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Original Research Article

Knowledge and practices about COVID-19 among diabetic population in a rural set up: A cross-sectional study

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ABSTRACT

Background: With the emergence of a novel human corona virus, it is believed that persons with underlying health conditions or co-morbidities like diabetes mellitus, have an increasingly rapid and severe progression, often leading to death. India as a country has demonstrated an escalating prevalence of diabetes not only in urban populations, but also in rural populations as a result of the urbanization of lifestyle parameters.

Materials and Methods: A cross-sectional questionnaire-based survey was conducted among 250 diagnosed diabetic patients of age group 18-60 years attending outpatient department of Rural Health Training Centre affiliated to the tertiary care hospital.

Result: The responses were tabulated and analyzed for frequencies and percentage. We observed that 70% of diabetic patients of rural population were aware about the high risk of Covid-19 infection in diabetics. Half of the diabetic patients in our study were aware of the technique of hand washing and importance of wearing mask as a precautionary measure in this COVID era.

Conclusion: Prevention is of utmost importance, but for the millions of diabetics managing their disease must remain the priority. Sensitization of population with co-morbidities regarding self-care and precautionary measures must be implemented at root level.

1. Introduction

India's economic boom has been accompanied by a striking upsurge of diabetes. The International Diabetes Federation (IDF) has illustrated that nearly 77 million people in India are suffering from diabetes till date and this number is projected to be about 134 million by 2045. Analysis of secular trends reveals an increase in diabetes prevalence among rural population at a rate of 2.02 per 1000 per population per year. The rate was higher in males (3.33 per 1000 per year) as compared to females (0.88 per 1000 per year).[1] Unfortunately, the vast majority (70%) of India's population lives in rural areas and prevalence of diabetes is rising in rural India. Also, screening for diabetes is seldom done in rural areas, resulting in a much greater burden of undiagnosed diabetes.

Since the initial COVID-19 outbreak in China, much attention has focused that people having co-morbidities like hypertension, obesity, chronic lung disease, diabetes, and cardiovascular disease have the worst prognosis and most often end up with deteriorating outcomes, of which diabetes mellitus having the worst with the infection. This rapid and extensive spread of the COVID-19 pandemic has become a major cause of concern for the persons having co-morbid conditions. The reason for worse prognosis in people with diabetes is likely to be multifactorial.[2]

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In the absence of any definite therapy against COVID-19, it becomes imperative that people with DM take extra precautions, stringently abide by advisories of social distancing and hand hygiene and ensure good glycemic control.[3] Lack of patient education and knowledge about the complications[4] of COVID-19 can worsen the quality of a patient's life. In the current scenario of lockdown, while all are taking necessary precautions like social distancing and staying home to prevent the rapid spread of COVID-19, managing diabetes may seem quite challenging.[5,6]Modulating and ameliorating diabetic complications may improve the overall quality of life for diabetic patients' control.[7] Taking the current global situation into consideration, the present study was planned to assess the knowledge and practices of COVID-19 among diabetic rural population.

2. Materials and Methods

After obtaining permission from the Institutional Ethics Committee (NKPSIMS / IEC/ June/ 8 / 2020), a cross-sectional questionnaire-based survey was conducted among 250 diagnosed diabetic patients of age group 18-78 years attending outpatient department of Rural Health Training Centre, Katol which is affiliated to the tertiary care hospital. The period of study was for 2 months from July 2020 to August 2020. The questionnaire was prepared, validated and pilot tested. Prior to administration of questionnaire, the informed consent was obtained from participants. Knowledge and practices were assessed by a pre-structured, interviewer-administered questionnaire. Responses were recorded based on 3-point Likert scale where 1 was 'Yes', 2 was 'No' and 3 was 'Not sure'. The responses were tabulated and analyzed for frequencies and percentage.

3. Results

The present study was carried out among 250 diabetics (Males= 134, Females=116) of age group 18-78 years. Of which, the duration of the diabetes was less than 5 years in 166 participants and 84 had diabetes for more than 5 years. The responses were tabulated and analyzed for frequencies and percentage as depicted in Table 1.

4. Discussion

The International Diabetes Federation (IDF) has showed that nearly 7 crore people in India were suffering from diabetes in 2015 and this number is projected to be 12.5 crore by 2040. Type 2 diabetes mellitus is an escalating public health problem in India, associated with genetic susceptibility, dietary shift, and rapid lifestyle changes. It is a growing public health concern in India and disadvantaged rural areas are increasingly affected.[1] Representative data on knowledge and awareness about diabetes COVID is scarce in India and is extremely important to plan public health policies aimed at preventing and controlling diabetes. Diabetes prevalence is highest in Indian COVID-19 patients, compared to other countries. However, there are comparatively less published research on prevalence of co-morbidities and associated outcomes from India, despite being third in ranking across the world with regards to the number of COVID-19 patients.

Understanding of diabetes were rooted in traditional health beliefs, personal experience, and information provided by health care providers. It is believed that COVID-19, in those with underlying health conditions or co-morbidities, has an increasingly rapid and severe progression, often leading to death. People with underlying uncontrolled medical conditions such as diabetes; hypertension; lung, liver, and kidney disease; cancer patients on chemotherapy; smokers; transplant recipients; and patients taking steroids chronically are at increased risk of COVID-19 infection.[8]

Very high levels of diabetes have been reported in urban areas of India, but few data are available for rural regions where >70% of the population lives. Our rural setup is 60 km from Nagpur city, Maharashtra, India which provided us with the opportunity to assess the knowledge about covid-19 among diabetic population in rural setup.

We observed that 70% of diabetic were aware about the high risk of Covid-19 infection in diabetics. Patients with co-morbidities should take all necessary precautions to avoid getting infected with SARS CoV-2, as they usually have the worst prognosis.[9] The precautions advised to the general population to reduce the chances of developing COVID‑19 are all recommended for people with diabetes, in addition, as few specific precautions and recommendations are also necessary.[2,4] This is important as very limited treatment options for those with confirmed corona virus infection. Half of the diabetic patients in our study were aware of the technique of hand washing and importance of wearing mask as a precautionary measure in this COVID era. These precautions include regular hand washing with soap and water or use of alcohol-based hand sanitizer, limiting person-to-person contact and practicing social distancing, wearing a face mask in public places, and overall limiting going to public areas at this time unless it is necessary. Low-income countries such as India with less resources and an average socio-economic background, must adopt a strict policy so that the precautionary measures are implemented by all the stakeholders to prevent transmission of the virus. Hence, there is a need for a global public health campaign to raise awareness, on reducing the burden of these co-morbidity illnesses causing deaths in COVID-19-infected patients. In our study 40-60% patients also felt the importance of taking medication, keeping glucose levels in control and following regimes to boost immunity. The percentage is very less even if the normal circumstances are taken into consideration. The people need to be emphasized

Table 1: Responses of diabetics regarding awareness of COVID-19

Parameters	Yes	No	Not sure
Diabetes imposes risk to COVID-19	174(70%)	38(15.2%)	38(15.2%)
Symptoms of COVID-19	215(86%)	15(06%)	20(08%)
Organs affected by COVID-19	164(65.6%)	58(23.2%)	28(11.2%)
Recovery in diabetics is slow	122(48.8%)	70(28%)	58(23.2%)
Covid-19 is a serious health problem	140(56%)	60(24%)	50(20%)
Patient is non-infective if afebrile	68(27.2%)	123(49.2%)	59(23.6%)
Diabetics should take medications regularly	150(60%)	75(30%)	25(10%)
Patient should keep a check on blood sugar level during COVID-19	125(50%)	25(10%)	100(40%)
Diabetics should follow regimes to boost immunity	125(50%)	65(26%)	60(24%)
Technique of hand washing	125(50%)	75(30%)	50(20%)
Wearing mask reduces chances of transmission	150(60%)	75(30%)	25(10%)
Social distancing is important	195(78%)	30(12%)	25(10%)

during their visits regarding importance of maintaining their health and also the complications which could arise due to the co-morbidities. Prevention is of utmost importance, but for the millions of diabetics managing their disease must remain the priority.

5. Conclusion

Despite COVID-19 spreading at a very high rate in India, even in rural population leading to major mishap in health care system. This study shows that the people from rural area are not taking enough precautions to stop the spread. Though they are aware of the symptoms and the spread of virus, people are lacking discipline leading to crowding in public places, not following social distancing norm and not wearing mask every time they go out. Only 40-45% of the rural population is wearing mask every time they go out.

It is not enough to have only knowledge about the spread. It will be only useful when people will take more participation actively to stop the spread by following guidelines given by various health care authorities. Though COVID-19 has huge impact on the lifestyles of people, people are not taking enough precautions for it. People need to be educated regarding hygiene practices and outcome if enough preventive measures are not practiced.

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8. Conflict of Interest

None declared.

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