

# Comprehensive Diabetes Management- What Does it Means?

Maram Alshareef

## ABSTRACT

Diabetes is a chronic disease that has a health and economic burden on the patient and the health care system. Diabetes control means prevention of the Complications which need patient and health care provider collaboration in addition to the health care system support. A multidisciplinary and an interdisciplinary team approach is needed to provide a comprehensive care in the early stage of the disease. Psychotherapy can play a role to improve patient cognition and acceptance of the disease which is very important step toward successful management. Biopsychosocial model approach the patient from all health aspects rather than the biological disease alone and all the health care team providers must be trained to adopt this approach.

**Key words:** Comprehensive Diabetes management, Psychotherapy, Bio-psychosocial model.

## INTRODUCTION

Chronic diseases control is considered as one of the biggest expenditures on the economies for the countries.<sup>1</sup> Diabetes is one of the chronic non-communicable diseases that has global effect on the world.<sup>2</sup> Countries have estimated the economic impact of diabetes on the health care system, for example in the U.S \$199 billion per year and one thirty-one billion dollars reduced productivity on year on average.<sup>3</sup> Asian countries calculated the total loss as a result of chronic non-communicable diseases which showed the highest loss in China with about \$16 trillion, followed by \$ 5.7 trillion and \$1.5 trillion respectively for Japan and South Korea.<sup>4</sup> The cost of diabetes care in Saudi Arabia is approximately \$ 4.5 billion.<sup>5</sup> Diabetes had been counted with a high prevalence in the Arab world, the studies varied between 18-30 % prevalence in Saudi Arabia, followed by Oman with 29% and 25% in Kuwait, Bahrain and United Emirates.<sup>6</sup> In contrast, the prevalence is 6%, 7.3% and 9.4% in Britain, Canada and the USA.<sup>7-9</sup> Type 2 diabetes affects adults and the prevalence increases with age.<sup>9</sup> It can go through a prodromal stage for 10 years before the diagnosis and is presented suddenly, often with complications.<sup>10</sup>

### Comprehensive Diabetes Management

Many factors affect the disease control which includes medications, diet, exercise and psychological counseling.<sup>11</sup> However, many barriers affect the intensification of glycemic control which could be related to the physician, patient or the health care system. Diabetic care plan should include education about the disease, medication counseling, the role of different non-pharmacological options, self-management and complications prevention.<sup>12</sup> Chronic care model is the recommended in diabetic

care plan to provide an organized, arranged care through the multidisciplinary/ interdisciplinary team which include (physician, nurse, dietitian, pharmacist, health educator, psychotherapist for psychological support and the social worker).<sup>13</sup> Physicians' perceived this approach as optimization for the diabetic care plan which can allow for more integrative discussion and communication with other health care associates professionals.<sup>14</sup> On the other hand, literature reviews showed this approach improves the communication with diabetic patients which results in better control of the disease.<sup>14</sup> Moreover, diabetic patient concerns have to be addressed at each visit which relatively not taken very well by health care provider. Patients expressed the need for extensive explanation about the disease and the complication as well as the management plan, this will give the patient a responsibility toward their health and to ensure the compliance to the management plan.<sup>15</sup> Besides, the Comprehensive approach to diabetic patient should be initiated upon the diagnosis which means the patients should be referred to an interdisciplinary team care to plan and implement management strategy with the patient toward long term accepted, measured and realistic goal. Moreover, the management should be an anticipatory instead of reflectory to what patient needs Figure 1.<sup>16</sup> Health care provider and patient relation is an important factor toward the patient compliance and disease control.<sup>17</sup>

### Empathy and Care for Diabetes

The good provider-patient relationship leads to better compliance and control of the disease.<sup>18</sup> Empathy is the core effect of provider-patient relationship. however, workloads, duties routine, lack of time, were

## Maram Alshareef\*

Department of Community Medicine and Pilgrims Health, Faculty of Medicine, Umm Al Qura University, Makkah, SAUDI ARABIA.

### Correspondence

#### Dr. Maram Alshareef

Assistant Professor, Department of Community Medicine and Pilgrims Health, Faculty of Medicine, Umm Alqura University, Makkah, SAUDI ARABIA.  
Mobile no: +966 558855071  
Email: m.alshareef2017@gmail.com

### History

- Submission Date: 08-10-2019
- Revised Date: 09-01-2020
- Accepted Date: 02-03-2020

DOI : 10.5530/ijmedph.2020.2.11

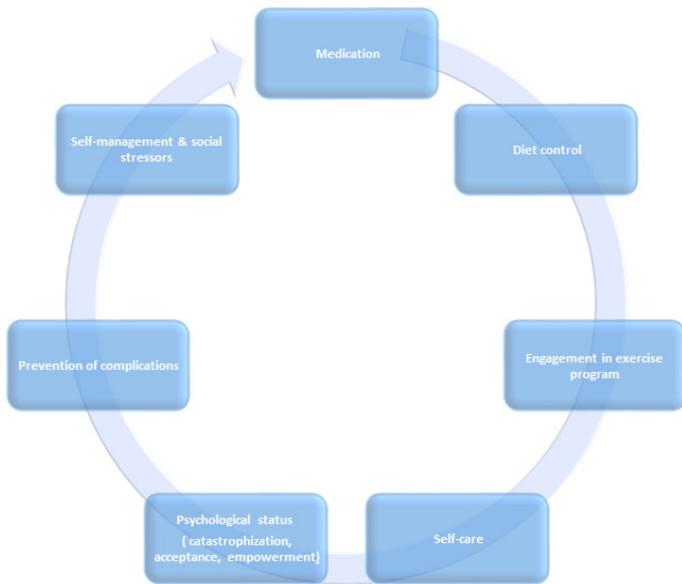
### Article Available online

<http://www.ijmedph.org/v10/i2>

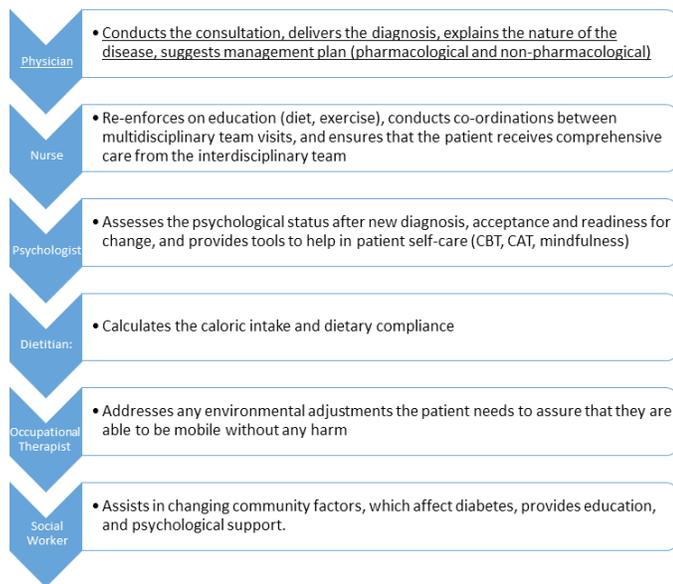
### Copyright

© 2020 Phcog.Net. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International license.

**Cite this article :** Alshareef M. Comprehensive Diabetes Management- What Does it Means?. Int J Med Public Health. 2020;10(2):51-3.



**Figure 1:** Cycle of Chronic Care Model for Diabetic patient.



**Figure 2:** Interdisciplinary Team Functions.

reasons of lack of empathy for health care providers, which perceived as dismissiveness by patient which is an indication for the importance of this relationship. On the other hand, health care provider who adopt empathy had higher job success, more satisfaction and less burnout.<sup>19</sup> Diabetic patient needs higher empathy, more communication and thorough explanation and information about the disease. In fact, Patients pass through stages of acceptance, which begins with denial, this stage could be another factor that may affect the control of blood sugar or stage of action because if the patient does not accept the disease then, not yet ready for the change.<sup>15</sup> At this stage It is important to work on cognition especially when its known that patients need more empathy and proper reassurance when it comes to the diagnosis of any disease.<sup>18</sup> Moreover, diabetic patient needs continuous care along with attentiveness and reinforcing the important life style measures as important pillars in the plan which include diet, exercise, self-monitoring, medication

adherence, these items should be continuously assessed despite the chronicity or the glycemic control by each team members involved in the diabetic care plan. The patient will perceive the importance of the discussed subject and considered it important part of the management if discussed by different professions which will affect the long-term control of the disease.<sup>15,20</sup> The team members need to adopt the biopsychosocial approach to achieve the patient center care model which help to deal with patient concerns on individual basis.<sup>21</sup> Compassion attitudes can be encouraged among team care provider and patient themselves through the whole care journey.<sup>22</sup>

### Psychotherapist as part of the team

A special algorithm maybe be helpful in the care process if followed when the disease is initially diagnosed. Physicians alone cannot conduct the whole care plan; the multidisciplinary team role showed a better effect on patient control.<sup>11</sup> Psychotherapist should be a vital member in the team. Diabetic patient suffers from fear, anger, anxiety at the early stage of the disease.<sup>15</sup> Early intervention of psychotherapist can work with diabetic patients on acceptance, anxiety reduction techniques, self-soothing and self-care. If the patient learns certain techniques that can help in problem-solving and decision making and when to seek help will have a positive impact on the disease.<sup>23</sup> The six pillars for diabetes care include diet, exercise, medication, self-care and psychological tools.<sup>20,24</sup> Biopsychosocial model approach the patient from all health aspects rather than the biological disease alone.<sup>20</sup> The diabetic care team members need to adopt the biopsychosocial approach to achieve the patient center care model which help to deal with patient concerns on individual basis<sup>21</sup> when health care providers adopt this model in diabetic care they can reach with the patient where is the management corner in the Figure need to be reassess, explored and negotiated or modified to ensure patient compliance and control.<sup>18</sup>

A special pathway maybe be helpful in the process of care if followed when the disease is initially diagnosed. It can serve the aim of early understanding of the disease and assure the diabetic patient receives the benefit of the interdisciplinary and multidisciplinary care model:

This pathway will ensure the patient is fully supported by the health care team and the disease perceived and understood well by the patient earlier Figure 2.

The patient would be better receptive of the information and more flexible and cooperative for any change.

Can this approach and paths have demonstrated can be applied to any chronic condition? My opinion, yes, this could increase the patient awareness about the condition and motivate the acceptance and early proactive participation in the management which reduce the complications that are resulted from chronicity and non-intentional neglect of the condition by patient or physician which is the cause of high cost and burden of chronic diseases. Almost any chronic condition needs patient to learn acceptance and self-management and interdisciplinary care and support which is appreciated through the chronic care model.<sup>25</sup> However, they will vary in the proportion in which element is needed more.

### CONCLUSION

The economic burden increased on the countries because of diabetes and its complications. Patient take time until reach the acceptance stage and follow the proper management plan. Biopsychosocial and empathetic approach can empower the patient through the disease journey until reach the proper monitoring and optimum control.

## ACKNOWLEDGEMENT

I acknowledged Dr. Bayan Alsharif and Mrs. Seham Alnassar, for their support and an extended acknowledgement for my patients who showed good compliance to the management plan.

## CONFLICT OF INTEREST

The author declares no conflict of interest.

## REFERENCES

- Nugent R. Chronic Diseases in Developing Countries. *Ann N Y Acad Sci.* 2008;1136(1):70-9. [cited 2019 Jul 3] Available from: <http://www.ncbi.nlm.nih.gov/pubmed/18579877>
- Zhang P, Gregg E. Global economic burden of diabetes and its implications. *Lancet Diabetes Endocrinol.* 2017;5(6):404-5. [cited 2019 Aug 19] Available from: <http://www.ncbi.nlm.nih.gov/pubmed/28456417>
- National Center for Chronic Disease Prevention and Health Promotion. Health and Economic Costs of Chronic Disease. CDC. 2019. [cited 2019 Jul 3]. Available from: <https://www.cdc.gov/chronicdisease/about/costs/index.htm>
- Bloom DE, Simiao C, Michael K, McGovern ME, Oxley L, Prettnner K, *et al.* The Economic Burden of Chronic Diseases: Estimates and Projections for China. *The Journal of the Economics of Ageing.* 2017. [cited 2019 Aug 19]. Available from: <http://www.nber.org/papers/w23601>
- Marwa TAHM. Cost of Diabetes in the Kingdom of Saudi Arabia, 2014. *J Diabetes Metab.* 2015;06(08):6-11.
- Meo SA, Usmani AM, Qalbani E. Prevalence of type 2 diabetes in the Arab world: Impact of GDP and energy consumption. *Eur Rev Med Pharmacol Sci.* 2017;21(6):1303-12. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/28387897>
- Diabetes prevalence in UK. 2019. [cited 2019 Jul 3]. Available from: <https://www.diabetes.co.uk/diabetes-prevalence.html>
- Statistics Canada. Health Statistics Division: Blood Lead Concentrations in Canadians, 2009 to 2011. *Health Fact Sheets.* 2019;5. [cited 2019 Jul 10]. Available from: <https://www150.statcan.gc.ca/n1/pub/82-625-x/2018001/article/54982-eng.htm>
- Disease Control C. National Diabetes Statistics Report, 2017 Estimates of Diabetes and Its Burden in the United States Background. 2017;1-30. [cited 2019 Jul 3]. Available from: <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf>
- Sagesaka H, Sato Y, Someya Y, Tamura Y, Shimodaira M, Miyakoshi T, *et al.* Type 2 Diabetes: When Does It Start?. *J Endocr Soc.* 2018;2(5):476-84. [cited 2019 Jul 3]; Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5932476/pdf/js.2018-00071.pdf>
- Houlden RL, Sherifali DR, Rabi D, Punthakee Z, Goldenberg R, Katz P, *et al.* S6 Methods S10 Definition, Classification and Diagnosis of Diabetes, Prediabetes and Metabolic Syndrome S16 Screening for Diabetes in Adults S20 Reducing the Risk of Developing Diabetes Management S27 Organization of Diabetes Care S36 Self-Management Educ. *Diabetes Care.* 2018;42(1):S1-193. Available from: <http://guidelines.diabetes.ca/docs/CPG-2018-full-EN.pdf>
- Ross SA. Breaking down patient and physician barriers to optimize glycemic control in type 2 diabetes. *Am J Med.* 2013;126(9 Suppl.1):S38-48. Available from: <http://dx.doi.org/10.1016/j.amjmed.2013.06.012>
- Agiri R. Social Workers and Early Intervention with Diabetic Clients. 2019;1-101.
- Ritholz MD, Beverly EA, Abrahamson MJ, Brooks KM, Hultgren BA, Weinger K. Physicians' perception of type 2 diabetes multidisciplinary treatment team: A qualitative study. *Diabetes Educ.* 2011;37(6):794-800.
- Mosnier-Pudar H, Hochberg G, Eschwege E, Virally ML, Halimi S, Guillausseau PJ, *et al.* How do patients with type 2 diabetes perceive their disease? Insights from the French DIABASIS survey. *Diabetes Metab.* 2009;35(3):220-7.
- Model C. Standards of medical care in diabetes-2014. *Diabetes Care.* 2014;37(Suppl 1):S14-80.
- Street RL, Makoul G, Arora NK, Epstein RM. How does communication heal? Pathways linking clinician-patient communication to health outcomes. *Patient Educ Couns.* 2009;74(3):295-301.
- Hojat M, Louis DZ, Markham FW, Wender R, Rabinowitz C, Gonnella JS. Physicians' empathy and clinical outcomes for diabetic patients. *Acad Med.* 2011;86(3):359-64.
- Jeffrey D. Empathy, sympathy and compassion in healthcare: Is there a problem? Is there a difference? Does it matter?. *J R Soc Med.* 2016;109(12):446-52.
- Epstein R, Borrell-Carrio F, Suchman A. The Biopsychosocial Model 25 Years Later: Principles, Practice and Scientific Inquiry. *Ann Fam Med.* 2004;2(6):576-82. Available from: <http://www.annfam.org/cgi/content/abstract/2/6/576>
- Brooks AD, Edwards KL, Morelli R, Sullivan SR. Patient-Centered Care in Type 2 Diabetes Mellitus. *Endocrinologic/Rheumatologic Care.* 2016;7-33. [cited 2019 Aug 19]. Available from: [https://www.accp.com/docs/bookstore/acsap/a16b1\\_sample.pdf](https://www.accp.com/docs/bookstore/acsap/a16b1_sample.pdf)
- Friis AM, Johnson MH, Cutfield RG, Consedine NS. Kindness matters: A randomized controlled trial of a mindful self-compassion intervention improves depression, distress and HbA<sub>1c</sub> among patients with diabetes. *Diabetes Care.* 2016;39(11):1963-71.
- Fosbury J. Psychotherapy. *Journal of Diabetes Nursing.* 2015;19(8):305-8.
- Model C. Standards of Medical Care in Diabetes-2008. *Diabetes Care.* 2008;31(Supplement 1):S12-54. Available from: <http://care.diabetesjournals.org/cgi/doi/10.2337/dc08-S012>
- Lee S, Aryani F, Chua SS, Kok LC, Efendie B, Thomas P. Chronic care model in primary care: Can it improve health-related quality of life?. *Integr Pharm Res Pract.* 2016;5:11. [cited 2020 Feb 14] Available from: <https://www.dovepress.com/chronic-care-model-in-primary-care-can-it-improve-health-related-quality-peer-reviewed-article-IPRP>

**Cite this article :** Alshareef M. Comprehensive Diabetes Management- What Does it Means?. *Int J Med Public Health.* 2020;10(2):51-3.