Disparities in Diabetic Care

Vasudevan S

a. Department of Urology, Medical College, Trivandrum; Kerala Medical Journal*

Published on 29th September 2016

INTRODUCTION

Diabetes is a devastating disease, not just for the individual, family or society but for the whole globe. 415 million (approximately one in eleven adults) are considered to have Diabetes globally. The corresponding Indian figure is estimated at 69 million. The global prediction for 2040 is that 642 million people (one in ten adults) are going to be affected by Diabetes. Every six seconds a life is lost somewhere due to Diabetes, thus accounting for five million deaths globally. Diabetes also affects one in seven pregnancies. These figures are huge and the situation is alarming which calls for immediate and effective intervention. This has prompted the World Health Organisation (WHO) to declare "Beat Diabetes" as the theme for World Health Day this year.[1]

Considering that, Diabetes is the sixth leading condition causing loss of life and the huge burden it produces on various vital organs, the threat can never be ignored. Diabetes increases risk of heart disease, stroke, blindness and nerve diseases. It accelerates all infections, increases the chance of losing limbs and is the leading cause for failure of kidneys worldwide and in India. The economic burden it produces to the family and society also is quite big.

Though the challenge is huge, we do have solutions. We need to equip ourselves to know the disease, its after math and effectively intervene to prevent the deadly consequences. We have to form our region-specific guidelines to effectively combat the threat of Diabetes.

Diabetes mellitus is a disease that affects patients belonging to a wide spectrum including the young, elderly, those with limited income, those with disabilities, those in remote areas, the minorities and the pregnant. Type I disease affects a younger population. Type II Diabetes affects patients belonging to a wide spectrum. Those patients with a family predisposition may be affected relatively younger in life.

The need for appropriate and prompt diabetes care has been recognized widely. The access to the best possible medical care for diabetes is not always available due to a variety of reasons. This article analyses the reasons for a disparity in health care and the possible impact of this on the natural history of the disease and the role of primary care providers in preventing and correcting the disparities.[2]

HEATH CARE DISPARITIES

In 2002 the Institute of Medicine published its annual report titled "Unequal treatment: Confronting Racial and Ethnic Disparities in Health Care". Since then there has been a steady increase in the awareness, measurement and documentation of disparate health trends across the United States of America.[3] Health care disparities have been defined as differences in the overall disease incidence, prevalence, morbidity, mortality and survival rates in a given subpopulation as compared to the general population.[4] Health care disparities can be due to differences either in the access to health care or in the quality of health care received. These result from a complex interplay of multiple factors. This subject is of interest to the care providers to eliminate bias, researchers and policy makers. The Agency for Healthcare Research and Quality (AHRQ) has recognized several priority groups as targets for addressing disparities. These include racial and ethnic minorities, women, children, low income groups, the elderly, residents of rural areas and individuals with disabilities.[5]

Diabetes care involves a large section of the population and most specialities of medicine are involved at the initial or later stages of the disease. Optimization of diabetes care will reduce the overall disease burden and

Cite this article as: Vasudevan S. Disparities in Diabetic Care. Kerala Medical Journal. 2016 Sep 29;9(3):81–5.

Corresponding Author:
Dr Vasudevan S, Professor, Department of Urology, Medical College, Trivandrum; Associate Editor, Kerala Medical Journal
Email: periamana@gmail.com

prevent or delay progression. That has been kept in mind while discussing this subject. The goals of this article are:

a. Provide an overview of disparities prevalent in diabetes care
b. Highlight the potential causes of these disparities and efforts taken to address these issues
c. Advice primary care physicians on methods to reduce and eliminate disparate trends in diabetes care.

THE SCENARIO IN UNITED STATES

Nearly 24 million individuals in US (nearly 8% of the US population) are affected by diabetes while 57 million (19%) are at considerable clinical risk of developing the disease (pre-diabetics). Racial and ethnic minorities carry disproportionately higher rates of diabetes-African Americans (12%) and non-white Hispanics (11%) compared to the overall prevalence in the whites (7%).[6] As the US population ages, these numbers are set to increase unless the current trends are reversed. It is important from the public health point of view that diabetes is the sixth most common cause of death in the US[7] and the annual costs of the care of diabetic patients are estimated to be $174 billion.[8]

Significant disparities in both the processes of care and health outcomes relevant to diabetes management are noted across the US. According to the most recent National Healthcare Disparities report (NHDR), the proportion of patients with diabetes who had all the three annual services recommended by the American Diabetes Association (appropriate measurement of HbA1c, retinal eye examinations, and foot examinations) in the past year was significantly lower for poor to middle income individuals, Hispanics and those without at least some college education compared to their respective comparison groups. Lower limb amputation rates among patients with diabetes have been higher in African Americans, Hispanics and people with median income below $45,000.[8] The control of blood sugar, blood pressure and lipids has not been ideal among patients with diabetes.[8,10] Dietary and physical activity counselling are mandatory in the care of patients with diabetes. But unfortunately the NHDR 2007 mentions that Hispanics, African Americans, lower middle income individuals, the uninsured and poorly educated patients are often not adviced about overweight and physical activity.[9]

The US health care system now prefers organizations and individual providers with ability to effective, safe, timely, patient centric, equitable and efficient care.[11] Equitable refers to non-differential delivery of care regardless of patient characteristics. Addressing all six of the above factors equally is a tall order for busy clinicians who conventionally have equated volumes and fee for service with earnings and less on performance. These potential new standards reflect a growing recognition of the need for change in the way health care delivery is provided and evaluated.

Patient Provider Dyad

Both the components of this dyad are very closely interrelated. A study of these components will highlight characteristics that explain the observed disparities in diabetic care.[12] Both are relevant to those who regularly attend to patients with diabetes, whether in primary care or specialty settings.

a. Patients with diabetes need to play important roles in their individual care and much of the success will depend on their self management of the chronic illness. Patients vary in their access to health care and in demographic factors like education and income levels. Even after controlling these variables other factors persist. Factors like nonadherence to proposed treatment regimens, scheduled appointments and instructions regarding diet and exercise are definite reasons producing poorer diabetes related outcomes. What are the characteristics of a difficult patient – often patient factors like self efficacy, disease knowledge or health literacy or quantitative skills like numeracy? Health literacy is defined as the degree to which individuals have the capacity to obtain process and understand basic information and services needed to make appropriate decisions regarding their health.[13] Numeracy is a component of health literacy and is defined as the ability to use and understand numbers in daily life.[14] In a survey it is estimated that nearly 90 million American diabetic patients possess basic or below basic literacy skills and nearly 110 million have basic or poor quantitative skills.[15] Both health literacy and numeracy are important skills needed for successful diabetic self management because patients are often required to interpret and apply dietary instructions, measure and dispense insulin and quantify carbohydrate intake among other tasks.[16] Several studies have linked low health literacy and numeracy to poorer diabetes knowledge and symptom recognition, poorer glycemic control, and lower self efficiency or confidence in one's ability to self manage.[17,18] Low health literacy has been showed to be an independent predictor of how much patients benefit from a comprehensive

diabetes self management program.[19]

b. Primary care physicians are responsible for diabetic care of a majority of patients.[20,21] Therefore they are logical targets for advancing efforts to eliminate disparities in diabetic care. Could they be the source of the problem too? The Kaiser Family Foundation conducted a national survey of physicians in 2001 which revealed that most physicians did not think disparity existed in health care.[22,23] Even when they existed they attribute it to patient factors and less likely in their patients or related to provider factors like trust and communication. This is called the "not me phenomenon".[24,25,26] Still there is growing evidence that even well meaning providers can be subject to unintentional and unconscious biases that manifest in differential care of patients. In a study involving primary care physicians in 14 ambulatory care centers and 300,000 patients with diabetes,[27] Sequist analysed whether variations in diabetes outcome occurred by race at the level of individuals care providers. Some of the points studied were physician-directed support tools, capacity for team management and the ability to generate patient mailings for health services like cholesterol screening. The observation was that white patients were more likely to achieve A1C, LDL cholesterol, and blood pressure control than African American patients. Can it be explained by within-physician effects (differences within the same physician panel) or is it as a result of unconscious racial bias or perhaps differential levels of communication between patients and providers.

Unconscious biases and stereotyping can manifest in the decision making process during the patient physician encounter. This is more seen in situations involving time pressure, fatigue, stress, or presence of multi-tasking – all seen in the present day medical practice.[28] Most physicians are aware of their responsibilities as health care providers. But subconsciously many physicians categorize patients based on stereotypes. This behaviour can impact recommendations, counselling, ordering of tests and prescribing patterns.[29-32] Several explanations are offered on how physicians contribute to disparities in health care. Communication is an important remediable factor. Differential communication between the patients and providers results from differing levels of congruence between the two groups. Racial, ethnic, religious and caste concordance between patients and physicians is shown to be associated with improved communication as well as increased satisfaction, trust and perception of quality of care.[33,34] These point to the importance of diversification of the work force but still complete racial/ethnic concordance is impractical.

It is reported that physicians who employed greater patient centred communication skills were able to overcome the barriers of racial/ethnic discordance in terms of patient satisfaction, trust and intent to adhere. Physicians' knowledge of the level of patient education can aid providers in tailoring their delivery of health information and potentially affect both diabetes management and outcomes. Hence providers of diabetes care should consider and evaluate the quality of communication that occurs during their clinical interactions particularly with special types of patients. Use of reminder systems and practice guidelines, personal feedback and continuing medical education programmes can help reduce these biases.

Reduction and elimination of disparities can be achieved in many ways. Providers can assess the health literacy and numeracy levels of patients using either American Diabetes Association materials or validated patient education materials developed by many private researchers specifically designed for diabetic patients and sensitive to the needs of literacy and numeracy. These resources can also be used by the providers to learn skills to improve their communication style especially with the less literate patients.

Providers often experience uncertainty, apprehension and clinical inertia while caring and responding to the needs of racial/ethnic minority patients. Improved cultural competency can address this uncertainty. Cross cultural training can improve provider attitudes, knowledge and skill which may result in better care delivery and patient outcomes.

In conclusion, disparities in diabetic care exist despite better understanding of the disease and its long term management. Providers of health care can play a key role in eliminating these disparities by understanding and addressing patient factors like health literacy and focussing on improved patient communication and cultural competence.

THE INDIAN SCENARIO

The Indian situation has also many disparities in diabetes care mainly of affordability, access to the best of care and the challenge of alternate therapies. India is a vast country with differences in the quality of health care, patient incomes and patient literacy. Detailed studies are needed to study their impact in patient care and patient outcomes.

HEALTH EQUITY AND ITS ADVOCACY

The American Diabetic Association has prioritized the elimination of disparities by placing disparities prominently in their 2016 advocacy priorities list.[2] ADA advocates for Health Equity in the following ways:

1. Promoting Health Equity with increased diabetic research, treatment and education in minority populations
2. Access to Health Insurance that is affordable and provides access to the tools to prevent and manage diabetes and its complications
3. Funding for Diabetes Research and Programs including the overall government commitment to stopping diabetes
4. State legislation to break down barriers such as health care access, affordability and diabetes discrimination issues.
5. Ending Discrimination people with diabetes face at school, work and elsewhere in their lives.

Similar difficulties can be eliminated for our Indian patients also with our concerted activities.

END NOTE

Author Information

Dr Vasudevan S, Professor, Department of Urology, Medical College, Trivandrum;
Associate Editor, Kerala Medical Journal

Conflict of Interest: None declared

REFERENCES

1. Sreejith N Kumar, KP Balakrishnan, Muhammed Shaffi, S Vasudevan IMA Policy Document on control of Diabetes in Kerala 2016: KMJ Vol IX Issue 3 p
2. White RO, Beech BM, Miller S. Health Care Disparities and Diabetes Care: Practical Considerations for Primary Care Providers. Clin Diabetes. 2009 Jun;27(3):105–12.
3. Nelson A. Unequal treatment: confronting racial and ethnic disparities in health care. J Natl Med Assoc. 2002 Aug;94(8):666–8.
4. Minority Health and Health Disparities Research and Education Act. Public Law 106-525, Title I, section 101 (42 USC 287c-31). Washington, DC, US Government Printing Office, Superintendent of Documents, 22 November 2000
5. Kelley E, Moy E, Stryer D, Burstin H, Clancy C. The national healthcare quality and disparities reports: an overview. Med Care. 2005 Mar;43(3 Suppl):I3–8.
6. Centres for Disease Control and Prevention: National Diabetes fact sheet. Atlanta Ga., Centers for Disease Control and Prevention, 2005, p 8.
7. American Diabetes Association. Economic costs of diabetes in the U.S. In 2007. Diabetes Care. 2008 Mar;31(3):596–615.
8. McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A, et al. The quality of health care delivered to adults in the United States. N Engl J Med. 2003 Jun 26;348(26):2635–45.
9. US Department of Health and Human Services Agency for Healthcare Research and Quality: 2007 National Healthcare Disparities Report. Rockville, Md: US Department of Health and Human Services Agency for Healthcare Research and Quality, 2008.
10. Saydah SH, Fradkin J, Cowie CC. Poor control of risk factors for vascular disease among adults with previously diagnosed diabetes. JAMA. 2004 Jan 21;291(3):335–42.
11. Institute of Medicine Committee on Quality of Health Care in America: Crossing the Quality Chasm: A New Health System for the 21st Century, Washington, DC. National Academy Press, 2001.
12. Chin MH, Walters AE, Cook SC, Huang ES. Interventions to Reduce Racial and Ethnic Disparities in Health Care. Med Care Res Rev. 2007 Oct;64(5 Suppl):7S – 28S.
13. Nielson-Bohlman L Institute of Medicine Committee on Health Literacy: Health Literacy: A Prescription to End Confusion. Washington, DC, National Academies Press, 2004.
14. Rothman RL, Housam R, Weiss H, Davis D, Gregory R, Gebretsadik T, et al. Patient understanding of food labels: the role of literacy and numeracy. Am J Prev Med. 2006 Nov;31(5):391–8.
15. Kutner MA, US Department of Education, National Center for Education Statistics: the Health Literacy of American's Adults: Results from the 2003 National Assessment of Adult Literacy Washington DC, US Department of Education, National Center for Education Statistics, 2006.
16. Montori VM, Rothman RL. Weakness in numbers. The challenge of numeracy in health care. J Gen Intern Med. 2005 Nov;20(11):1071–2.
17. Rothman R, Malone R, Bryant B, Dewalt D, Pignone M: Health literacy and diabetic control: JAMA 288 2687-2688 2002.
18. Schillinger D, Grumbach K, Piette J, Wang F, Osmond D, Daher C, et al. Association of health literacy with diabetes outcomes. JAMA. 2002 Jul 24;288(4):475–82.
19. Cavanaugh K, Huizinga MM, Wallston KA, Gebretsadik T, Shintani A, Davis D, et al. Association of numeracy and diabetes control. Ann Intern Med. 2008 May 20;148(10):737–46.
20. Middleton K, Hing E. National Hospital Ambulatory Medical Care Survey: 2003 outpatient department summary. Adv Data. 2005 Dec 14;(366):1–36.
21. Hing E, Cherry DK, Woodwell DA. National Ambulatory Medical Care Survey: 2004 summary. Adv Data. 2006 Jun 23;(374):1–33.
22. Henry J Kaiser Foundation: Race, Ethnicity & Medical Care: A Survey of Public Perceptions and Experiences: Menlo Park, Calif., Henry J Kaiser Foundation 1999
23. Henry J Kaiser Foundation: National Survey of Physicians Part I, Doctors on Disparities in Medical Care: Highlights and Chartpack. Menlo Park, Calif., Henry J Kaiser Foundation 2002
24. Sequist TD, Ayanian JZ, Marshall R, Fitzmaurice GM, Safran DG. Primary-care clinician perceptions of racial disparities in diabetes care. J Gen Intern Med. 2008 May;23(5):678–84.
25. Ayanian JZ, Cleary PD, Keogh JH, Noonan SJ, David-Kasdan JA, Epstein AM. Physicians' beliefs about racial differences in referral for renal transplantation. Am J Kidney Dis. 2004 Feb;43(2):350–7.
26. Lurie N, Fremont A, Jain AK, Taylor SL, McLaughlin R, Peterson E, et al. Racial and ethnic disparities in care: the perspectives of cardiologists. Circulation. 2005 Mar 15;111(10):1264–9.
27. Sequist TD, Fitzmaurice GM, Marshall R, Shaykevich S, Safran DG, Ayanian JZ. Physician performance and racial disparities in diabetes mellitus care. Arch Intern Med. 2008 Jun 9;168(11):1145–51.
28. Aberegg SK, Terry PB. Medical decision-making and healthcare disparities: The physician's role. J Lab Clin Med. 2004 Jul;144(1):11–7.

29. Ashton CM, Haidet P, Paterniti DA, Collins TC, Gordon HS, O'Malley K, et al. Racial and ethnic disparities in the use of health services: bias, preferences, or poor communication? J Gen Intern Med. 2003 Feb;18(2):146–52.
30. Schulman KA, Berlin JA, Harless W, Kerner JF, Sistrunk S, Gersh BJ, et al. The effect of race and sex on physicians' recommendations for cardiac catheterization. N Engl J Med. 1999 Feb 25;340(8):618–26.
31. van Ryn M. Research on the provider contribution to race/ethnicity disparities in medical care. Med Care. 2002 Jan;40(1 Suppl):I140–51.
32. Burgess DJ, Fu SS, van Ryn M. Why Do Providers Contribute to Disparities and What Can Be Done About It? J Gen Intern Med. 2004 Nov;19(11):1154–9.
33. Cooper LA, Roter DL, Johnson RL, Ford DE, Steinwachs DM, Powe NR. Patient-centered communication, ratings of care, and concordance of patient and physician race. Ann Intern Med. 2003 Dec 2;139(11):907–15.
34. White RO, Beech BM, Miller S. Health Care Disparities and Diabetes Care: Practical Considerations for Primary Care Providers. Clin Diabetes. 2009 Jun;27(3):105–12.