

# Significant Nursing Practices for the Management of Diabetes

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## Abstract

Over the past few decades, diabetes turns out to be a progressively more and serious health problem worldwide. It has been reported that increasing number of people are getting affected and living with this disease with a significant rise. Diabetes Specialist Nurse Work completely in diabetes care their support is considered vital in offering excellent patient care and advocating effective management. They will also offer training and support to Other nurses on general practices and diabetes management. The responsibilities in the management of diabetes and patient care involve guidance on disease control & prevention, advocating behavioural modifications and health training. Other important roles include early assessment of Type II diabetes, fostering self-care, creating awareness on the importance of mental health and monitoring urine, blood and glucose levels. Diabetic specialist nurses have a major positive impact when counselling diabetes patients on self-management especially when merged with pre-emptive care.

## INTRODUCTION

Diabetes Specialist Nurse work completely in diabetes care their support is considered vital in offering excellent patient care and advocating effective management. In the year 2017, International Diabetes Federation has reported that approximately four hundred and twenty-five million people in the age group between twenty to seventy-nine years were living with this health issue. The study report also reveals that it will rise to six hundred and twenty-nine million by 2045 [1]. It has been mentioned that the incidence of this health issue had risen significantly particularly in low and income countries over the past ten years. Persons in the pre-diabetes stage are 1.3 times expected to be hospitalized and adults diagnosed with this disease are

3.5 times at higher risk of hospitalization when compared to patients without a history of this complication. A recent UK national data reported that a patient with diabetes have a prolonged hospital stay when compared to a patient without diabetes regardless of admission related to same complication other than diabetes [2].

According to TREND-UK, the diabetes specialist nurses play a prominent role in delivering cost effective care with improved patient outcomes. They will also offer training and support to other nurses on general practices and diabetes management. The responsibilities in the management of diabetes and patient care involve guidance on disease control & prevention, advocating behavioural modifications and health training. Other important roles include early assessment of Type II diabetes, fostering self-care, creating awareness on the importance of mental health and monitoring urine, blood and glucose levels [3].

Direct medical expenditures associated with this health issue involves prevention and treatment, covering OP and

emergency care, IP care and long-term care with major expenditures to IP and OP care. Although diabetes is a matter of global health concern, there are not widely accepted or universal methodologies for treating diabetic individuals. In many countries, nurses also play a substantial role in the management of diabetes in supporting doctors who play a central role in diabetes care [4]. Several improvements occurred in treatment and health care support to diabetes patients and how nursing interventions are effective in combating diabetes morbidity. Some modifications for effective diabetes management involve diabetes specialist nurse who will be participating in health care support with improved clinical outcomes and reduced OP attendances. Diabetic specialist nurses have a major positive impact when counseling diabetes patients on self-management especially when merged with pre-emptive care. It is well accepted that majority of nursing professionals have good knowledge and experience on diabetes IP care. As a result of this, individuals suffering from diabetes would obtain high-quality care [5].

## NURSES' ROLES IN DIABETES CARE

### Nurses as Educators

Several investigations have reported that nurses are significantly involved in patient's education on the management of their disease. Furthermore, these studies also highlighted the impact of nursing interventions on diabetes management and education with the resultant positive outcomes by educating on the importance of improving glycemic controls. Bostrom and his team elaborated the significance of Diabetic Specialist Nurse role in patient's education on the disease, complications associated with the disease and control measures for preventing complications [6]. In a randomized trial study by Wexler et al. confirmed

that nurses play a very important role in the management of Type II diabetes. In this study, group I received normal care and group II patients receive intervention care and education support from Diabetes Specialist Nurses. The results showed that group II patients had a decreased mean glucose levels and greater reduction in glycosylated haemoglobin levels (post one year discharge) in contrast to Group I i.e., normal care group [7]. Raballo et al. studies further confirmed that patients who were assigned to group care resulted in more positive attitude and outcomes when compared to patients who received usual care. Additionally, few patients who underwent usual care management reported to have negative implications. From many clinical findings, it was obvious that diabetes specialist nurses have a significant and a positive impact on educating diabetes patients [8].

### **Nurses as Advanced Caregivers**

Nursing professionals are very much engaged in performing administrative tasks for diabetes care. Previous studies have confirmed their roles and responsibilities as advanced caregivers through their daily routine. They play an essential role in plan and organize diabetes care and management [9].

### **Nurses as Motivators**

Nurses effectively take on diabetes management and several surveys suggest that they are also responsible for motivating diabetes patients. Numerous studies have highlighted the significance of nursing professionals offering psychological support to diabetic patients. Pevrot et al. studies showed that diabetic patients with psychological issues resulted in negative impact on control and management of diabetes. It is very important to note that diabetes specialist nurses are also actively involved in rendering great support and make them feel safe, secure and hopeful [10]. Other studies also reported that nurses actively participate in supporting patients to overcome denial and lack of hope.

According to a survey conducted by American Diabetes Association, incidence of diabetes is on the steady rise and turn out to be an escalating global health concern [11]. This raised up concern has called for several preventive approaches to mitigate the growing amount of diabetes. Of many strategic approaches, nursing professionals who were actively engaged in diabetes management shown to produce better outcomes amongst patients in diabetes care. Many healthcare systems are working to implement patient focused nurse-led models of care for improved outcomes. Several studies have elaborated nursing interventions greatly improved the patient care with better outcomes. Houweling et al. reported that patient's glucose, BP, lipid levels were well controlled and regulated. The study also highlighted that diabetic individuals assigned to nurse group developed to be more cautious of impending long-term risks if the disease left untreated [12]. The results of the investigation by Houweling

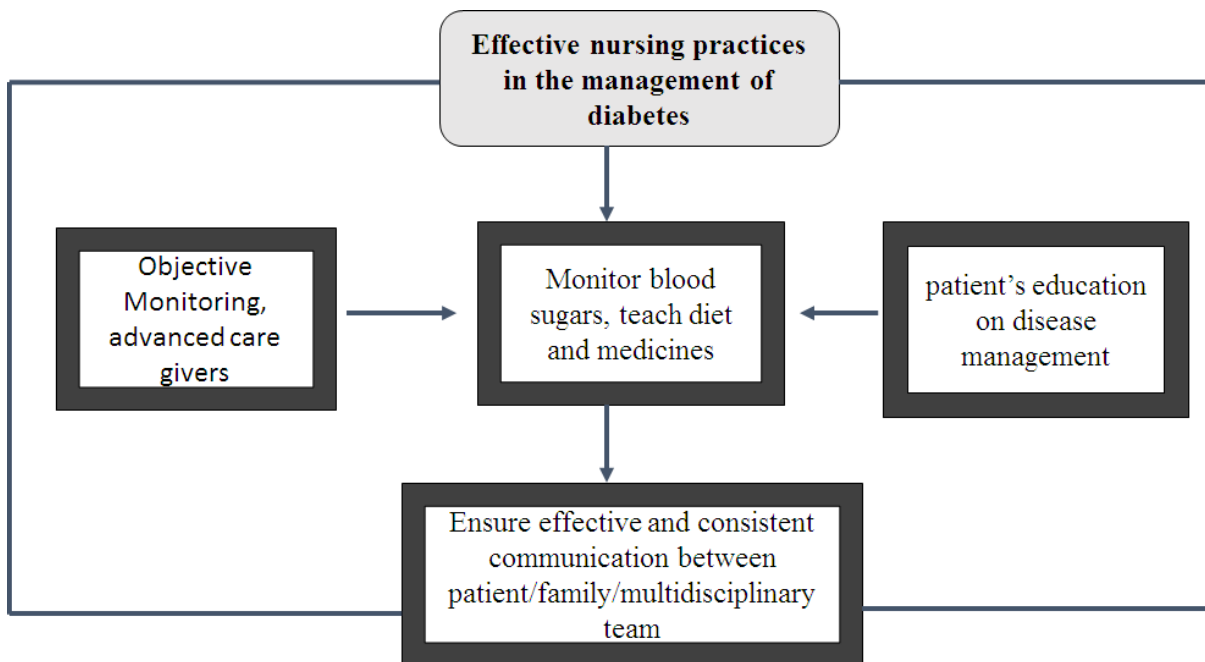
and his team suggest that assigned nurses devoted additional time with the diseased individuals that contributed to improved outcomes. Gabbay and his team conducted a trial, and the results suggest that nurses play a significant role in the management of diabetes significantly when compared to general practices (GP) management [13]. The results of the study conducted by Gabbay et al. further confirmed the quality nursing care in diabetes management was very effective in achieving the treatment goals. There are many approaches developed for efficient nursing care in diabetes management. Personalized care plan, careful monitoring and adapting healthy lifestyle modifications are key components for effective diabetes management.

Many authors have reported that nursing professionals serve as an important source in affording quality care and is mainly depend upon appropriate intervening requirements and conditions involved. The nursing quality care in diabetes management is dependent on various factors such as nurse skills, compassionate behaviour, caring attitude, adequate information, appropriate communication, efficient organizational skills and effective management systems [14].

A study by Taylor et al. was primarily based on the perceptions of patient's respondents on the quality of nursing care [15]. The results of this study confirmed that respondents involved in the study had greater hopes and expectations on the quality of nursing care. Furthermore, the study states that expected outcomes of the management is primarily based on the nursing care quality. Findings of several research analysis confirmed diabetes patients' condition has been substantially improved with nursing interventions. In a treatment centre in Netherlands, Den Engelsen and his team observed the impact of collaborative nursing care with general practices shown to have a significant outcome [16].

### **Nurses – The Major Beneficial Contributors in Diabetes Management**

Of several healthcare providers around the world, nurses contribute to the major population and play a vital role in advancing patient outcome. Nursing professionals are appointed as “nurse practitioners, specialist in clinical nursing, surgery nurse specialists, cardiac nurses, paediatric nurses, geriatric nurses, diabetic nurses and generalist nurses” [17]. Nurse practitioners are primarily focused to promote health and disease control measures by adopting effective strategies such as counselling and patient's education. For instance, in majority of cases nurses related to clinical speciality also performed effective roles and undertake responsibilities as leaders and collaborators. The nurse practitioners were very efficient in providing required quality care, in addition to that, they have also actively participated in offering psychological support and assist the patients in disease management [18].



The roles and responsibilities of nurse practitioners is to offer care at primary, secondary and tertiary levels. Lifestyle modifications and control measures to prevent diabetes associated complications are the chief goals involved in the management of diabetes. Several clinical trials conducted earlier confirmed the nursing interventions were highly beneficial in positive outcome by efficiently educating patients and promoting health. Several studies demonstrated that school nurses were significantly contributed to educating children diagnosed with diabetes. Moreover, they have actively engaged in educating their parents and teachers and were effective in turning the school “into a safe place for these children”. Moreover, the reduced hospitalization effectively contributed to a decreased hospital cost. Similarly, Sakr et al. demonstrated that patients who received adequate level of self-care education through nursing practitioners reduced frequent hospitalization [19]. A clinical trial conducted by Davidson et al. showed that nurses who were under the guidance of a “Diabetologist” effectively contribute to the advancement of patient outcomes [19]. Similar results were observed by Olgan and team of authors on assessing the effectiveness of nursing care in diabetes management [20].

### CONCLUSION

Nurses role in educating patients diagnosed with diabetes is widely accepted worldwide. Diabetes management pertaining different age groups is the most important phase. Several reports have confirmed that nurse practitioners have played a superior role in delivering the quality of care. Nurses are engaged in different levels in the healthcare management and they play a crucial role in disease treatment and prevention. To achieve desired patient outcomes through nursing care, it is vital to adopt novel strategies such as conducting frequent educational programs with emphasis on

risk factor prediction and reduction, close monitoring on blood sugar levels, early diagnosis and prevention, “treating hypoglycemic and hyperglycemic states”. Nurses effectively take on diabetes management and several surveys suggest that they are also responsible for motivating diabetes patients.

### REFERENCES

- [1] Saeedi P, Petersohn I, Salpea P, Malanda B, Karuranga S, Unwin N, Colagiuri S, Guariguata L, Motala AA, Ogurtsova K, Shaw JE, Bright D, Williams R; IDF Diabetes Atlas Committee. Global and regional diabetes prevalence estimates for 2019 and projections for 2030 and 2045: Results from the International Diabetes Federation Diabetes Atlas, 9th edition. *Diabetes Res Clin Pract.* 2019 Nov;157:107843. doi: 10.1016/j.diabres.2019.107843. Epub 2019 Sep 10. PMID: 31518657.
- [2] Shaw JE, Sicree RA, Zimmet PZ. Global estimates of the prevalence of diabetes for 2010 and 2030. *Diabetes Res Clin Pract.* 2010 Jan;87(1):4-14.
- [3] Magliano Dianna J, Islam Rakibul M, Barr Elizabeth L M, Gregg Edward W, Pavkov Meda E, Harding Jessica L et al. Trends in incidence of total or type 2 diabetes: systematic review *BMJ* 2019; 366.
- [4] NHS Institute for Innovation and Improvement . Focus on: Inpatient Care for People with Diabetes. NHS Institute for Innovation and Improvement; London, UK: 2008. Delivering Quality and Value.
- [5] Riordan F., McHugh S.M., Murphy K., Barrett J., Kearney P.M. The role of nurse specialist of integrated diabetes care: A cross sectional survey of diabetes nurse specialist services. *Br. Med. J. Open.* 2017;7:e015049. doi: 10.1136/bmjopen-2016-015049.
- [6] Mutea N.K., Baker C.M. Kenyan nurses' involvement in managing hospitalized diabetic patients. *Int. J. Nurs. Pract.* 2008;14:40–46.
- [7] Wexler D., Veauharnais C., Regan S., Beauharnais C.C., Nathan D.M., Cagliero E., Larkin M.E. Impact of inpatient diabetes management, education, and improved discharge transition on glycemic control 12 months after discharge. *Diabetes Res. Clin. Pract.* 2012;98:249–256.

- [8] Raballo M., Trevisan M., Trinetta A., Charrier L., Cavallo F., Porta M., Trento M. A study of patients' perceptions of diabetes care delivery and diabetes. Propositional analysis in people with type 1 and 2 diabetes managed by group or usual care. *Diabetes Care*. 2012;35:242–247.
- [9] Duffield C., Roche M., O'Brien-Pallas L., Catling-Paull C., King M. Staff satisfaction and retention and the role of the Nursing Unit Manager. *Collegian*. 2009;16:11–17.
- [10] Siminerio L.M., Funnell M.M., Peyrot M., Rubin R.R. US nurses' perceptions of their role in diabetes care: Results of the cross-national Diabetes Attitudes Wishes and Needs (DAWN) study. *Diabetes Educ*. 2007;33:152–162.
- [11] International Diabetes Federation . IDF Diabetes Edition. 8th ed. IDF; Brussels, Belgium: 2017.
- [12] Houweling ST, Kleefstra N, van Hateren KJ, Groenier KH, Meyboom-de Jong B, Bilo HJ. Can diabetes management be safely transferred to practice nurses in a primary care setting? A randomised controlled trial. *J Clin Nurs*. 2011 May;20(9-10):1264-72.
- [13] Gabbay MA, Sato MN, Finazzo C, Duarte AJ, Dib SA. Effect of cholecalciferol as adjunctive therapy with insulin on protective immunologic profile and decline of residual  $\beta$ -cell function in new-onset type 1 diabetes mellitus. *Arch Pediatr Adolesc Med*. 2012 Jul 1;166(7):601-7.
- [14] Cardwell J., Hardy K., Ford N., O'Brien S. Assessment of diabetes knowledge in trained and untrained ward nurses before and after intensive specialist support. *J. Diabetes Nurs*. 2016;20:60–64.
- [15] Taylor, Roy. "Caloric restriction for long-term remission of type 2 diabetes." *Clinical medicine* (London, England) vol. 19,1 (2019): 37-42. doi:10.7861/clinmedicine.19-1-37.
- [16] Den Engelsen, C., Gorter, K.J., Salomé, P.L. et al. Remission of screen-detected metabolic syndrome and its determinants: an observational study. *BMC Public Health* 12, 778 (2012).
- [17] Ginzburg T., Hoffman R., Azuri J. Improving Diabetes Control in the community a nurse managed intervention model in a multidisciplinary clinic. *Aust. J. Adv. Nurs*. 2007;35:23–30.
- [18] Halawa MR, Karawagh A, Zeidan A, Mahmoud AE, Sakr M, Hegazy A. Prevalence of painful diabetic peripheral neuropathy among patients suffering from diabetes mellitus in Saudi Arabia. *Curr Med Res Opin*. 2010 Feb;26(2):337-43.
- [19] Davidson JA, Liebl A, Christiansen JS, Fulcher G, Ligthelm RJ, Brown P, Gylvin T, Kawamori R. Risk for nocturnal hypoglycemia with biphasic insulin aspart 30 compared with biphasic human insulin 30 in adults with type 2 diabetes mellitus: a meta-analysis. *Clin Ther*. 2009 Aug;31(8):1641-51.
- [20] Duarte, A.A., Mohsin, S. & Golubnitschaja, O. Diabetes care in figures: current pitfalls and future scenario. *EPMA Journal* 9, 125–131 (2018)