**Self- management practices among diabetic patients: A concept Analysis**

**Abstract:**

Diabetes is recognized as a significant factor in both mortality and morbidity worldwide. While, the traditional approach to diabetes care has focused on medical professionals, recent research has indicated that self-care among patients is crucial. The aim of the study is to understand the different concept that will help to create diabetic education plan and services among diabetes patient to help reduce the risk of diabetes complication. A concept analysis was conducted, focusing on self-management education among diabetic patients. The findings highlights the importance of self-management education for diabetic patient during pandemic. It also suggest the importance of telemedicine for enabling self-care and preventing complications during times when access to in-person healthcare services is limited. This study helps health service providers develop plan of care to reach the patient which include offering services in the diabetic clinic and promoting telemedicine as alternative ways in seeking health services.

**Keywords:** Diabetes Mellitus, education plan, physical activity, self-management, telemedicine

**1.0. Introduction**

Diabetes Mellitus as one of main cause of health problem worldwide. (Center for Disease Control and Prevention in 2016; (Hossain et al., 2024; Ahmad & Joshi, 2023). This chronic

Vamos, et.al. (2021). Evidence shows that patient having diabetes are at increased risk of incident mortality and severe infection (Hussain,2020). There is limited new diagnosis and routine follow up for the patient. Khunti, et.al. (2022). It is important among diabetes patient the crucial task of self-care in responding and acquiring knowledge in self-management of diabetes. It is also important to build partnership between health care provider and the patient in the creation of health care plan. (Forde, et.al. 2021; Abiodun & Akinade., 2021)

  Even country where they belong to first word has challenges in the accessibility making remote consultations and telehealth like socioeconomic inequality is associated with digital poverty, poor access to technologies, and poor digital literacy. Azeem,et.al.(2020) The disruption of public health measure has restricted the access of diabetes care limiting to self-management that require in reducing their risk of diabetes complications. Forde,et.al.(2020). Psychological problems (anxiety, diabetes distress and depression) and hyperglycemia has been reported as major concern. Health care providers must promote self-management through establishing information pertains to support management, diabetes self-care, technical care and psychological care that promote the whole being.

Due to the increased levels of health anxiety in relation to the progression of Disease, health care professional must be aware towards concern. Joensen,et.al.(2020). However, diabetes patient must increase its compliance to the plan of care that the nurse will create for them. Establishing strong relationship will provide opportunity in the delivery of care. Although electronic consultation as one means to reach the people, engagement and evaluation must assess thoroughly the effectivity of. Online consultation towards definitive result. Integrated risk assessment and management strategies have been shown to improve self-management. Using of concept plotting has been attributed to the improvement of critical thinking in promoting, organizing and preparing complex information expansively.

**Objective**

To understand the different concept that will help to create diabetic education plan and services among diabetes patient to help reduce the risk of diabetes complication. This help to provide insight into the extent of services and identify strategies that will help to address the problems.

**2.0. Methodology**

This concept analysis followed steps using Walker and Avant’s (2010) which contain eight-step in establishing a concept analysis. The eight steps of this method are as follows: 1) Selecting a concept; 2) Determining the aims or purposes of analysis; 3) Identifying all uses of the concept; 4) Determining the defining attributes of the concept; 5) Constructing a model case; 6) Constructing borderline, contrary, invented, and illegitimate cases; 7) Identifying antecedents and consequences; and 8) Defining empirical references (Walker and Avant, 2010).

**3.0. Result and Discussion**

**3.1 Uses of concept**

Diabetes have impact in the disease process; this led to possible complication if it is unattended. This is lifelong process that treatment and care should provide to the patient. Diabetes patients increase anxiety and have difficulty to go hospital to seek medical care. Patient education is important in the plan of care, failure to achieve the desired goals in the management of chronic illness such as diabetes have led health professionals to produce new solutions and use new technologies for the self-management of diseases. Education plays a significant role in the prevention of diabetes itself but also in preventing its complications. Successful implementation of some diabetes prevention programmed, and their cost-effectiveness has already been demonstrated. People with these conditions have faced some of the worst outcomes.  Singh, et.al. (2020)

**3.1.1 Self-management and self-care**

Holistic self-management approach such as understanding the factors such as regular glucose monitoring, nutrition, treatment regimen and self-care behaviors ensuring adherence to physical activity of the patient.Eroglu, et. (2021). To acquire self-care sufficient knowledge, program that promote quality of care. Conducting seminars, distributing reading materials such as flyers, magazine and other information to strengthen self-management at home. Nurse and patient collaboration to meets the needs of patient is important, this lessen the fear of the patient in further complication which affect their mental health such as Fear of infection, spread and isolation, uncertainty and loneliness bring about radical changes in daily life. Kang, et.al. (2021)

**3.1.2. Telemedicine approach**

The fundamental tool of telemedicine approach is important in clinical management during pandemic. Telemedicine is important in catering immediate needs of the patient through online. This provides opportunity to reach the rural area. Although seeking immediate care is important, telemedicine provide opportunity to respond immediately. It has been proven to be very effective in remote areas with poor health facilities or access limitations It plays significant role in process of examination and clinical outcome. Telemedicine approach opened the way for the use of mobile phone applications in self- management of diabetes. Gadget and mobile array are very effective tools in providing patients needs with the necessary information to control diabetes. The efficacy improving glycemic control, weight reduction and dyslipidemia and diabetic care and patient satisfaction. Opportunity to evaluate the potential benefits is relevant in understanding predictors that affect the quality of care.

**3.2 Critical attributes**

The critical attributes serve as core in a concept analysis. This provides attributes to create a concept. It shows the representation of strongest relationship and analyzation of concepts in obtaining deep insight. These attributes have shown differentiate base on the intended concept from similar or related concepts (Walker and Avant, 2010).

**3.2.1. Knowledge in diabetes management**

 Poor knowledge contemplates the outcomes of a failed blood glucose control. Fear and highly stressful situations contribute improper management. In the era of having diabetes and/or uncontrolled hyperglycemia is associated with poorer outcomes and more severe disease. Knowledge is important in understanding diabetes-related complication. For instance, is lacked knowledge about how to select low glucose diets, to manage their blood glucose level, including signs when they had high or low blood glucose contribute to overall management of diabetes. Phoosuwan,et.al.(2022). Diabetes literacy and knowledge, it is necessary to give education to patients and staff in diabetes

**3.2.2 Attitude Toward Adherence**

Nonadherence to the health regimen result to complication of diabetes. This can result a serious impact in level of blood glucose. Attitude towards understanding the importance of having positive attitude create wider perspective in the patient care. Barriers to access may be related to both financial constraints and physical barriers. Positive attitude towards Diabetes mellitus lessens the risk of further complications. A healthy habit and following food regimen is beneficial to promote self-care. Proper exercise is also important to strengthen the body and mind. Some patients have multiple possibilities to misunderstand their condition’s seriousness and failed to respond towards it. The nurse should reinforce the patient needs holistically and provide positive approach in diabetes self-management to the patient.Ofori,et.al.(2014)

**3.3 Model case**

A model case is a “real life” events on the use of the concept that includes all the critical attributes (Walker and Avant 1995). Example of this Ms. Cruz state that” Individuals with diabetes may be more susceptible to poorer outcomes. Significant issues such as hyperglycemia. As a Nurse it is important to address those Barriers to provide quality care to my patient. There are some scenarios that barriers such as fear, anxiety, and other factors brought by pandemic resulting in the reluctant of seeking health services in the management of diabetes. I witness the situation on how handle patient and creation of plan.

 The case represents on how nurse respond in situation where there is presence of challenges in the delivery of care during pandemic. Creation of health care plan design in care help the patient to lessen the issues and burden of the patient.

**3.4 Borderline case**

Borderline cases provides critical attributes of the concept that being examined but not all of them (walker and Avant, 1995). The following is an example of boarder line case where in patient having difficulty of seeking care due to pandemic. “it is hard to seek care during pandemic because I fear to be infected with Covid, I understand the situation and as much that I consult for telemedicine, there is only limited access to it. Completing an initial assessment in diabetes nursing management is essential in adherence of patient care. The case represents on challenges on the patient during pandemic. Nurse must view patient attribute incitement, experiences and notion about health care and illness.

**3.5 Antecedent**

 Antecedents are events which happen before the intendedconcept (Walker and Avant, 2010). The antecedents of the concept of the self- management practices among diabetic patients are as follow:

 ***Encounter and interaction of health care provider***

 Encounter and interaction of nurse-patient relationship is important aspect in the establishment of trust. Health care provides structure the promote the overall quality of care. This includes assessing the patients’ needs and address immediate concern. Encounter to health care provider helps the patients to improve their health. Good interaction creates positive environment in shaping diabetes patient. Some patients have poor adherence in physical health and mental health. The role of health care provider is to help the patient understand the importance of exercise, healthy lifestyle, treatment regimen and other factors that affects patients condition.

**3.6 Consequences**

Consequences of a concept are events that happen. (Walker and Avant, 2010). The consequences diabetic education self-management include consequences related to care receivers, those related to care providers, and health-related consequences.

 ***Diabetic self-management skills***

The self- management has dramatically influenced many aspects of patients’ treatment. Plan of care is important in the management of the patient care. Health professional express opinions in the use of telemedicine. Other plan of care is relying in the diabetic clinic that will provide good quality care. Possessing knowledge in diabetes management like on how to keep the blood sugar within normal level is important in the self-management of diabetic patient. Shi, et.al.(2020). It also important in incorporation of family support and health care team to help the patient enhance their management skills into a action in daily activities to prevent complication. Khalooei, et.al. (2019).

***Self-management behavior***

 Positive outlook towards compliance of care is important to minimize complication. Self-management behavior is important in promoting ways to improve patient situation during pandemic. Regular physical activity is an important factor in improving metabolic outcomes and may increase insulin sensitivity and lead to glycemic control. Physical activity tends to have great benefit in preventing the development of complications relating to type 2 diabetes.Pamungkas et.al.(2020). Measures taken, isolation and social distancing restrictions have made it difficult for people with diabetes to exercise regularly and remain physically active. Kang, et.al.(2021). Overall, Support from health professionals is important for diabetic patients to develop their self-management. Support from health professionals was determined to be a significant risk factor about diabetes self-management. Khalooei, et.al.(2019)

**3.7 Empirical references**

The last step to concept analysis is to determine empirical references for the main attributes of the concept. Empirical references can further clarify the concept and facilitate its measurement (Walker and Avant, 2010). Based on diabetic education and self-management have different tools in assessing plans for self-management among diabetic patients. Diabetes self-management education helps to improve health outcomes and qualities of life for diabetic patients. It contributes to enhanced health outcomes, the quality of care, and the overall quality of life for diabetic patients, ultimately leading to reduced expenses and bringing about positive changes in lifestyle and self-care management. Powers,et.al.(2020)

 The theory of planned behavior shows comprehensive anchor in the social support and diabetes self-management of the patient. it was presented the importance of having positive behavior in the perspective of achieving overall health of the patient. The theory of plan behavior is an intrapersonal theory. Study reveals that strategies to promote self-management is through connection with social support. Wherein poor social support can lead to psychosocial barrier for diabetes self-management. Lee,et.al.(2017) In addition, the theory is beneficial as guide to different self-management education program for patient. This also help nurse find ways to develop contingency self-management program

The theory of planned behavior provides a theoretically guided framework for nurse practitioners to develop tailored strategies that include psychosocial support for diabetes self-management. In addition, self-care theory by Dorothea Orem emphasizes of self-care and self-care activity which is beneficial in achieving goals and to minimize complication of a diabetic patient.

**4.0 Conclusion**

The result shows the concept that related to self-management education for diabetic patient during pandemic. It highlights the self-management that telemedicine concept as ways to control measures in preventing further complication due to inaccessibility of services during care. Access to diabetes management resources such as outpatient office visits, routine screenings, medications, and self-monitoring supplies decreased or rapidly came to a halt. It indicated that the disease process could negatively affect glycemia thus it was predicted subsequent to have a negative effect on the health outcomes of people with diabetes.

 This study helps to create nurses plan of care to reach the patient which include offering services in the diabetic clinic which cater the needs of the patient and to promote telemedicine as alternative ways in seeking health services.

**Data Availability**

All the data generated and analyze are available upon request from the authors.

Disclaimer (Artificial intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

**References**

1. Azeem M. EJ M, Sophie C-C. (2020).COVID-19 is magnifying the digital divide. BMJ Blogs. 2020. [https://blogs.bmj.com/bmj/2020/09/01/covid-19-is-magnifying-the-digital-divide/](https://blogs.bmj.com/bmj/2020/09/01/covid-19-is-magnifying-the-digital-divide/?fbclid=IwZXh0bgNhZW0CMTAAAR3nXCDxye2cejSdPsb0nP0F6mS5QHW7rOrUfyhnSzbjT3x3gKKm4DKTcOQ_aem_iKbceIWU_r7rWAQMy6jb5w) [Ref list]
2. Eroglu N., Sabuncu N. (2021).The effect of education given to type 2 diabetic individuals on diabetes self-management and self-efficacy: randomized controlled trial. Prim. Care Diabetes. 2021:1–8. doi: 10.1016/j.pcd.2021.02.011. [PubMed] [CrossRef] [Google Scholar] [Ref list]
3. Forde R, Arente L, Ausili D, et al. (202The impact of the COVID-19 pandemic on people with diabetes and diabetes services: a pan-European survey of diabetes specialist nurses undertaken by the Foundation of European Nurses in Diabetes survey consortium. Diabet Med. 2021;38 [PMC free article] [PubMed] [Google Scholar] [Ref list]
4. Hussain A, Bhowmik B, do Vale Moreira NC.(2020). COVID‐19 and diabetes: knowledge in progress. Diabetes Res Clin Pract. 2020;162:108142. [PMC free article] [PubMed] [Google Scholar] [Ref list]
5. Joensen LE, Madsen KP, Holm L, et al.(2020) Diabetes and COVID‐19: psychosocial consequences of the COVID‐19 pandemic in people with diabetes in Denmark—what characterizes people with high levels ofCOVID‐19‐related worries? Diabet Med. 2020;37:1146‐1154. [PMC free article] [PubMed] [Google Scholar] [Ref list
6. Kang J., Chen Y., Zhao Y., Zhang C.(2021) Effect of remote management on comprehensive management of diabetes mellitus during the COVID-19 epidemic. Prim. Care Diabetes. 2021:1–7. doi: 10.1016/j.pcd.2020.12.004. [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]
7. Khalooei A., Benrazavy L. (2019)Diabetes self-management and ıts related factors among type 2 diabetes patients in primary health care settings of kerman, Southeast Iran. J. Pharm. Res. Int. 2019;29:1–9. doi: 10.9734/jpri/2019/v29i430241. [CrossRef] [Google Scholar]
8. Lee, L., Bowen, P. Mosley,M.,& Turner,C.(2017). Theory of Planned Behavior: Social Support and Diabetes Self-Management
9. Ofori SN, Unachukwu CN.(2014) Holistic approach to prevention and management of type 2 diabetes mellitus in a family setting. Diabetes Metab Syndr Obes. 2014;7:159–68.
10. Pamungkas R.A., Chamroonsawasdi K.(2019) Self-management based coaching program to improve diabetes mellitus self-management practice and metabolic markers among uncontrolled type 2 diabetes mellitus in Indonesia: a quasi-experimental study. Diabetes Metab. Syndr. Clin. Res. Rev. 2020;14:53–61. doi: 10.1016/j.dsx.2019.12.002. [PubMed] [CrossRef] [Google Scholar] [Ref list
11. Pettus, J., & Skolnik, N. (2021). Importance of diabetes management during the COVID-19 pandemic. *Postgraduate Medicine*, *133*(8), 912–919. <https://doi.org/10.1080/00325481.2021.1978704>
12. Phoosuwan, N., Ongarj, P. & Hjelm, K.(2022) Knowledge on diabetes and its related factors among the people with type 2 diabetes in Thailand: a cross-sectional study. *BMC Public Health* **22**, 2365 (2022). https://doi.org/10.1186/s12889-022-14831-0
13. Powers, M.A.; Bardsley, J.K.; Cypress, M.; Funnell, M.M.; Harms, D.; et.al.(2020). Diabetes Self-management Education and Support in Adults with Type 2 Diabetes: A Consensus Report of the American Diabetes Association, the Association of Diabetes Care & Education Specialists, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association. Diabetes Care 2020, 43, 1636–1649. [Google Scholar] [CrossRef]
14. Schiller,T., Ziornitzki, T., Ostrovosky, V. et.al.(2021). Following the COVID- 19 Experience, Many Patient with Type 1 diabetes wish to use telemedicine in Hybrid Format. *Int. J. Environ. Res. Public Health* **2021**, *18*(21), 11309; [**https://doi.org/10.3390/ijerph182111309**](https://doi.org/10.3390/ijerph182111309)
15. Shi C., Zhu H., Liu J., Zhou J., Tang W. (2020).Barriers to self-management of type 2 diabetes during covid-19 medical isolation: a qualitative study. Diabetes Metab. Syndr. Obes. Targets Ther. 2020;13:3713–3725. doi: 10.2147/DMSO.S268481. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
16. Singh AK, Gillies CL, Singh R, et al. (2020).Prevalence of co-morbidities and their association with mortality in patients with COVID-19: a systematic review and meta-analysis. Diabetes Obes Metab. 2020;22:1915–1924. [PMC free article] [PubMed] [Google Scholar] [Ref list]
17. WHO Corona Virus (Covid-19) Dashboard. Geneva, World Health Organization. [**https://covid19.who.int**](https://covid19.who.int/?fbclid=IwZXh0bgNhZW0CMTAAAR0YMSeCQtbLZNCXve00v0EWRESxgSlUmp5OZrruf8vrvSvpGnuWr0rvMr4_aem_cms_PRN_kUREx5CMS9p9fQ) [Ref list]
18. Vamos EP, Khunti K.(2021) Indirect effects of the COVID-19 pandemic on people with type 2 diabetes: time to urgently move into a recovery phase. BMJ Qual Saf. 2021 [PubMed] [Google Scholar] [Ref list]
19. Hossain, M. J., Al‐Mamun, M., & Islam, M. R. (2024). Diabetes mellitus, the fastest growing global public health concern: Early detection should be focused. *Health Science Reports*, *7*(3), e2004.
20. Ahmad, F., & Joshi, S. H. (2023). Self-care practices and their role in the control of diabetes: a narrative review. *Cureus*, *15*(7), e41409.
21. Abiodun, A. T., & Akinade, S. R. (2021). Factors Influencing Adherence to Self-Care Practices Among Diabetes Patients in a Selected Tertiary Hospital, Osun State. *Journal of Advances in Medicine and Medical Research*, *33*(22), 214–229. <https://doi.org/10.9734/jammr/2021/v33i2231173>