular chips and fries
☐ I eat frozen meals (eg TV dinners) 3 or 4 times/week
☐ I eat mainly snacks
☐ I eat a special medical diet

Please specify

ALCOHOL

Please tick the statement which most closely describes your usual average alcohol intake. (1 unit is 1 glass wine, ½ pint beer or a single measure of spirit.)

- ☐ I never drink alcohol
☐ I drink less than 1 unit per day
☒ I drink between 1 and 2 units a day
☐ I drink between 3 and 6 units a day
☐ I drink between 7 and 9 units a day
☐ I drink more than 9 units a day on average
☐

.....

Practice Use Only

- ☐ Health Education Alcohol
☐ Alcohol Brief Intervention