

At this World Diabetic Day, Let us Work Together to Combat Blindness due to Diabetic Retinopathy & Diabetes-Related Eye Problems

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Editorial

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Editorial

Increased urbanization, consumption of less – nutritious food, more sedentary lifestyles and resulting obesity have all contributed to the dramatic rise in the global prevalence of diabetes, particularly in– developing countries. World Diabetes Day, scheduled to observe on November 14, 2018. The theme for World Diabetes Day 2018 and 2019 is The Family and Diabetes. Being an official United Nations Day since 2006, World Diabetes Day organizes a worldwide campaign, aiming to reach out to over 1 billion people in more than 160 countries. The objective of the global campaign is to draw international attention to the paramount issues related to the diabetic world. This year, a two-year timeframe has been chosen to ensure the best possible planning, development, promotion, and participation [1].

The international diabetic federation (IDF) is expected to develop materials and actions that would contribute to raising awareness pertinent to the impact of diabetes on the family and associated network of the affected. Moreover, this two-year timeframe endeavors to promote the role of the family in caring, preventing and educating the dilemma about the diabetes and its associated complications [2].

Diabetes is escalating rapidly in developing nations. India is deemed as the world's capital of diabetes. The diabetic population in the country is close to hitting the

alarming mark of 69.9 million by 2025 and 80 million by 2030. This denotes that the developing country is expected to witness an increase of 266%. The statistics recently accumulated showcase that culture of diabetes is more prevalent in the urban areas as 28% of the population living in cities are affected, whereas 5% of the rural population are positive with diabetes mellitus [3]. The reason why diabetes is escalating at such a high pace is the fact that one-third of the affected population is not even aware of the fact that they have a chronic condition [4]. This ultimately keeps them from getting timely medical attention. As a result, they develop certain severe complications of diabetic eye diseases and eventually blindness. With such a huge population under the influence of this malicious disease, the complications are bound to incur.

Diabetic eye disease and diabetic retinopathy is one such blinding implication that is affecting nearly 18% of the diabetic population in India. Considering the fact that only a handful of population undergoes regular eye checkups and dilated fundus examination, a majority of the cases remain unaddressed and, hence, this results in worsening of the condition. Diabetic retinopathy is getting more common among the diabetic population in India because there are very few ophthalmologists in the country who are trained to diagnose and treat the diabetic retinopathy. Further, most of the cases, treatment is out of

pocket and treatment (such as retinal laser, antiVeGF injection, vitrectomy etc) difficult to afford for majority of patients in developing world.

Diabetic eye disease/diabetic retinopathy is one of the major reasons for visual impairment and blindness among the diabetic patients across the globe. The overall population affected by this diabetes-related retinal disease is reported to be 382 million as per the statistics of 2013, and it is expected to cross the number of 592 million by 2025 [5]. Diabetes has become the fifth leading cause of blindness across the globe [6].

A major reason behind this prevalence is the lack of awareness among the patients who fail to achieve timely diagnosis and medical attention [7]. As a result, they develop unnecessary blindness. A diabetic patient is 25 times more vulnerable towards the possibility of getting blind as compared to a healthy individual [8].

Taking into consideration these facts and circumstances, it is imperative for the concerned authorities to propagate knowledge and regulate awareness pertinent to the importance of early diagnosis so that its related complications can be dealt with right in the beginning [9]. Adequate knowledge and timely screening can help reduce the unnecessary burden on the healthcare system.

For the patients of diabetes, it is important to undergo bi-annual eye (and dilated fundus) examinations (as well as systemic examination and regular treatment to achieve smooth glycemic control) and all eye care organizations across the globe emphasize this with the lack of trained ophthalmologists in developing nations and the unaware diabetic population, the number of affected cases is increasing every day [10]. Another root cause of the prevalence of the disease is that a huge portion of the population is affected that is dispersed across the country, making it almost impossible for the trained professionals to address.

To ensure that an equal program of screening for diabetic retinopathy is commenced, it is critical to embrace more efficient methods that reach out to various geographical locations [11]. Accessing the rural population is a big challenge for eye care professionals. Telemedicine is one of the most convenient methods that can be implied to promulgate the awareness as well as treatment for the malignant diseases such as diabetic retinopathy. This modernized technique is highly beneficial in regulating timely and efficient screening of

retinal diseases, especially when the number of trained professionals is very low and the affected population is alarmingly high [12].

As mentioned earlier, there are very limited trained retinal specialists who are able to diagnose, treat and manage retinal diseases such as diabetic retinopathy [13]. Societies such as All India Ophthalmologist Society and other similar groups and associations play an imperative role in bringing together the trained and untrained professionals to a mutual platform where they can share their learned experiences, knowledge, and skills. This can ultimately coach the professionals, who are not trained in this particular area, about how to diagnose and treat patients with diabetic retinopathy.

Moreover, the telemedicine screening program can be highly supported by these societies as they have a vast number of professional members who can come together to combat against the enormous challenge that diabetic retinopathy is. These societies work on a national front, which brings together ophthalmologists from all parts of India. Working with a common goal of spreading awareness regarding diabetes and its related retinal diseases and ensuring training and support can substantially help the country lower down the rate of blindness cases due to diabetes.

To diagnose and subsequently manage diabetic retinopathy, it is imperative to start with a comprehensive and detailed eye exam which could help identify the exact severity of the disease. During the examination of the retina, the ophthalmologist needs to look out for any abnormal blood vessels prevailing in the area, the presence of retinal swelling, deposits of fat in the retina, the growth of new blood vessels, an indication of any scar tissue, or bleeding in vitreous. In the case of retinal detachment or abnormalities identified in the optic nerve of the patient; it is the indication of the presence of diabetic retinopathy [14].

To confirm the diagnosis of diabetic retinopathy, investigations such as optical coherence tomography and fluorescein angiography and are useful. Fluorescein angiography helps in detecting the presence and condition of blood vessels in the retina and identify if there are any leaking vessels. Optical coherence tomography, on the other hand, offers cross-sectional images of the retina that denote the health of the retina [15]. In case of unnecessary swelling or thickening of the retina, there is a possibility that fluid is leaking into the

retinal tissue and the patient is suffering from diabetic macular edema [16].

The treatment hugely depends on the type of diabetic retinopathy identified in the patient [17]. If the patient has early diabetic retinopathy, the progression of the disease can be curtailed through blood glucose control [18]. However, if advanced diabetic retinopathy is detected, anti-VeGF injection, laser and/or surgical treatment become a necessity [19]. There are various surgical options to treat the advanced level of diabetic retinopathy including Photocoagulation or focal laser treatment, Pan-retinal photocoagulation or scatter laser treatment, Vitrectomy, or anti-VEGF injection. While the first two procedures entail laser treatment, Vitrectomy is needed in cases of tractional retinal detachment to remove the blood and scar tissue from the retina [20,21]. Whereas, the fourth surgical option uses medications or the vascular endothelial growth factor inhibitors that hamper the growth of new blood vessels [22].

Diabetic retinopathy has become the most common retinal complication of diabetes mellitus leading to partial or complete blindness [23]. To fight against this curse, it is crucial to spread awareness across the country. It is prevailing in not just the remote areas but among the urbanized population as well. This denotes that the issue needs to be addressed on all fronts.

To increase defense against the retinal diabetic condition, the community of ophthalmology and other healthcare fraternity needs to unite on a single ground and embrace this responsibility to pay their part in curtailing the disease. This World Diabetes Day, the individual pledge should be made to endeavor to spread awareness among people pertinent to the complications of diabetes.

More efforts need to be made to regulate frequent eye checkups in urban and rural areas and screenings should be executed throughout the country to carry out early detection of diabetic retinopathy cases. With the help of digital technology and determination to fight the cause, the rate of unnecessary blindness in India can be diminished substantially.

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