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Review Article

Role of One To One Education in Management of Glycemic Control -

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ABSTRACT

Diabetes is major healthcare concern worldwide with horrific repercussions. The disease can easily be prevented with just some awareness and efforts of people. Many suffer from this horrendous condition because of lack of knowledge about the disease. To end this, creating awareness of the disease and its effects on millions of people in the world is critically important. In this article, we will outline the importance of these efforts, discuss the barriers in way of awareness and education, and highlight some important models in this arena. As an integral part of a diabetes prevention and control program strong awareness-raising and health promotion strategies are needed.

INTRODUCTION

Diabetes mellitus is a major clinical problem responsible for 4.6 million deaths annually world-wide [1-3]. The more disturbing fact is that about 50% of those with diabetes remain undiagnosed [4-6]. The Indian Council of Medical Research India Diabetes Study (ICMR-INDIAB study) showed that in India number of diabetic patients will be 101.2 million by 2030 [7,1]. Diabetes can result in short- and long-term complications, many of which – if not prevented and left untreated – can be fatal. All have the potential to reduce the quality of life of people with diabetes and their families. This condition has a number of long-term complications that have serious consequences [8, 9]. Cardiovascular disease (CVD) may cause fatal complications such as coronary heart disease and stroke. People with diabetes are two to four times more likely to develop CVD than people without diabetes, and people with diabetes and high blood pressure are twice as likely to suffer a stroke as people with high blood pressure alone. Diabetic retinopathy may lead to vision loss. The incidence of blindness is 25 times higher in people with diabetes than in the general population. It is estimated that approximately 10% of all people who have had diabetes for 15 years develop severe visual impairment. Diabetic nephropathy may result in total kidney failure and the need for dialysis or kidney transplant. Diabetes is the leading cause of kidney failure in the developed world and accounts for approximately 35–40% of new cases of End-Stage Renal Disease (ESRD) each year. Diabetic neuropathy means damage to the nerve fibres, primarily affecting the legs and feet. Foot ulcers are common symptoms. Infections in these wounds may ultimately result in amputation of the foot and lower leg. People with diabetes are 25 times more likely to lose a leg than people without the condition. Diabetic Complications are Costly. Complications are responsible for most of the costs of diabetes. Hospital in-patient costs for the treatment of complications are the largest single contributor to direct healthcare costs.

IMPORTANCE OF AWARENESS AND EDUCATION

Over the last few decades, there has been increasing emphasis on health communication strategies that are collaboratively planned, implemented, and evaluated [10-14]. Consequently, various winning strategic health communications programmes have been developed, notably in the human immunodeficiency virus / acquired immune deficiency syndrome arena. Education is one of the key components in ensuring better treatment and control of diabetes. This article focuses on the level of awareness and knowledge of diabetes primarily targeting one to one education on glycemic control. Awareness is the first step to any kind of change. Awareness + education is even more powerful. Empowering people with understanding of diabetes may play a crucial role in prevalence reduction of the disease. And education that helps our communities offer support through a very challenging disease is invaluable. The International Diabetes

Federation (IDF) with the support of the World Health Organization (WHO) aims at informing the public of the causes, symptoms, complications and treatments associated with the glycemic condition. The general public remains unaware that elevated levels of blood glucose are associated with long-term damage to the body and the failure of various organs and tissues. Many of these complications are preventable and, therefore, the associated costs are avoidable. Intensive therapy directed at the control of blood glucose, blood pressure, blood lipids, etc. has been shown to be cost-effective. Even if initial costs are increased, they are decreased in the long term as a result of delayed or prevented complications. Maximized awareness within a community implies that all members of that community are aware of the symptoms and prevention of the disease, with the highest awareness needed among healthcare workers at the primary healthcare level. A key priority is creating political awareness around this disease and building organizational structures to promote control activities that will be supported by national funding and concerted political will.

The importance of increased awareness in patients, caregivers, and the community is clear and will have far reaching effects. By raising awareness within the community, we in turn will influence case detection, raise the profile of the disease, advocate effectively for our patients, and, hopefully, mobilize political will. Therefore, it is important that communities' efforts be designed effectively to achieve the desired health outcomes. To date, the best methods to do this have not been systematically evaluated. For communication strategies to succeed they need to be science- and research based with a focus on the formative data and to have identified the solutions, audience, and mechanisms necessary to evaluate the outcomes. With all communication and promotional strategies, consideration should always be given to the possibility of expansion to scale and sustainability. Mass media campaigns are easier to scale up than community interventions are, and this should be part of the initial design if it would be required at a later stage. Health promotion and communication strategies need a long-term goal, and, therefore, they need a vision for sustainability with commitment from significant role players to achieve longevity and continuity in the program.

STRATEGIES TO IMPROVE AWARENESS AND EDUCATION AROUND DIABETES

The key element in successful health program is strategic design. To improve health in a lasting and significant way, it is critical to initiate health promotion strategies that are collaboratively designed, locally adapted, implemented on multiple levels, and comprehensively evaluated. Although it was initially thought that medical communication related only to the doctor addressing the patient, the medical monologue, we now see the limited reach this strategy has had. We have moved into the era of strategic communication characterized by multichannel integration,

multiplicity of stakeholders, attention to evaluation, and evidence-based programming, and the use of mass media, social networks, and a conversation communication process [15].

Some important characteristics to consider follow:

- 1) #Diabetes Doesn't Stop Me Instagram Contest in which one may show the public that one can live well with this disease and chase their dreams – whether that's running marathons, travelling the world, falling in love, or advocating for a cause. The Instagram contest will ask a person to show a photo along with a few sentences on what it's like to live with diabetes.
- 2) Taking The Big Blue Test by testing blood sugar, doing 14-20 minutes of exercise, testing again, and sharing results online.
- 3) Taking a Blue Circle Selfie with the global symbol for diabetes, a blue circle, through the International Diabetes Federation (IDF) WDD selfie app. Sharing it on social media pages and encouraging friends and family to have fun and be creative with this app too.
- 4) Share Educational Facts using social media to educate others about type 1 and type 2 diabetes.
- 5) Mobile phones provides us a unique opportunity to educate people at a fraction of the cost of individual efforts while being language-, culture-, and age-sensitive [16, 17].

Increased attention to evaluation and evidenced-based programming: Finally, increased attention to evaluation and evidenced-based programming will provide much needed data to inform and strengthen the process. Evaluations of complex interventions are not without their problems, especially if the intervention has not been fully defined and developed. Therefore, it is essential to create a framework for the design and evaluation of such complex interventions de novo [18]. The overarching component of an effective health communication program, however, remains a powerful, well-articulated, long-term vision. This needs to reflect the core values and beliefs of the team and the shared scenario for the future. It should stimulate teamwork and inspire a concerted, committed effort in creating constructive conversations around the core messages.

SUMMARY

Diabetes is a disease of global concern. Yet, it is entirely preventable using simple measures. We have evidence from past and current initiatives, instituted in various parts of the world, that comprehensive programs incorporating awareness-raising, surveillance, and prevention can not only control diabetes but also create a global diabetes agenda and construct a platform for collaboration. Communication and health promotion is an essential part of an effective diabetes control and prevention program. The key construct is a strong, shared, long-term vision, which is evidence-based, results oriented, and that strengthens all elements of the program to allow for scalability. Translational research, incorporating these constructs, will serve to bring the needed attention back to this neglected, yet devastating illness.

REFERENCES

1. Atlas, IDF Diabetes. Brussels, Belgium: International Diabetes Federation; 2013. International Diabetes Federation. 2014.
2. Biswas T, Islam A, Rawal LB, Islam SM. "Increasing prevalence of

diabetes in Bangladesh: a scoping review." *Public Health*. 2016; 138: 4-11. <https://goo.gl/5zRP8F>

3. Sheikh Mohammed SI, Andreas L, Uta Ferrari, Michael L, Jochen S, Jonathan B and et al. Healthcare use and expenditure for diabetes in Bangladesh. *BMJ global health*. 2017; 2: e000033. <https://goo.gl/SkUHIJ>
4. Mohan D, Raj D, Shanthirani CS, Datta M, Unwin NC, Kapur A and et al. Awareness and knowledge of diabetes in Chennai-the Chennai urban rural epidemiology study [CURES-9]. *J Assoc Physicians India*. 2005; 53: 283-287. <https://goo.gl/MUit8u>
5. H Harris MI, Eastman RC. Early detection of undiagnosed diabetes mellitus: a US perspective. *Diabetes Metab Res Rev*. 2000; 16: 230-236. <https://goo.gl/jQDnH7>
6. Safita N, Islam SM, Chow CK, Niessen L, Lechner A, Holle R and et al. The impact of type 2 diabetes on health related quality of life in Bangladesh: results from a matched study comparing treated cases with non-diabetic controls. *Health Qual Life Outcomes*. 2016; 14: 129. <https://goo.gl/KFm3Hf>
7. Anjana RM1, Pradeepa R, Deepa M, Datta M, Sudha V, Unnikrishnan R and et al. Prevalence of diabetes and prediabetes (impaired fasting glucose and/or impaired glucose tolerance) in urban and rural India: Phase I results of the Indian Council of Medical Research-India DIABetes (ICMR-INDIAB) study. *Diabetologia*. 2011; 54: 3022-3027. <https://goo.gl/bKTBzb>
8. Sal-sabil T, Islam A, Shariful Islam SM. Risk Factors for Type 2 Diabetes in Bangladesh: A Systematic. *Journal of Diabetology*. 2016; 7: 1-5. <https://goo.gl/PbS6Vu>
9. Siddique MKB, Islam SMS, Banik PC, Rawal LB. Diabetes knowledge and utilization of healthcare services among patients with type 2 diabetes mellitus in Dhaka, Bangladesh. *BMC health serve res*. 2017; 17: 586. <https://goo.gl/dmkYp4>
10. O'Sullivan GA, Yonkier JA, Morgan W, Merritt APA. A field guide to designing a health communication strategy. A resource for health communication professionals. *Toolkits*; 2003: 308. <https://goo.gl/CU8aus>
11. Kearney MH, O'Sullivan J. Identity shifts as turning points in health behavior change. *West J Nurs Res*. 2003; 25:134-152. <https://goo.gl/wcEPxy>
12. Nsanzimana S, Ruton H, Lowrance DW, Cishahayo S, Nyemazi JP, Muhayimpundu R and et al. Cell phone-based and internet-based monitoring and evaluation of the National Antiretroviral Treatment Program during rapid scale-up in Rwanda: TRACnet, 2004–2010. *J Acquir Immune Defic Syndr*. 2012; 59: e17-23. <https://goo.gl/eQQzhX>
13. Ngabo F, Nguimfack J, Nwaigwe F, Mugeni C, Muhoza D, Wilson DR and et al. Designing and Implementing an Innovative SMS-based alert system (RapidSMS-MCH) to monitor pregnancy and reduce maternal and child deaths in Rwanda. *Pan Afr Med J*. 2012; 13: 31. <https://goo.gl/soj5fp>
14. Cohen E, Ashley LD, Karen S, Jennifer M, David N, Unni GN and et al. Integrated complex care coordination for children with medical complexity: a mixed-methods evaluation of tertiary care-community collaboration. *BMC health services research*. 2012; 12: 366. <https://goo.gl/37PBem>
15. Abajobir, Amanuel A, Kalkidan HA, Cristiana A, Kaja MA, Foad A and et al. Global, regional, and national disability-adjusted life-years (DALYs) for 333 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*. 2017; 390: 1260-1344. <https://goo.gl/6NXmHt>
16. Sheikh MSI, Tuhin B, Faiz A B, Kamrun M, Anwar I. Patients' perspective of disease and medication adherence for type 2 diabetes in an urban area in Bangladesh: a qualitative study. *BMC research notes*. 2017; 10: 131. <https://goo.gl/5nMjkt>
17. Bennett DA, Bisanzio D, Deribew A, Gething PW, Hay SI, Ali R. Global, regional, and national under-5 mortality, adult mortality, age-specific mortality, and life expectancy, 1970–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The lancet*. 2014; 390: 1084-1150. <https://goo.gl/zvPZx6>
18. Sheikh MSI, Md Tauhidul I, Anwar I, Anthony R, Clara KC, Aliya N. National drug policy reform for noncommunicable diseases in low-resource countries: an example from Bangladesh. *Bulletin of the World Health Organization*. 2017; 95: 382-384. <https://goo.gl/ZSfKTB>