Original Article

Can social scientists be the change agents for diabetes prevention? Diabetes-related knowledge, attitude, and practice among social scientists

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ABSTRACT

Introduction: Diabetes is an emergency in slow motion in India. There is an urgent need of improving awareness and education on diabetes in the community and the social scientist working in the community health are the important group to make this happen. **Objectives:** To assess the prevalence of diabetes among the social scientists and measure their knowledge, attitude, and practice (KAP) on diabetes. **Materials and Methods:** A delegate of social scientists attending a national conference on social science and health were screened for random blood sugar and a survey was conducted through a structured self-answered questionnaire on KAP in diabetes. Excel Microsoft Office 2010 package was used for descriptive analysis. **Results:** A total of 245 social scientists attended the conference; of them, 211 (86%) social scientists voluntarily participated in diabetes screening, and among them, 99 (47%) voluntarily responded on KAP questionnaire. Prevalence rate of diabetes among social scientists was found to be 9.5% and the study revealed that the knowledge was fair, attitude was positive, and practice was good among the social scientists working in the field of social health. **Conclusion:** The social scientists could be the "Change Agents" for the changing diabetes in the community through appropriate strategies involving them.

Key words: Change agents, diabetes, knowledge attitude and practice, social scientist

INTRODUCTION

As per the new estimates from the International Diabetes Federation (IDF) Edition 5th Atlas, globally more than 371 million people have diabetes, diagnosed and undiagnosed of which nearly 80% live in low-to-middle income countries.[1] If the current trend continues, IDF predicts that the number will rise to more than 550 million by 2030.

With low level of knowledge in the community, it makes the aim of effective diabetes management further difficult.

There is a need of a huge number of volunteers with necessary knowledge of diabetes, to ensure the transition of knowledge through social neighborhood practices. People with better knowledge on the basics of diabetes, can be the "change agents" for better diabetes knowledge in the community.

Professionals working in the areas of social science and health, sociology, demography, psychology have a strong link in the theory and the social aspects of disease management in the community. Thus, these professionals can be the "change agents" for the changing diabetes by improving the knowledge, attitude, and practise (KAP) in the community through their research, advocacy, and other activities of their profession.

Diabetes education is a vital component of effective management in current scenario in developing countries like India. Few studies revealed that knowledge about the diabetes, appropriate attitude, and practice would reduce the risk and morbidity of diabetes.[2]

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The current paper tries to assess the prevalence of diabetes and measure the KAP among the social scientists who are working in the field of social science and health.

MATERIALS AND METHODS

Novo Nordisk Education Foundation organized a diabetes screening camp for all the delegates who attended the conference of Indian Association for Social Sciences and Health (IASSH) at the 10th conference held at Jawaharlal Nehru University (JNU), New Delhi during 19th to 23rd November 2012. The screening camp collected information on socio-economic–demographic background of the population along with the anthropometric and clinical parameters like random plasma glucose (RPG) and blood pressure (BP).

The camp followed the operational guidelines for National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS),[3] Ministry of Health and Family welfare, Government of India for the measurement of RBS and BP. RPG was done through strip method using Accu Check Go Glucometer, Roche, Germany. Similarly BP was measured in sitting position, after 5 minutes rest, using a digital Sphygmomanometer Micro Human Tech, Citizen Systems Japan Co., Ltd, Japan.

A separate questionnaire (KAP Questionnaire [KAP-Q]) was assessed along with the registration form. This KAP-Q was designed by organizing standard questions from the existing studies on diabetes KAP. Participation in filling out the KAP was voluntary. Those who were registered to check their RPG was also provided with KAP-Q to assess the current knowledge on diabetes management of the social health researchers. All the participants were asked to fill the KAP-Q and drop them in the allocated drop box, to ensure confidentiality. Necessary consent has been taken from each and every participant to share the information in the proceedings of the conference and other written and verbal communication.

For the purpose of the study, the following diagnostic criteria[4] were used to classify the diabetes status in the community:
For people with unknown diabetes status:
RBS value less than 140 mg/dl: Nondiabetes
RBS value between 140 and 200 mg/dl: Impaired Glucose Tolerance (IGT) or prediabetes
RBS value more than 200 mg/dl: Diabetes mellitus
World Health Organization (WHO) classification, 2004 was used for the various categories of body mass index (BMI). The following categories of BMI are used in the current study:
BMI of less than 18.5 = Under-weight

BMI between 18.5 and 24.99 = Normal or ideal weight
BMI between 25 and 29.99 = Preobese
BMI >=30 Obese[5]

Similarly the following criteria were used for the classification of waist hip ratio (WHR):
WHR of 0.95 or above for male: High WHR
WHR of below 0.95 for male: Normal WHR
WHR of 0.85 or above for female: High WHR
WHR of below 0.85 for female: Normal WHR

RESULTS

A total of 245 delegates attended the 10th conference of IASSH held at JNU, New Delhi, of whom, 211 (86%) participated voluntarily in diabetes screening, and among them, 99 (47%) voluntarily responded to KAP-Q [Figure 1].

More than two-third of the participants were male. Being the delegates of a social science conference, most of the participants' education background was graduation or higher (87.3%). Of all delegates in the screening program, 7.1% reported a history of diabetes, while the rest were either not aware about their diabetes status or not having diabetes. The mean age of all participated delegates was 38 years; 64% were less than 40 years [Table 1].

A total of 8.1% of the delegates were found to be obese with BMI measurement above 30, 34.8% were preobese, and 49.8% were having normal weight. A total of 26.1% of the delegates were having high WHR.

Prevalence rate of diabetes among delegates was found to be 9.5%. Of them, 7.1% were known diabetes and 2.4% were diagnosed for diabetes for the first time. A high proportion of delegates (17.1%) were found to be prediabetes [Table 2].
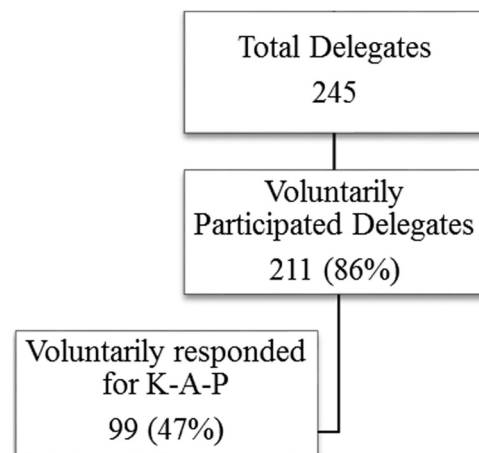

Figure 1: Study sample information

Knowledge–Attitude–Practice among social scientists

The response rate for KAP-Q was 47% (99) in the total 211 delegates who participated in diabetes screening. The questions on the knowledge on diabetes were limited to basic diabetes questions, and signs and symptoms of diabetes.

More than 90% of the social scientists had correct knowledge on the symptoms of probable high blood sugar. However, there were varied responses to the knowledge on diabetes conditions. Most of the participants were aware that diabetes is a condition of high blood sugar, more than 50% of the respondents stated that diabetes is curable [Table 3].

A total of 62.2% of the delegates knew about the condition of hypoglycemia. Most of the delegates agreed that frequent urination (92.8%) is the most important symptoms of diabetes followed by tiredness (92.0%), slow or delayed wound healing (91.4%), overweight (85.7%), always thirsty (80.8%), blurred vision (80.3%), always hungry (79.7%), and sexual dysfunction (68.2%).

Five questions were asked to ascertain the attitude among the social scientists who may be the one of the change agents for the reduction of growing burden of diabetes in India. These attitudes are associated to diet, exercise, overall life style changes, and adherence rate to medication.

High proportions of social scientists (86.2%) have shown positive attitudes toward diabetes management [Table 4].

More than 23.0% of the delegates agreed that they were concerned about high cholesterol foods in their daily food habits. Almost all (98.0%) delegates showed positive attitude toward daily exercise, which would help to control diabetes. Nearly 90% delegates agreed that healthy diet would help control the diabetes and 91.8% delegates had a strong attitude toward changing their life styles if they would be diagnosed with diabetes. As far as the adherence to medication is concerned, 90.8% delegates had a strong attitude toward the use of insulin and other medication as per the advice of medical practitioner.

A good attitude helps in converting them into practices. Participants were asked a set of six questions on good practices for avoiding or delaying the onset of diabetes.

High proportions of social scientists were found to follow good practices for prevention of diabetes. More than 90% of respondents were practicing at least a good practice to avoid or to control high blood sugar. Regarding a regulated diet, many respondents were found not to follow a strict and balanced diet, as 30% were not conscious about their food and 42% eat more than normal if they get their favorite food. More than two-thirds practice a regular exercise in the form of either walking or swimming or yoga.

Table 1: Background variables of the social scientists participated in diabetes screening camp

Gender	%
Male	68.7
Female	31.3
Age	
<40 years	64.0
40–60 years	27.5
60+ years	8.5
BMI	
Under weight (<18.5)	8.1
Normal weight (18.5–24.99)	49.8
Preobese (25–29.99)	34.8
Obese (>=30)	8.1
WHR	
High	26.1
Normal	73.9
Education	
Up to graduation	12.7
Graduate and above	87.3
Self-reported diabetes	
No	92.9
Yes	7.1

BMI: Body mass index

Table 2: Diabetes status of the social scientists participated in diabetes screening camp

Diabetes status	Total screened population	%
Diabetes	15	7.1
Prediabetes	36	17.1
Newly diagnosed diabetes	5	2.4
Nondiabetes	155	73.5
Total	211	100

Table 3: Knowledge on Diabetes among social scientists participated in diabetes screening camp

Questions	Yes (%)	No (%)	Do not know (%)
Is diabetes a condition of high blood sugar?	85.9	11.1	3.0
Is diabetes curable?	54.7	34.7	10.5
Are you aware of a condition in which the blood sugar falls below normal?	62.2	18.4	19.4
Is diabetes a condition of the body not responding to insulin?	48.4	36.6	15.1
Which of the following are signs and symptoms of diabetes?			
Over weight	85.7	11.7	2.6
Always hungry	79.7	14.9	5.4
Always tired	92.0	5.3	2.7
Blurred vision	80.3	11.3	8.5
Frequent urination	92.8	4.8	2.4
Always thirsty	80.8	14.1	5.1
Sexual dysfunction	68.2	16.7	15.2
Slow or delayed wound healing	91.4	6.2	2.5

Table 4: Attitude on diabetes among social scientists participated in diabetes screening camp

Questions related to attitude	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)	Do not know (%)
I may not pay attention on the high cholesterol foods in my daily food habits?	30.6	29.6	23.5	0	3.1
I feel daily exercise will help to control diabetes?	64.3	33.7	0	2.0	0
I feel a healthy diet will help to control diabetes?	57.4	33.0	5.3	2.1	2.1
I am likely to change my life style if I am diagnosed with diabetes?	61.9	29.9	2.1	4.1	2.1
If I am diagnosed with diabetes, I feel it is necessary to follow the doctor's advice on the use of insulin and other medication on control diabetes?	64.3	26.5	4.1	2.0	2.2

Table 5: Practice on diabetes among social scientists participated in diabetes screening camp

Questions related to practice	Yes (%)	No (%)	Do not know (%)
I eat more than normal if I get my favorite dish	57.4	41.5	1.1
I do 30 minutes of moderate physical activity per day, such as walking, swimming, gardening, or yoga	67.3	32.7	0
I eat about the same amount of food at about the same time each day	65.3	31.6	3.2
If I diagnosed as diabetes or not, I do take precautions for my good health	88.7	7.2	4.1
I eat consciously to avoid getting diabetes	64.5	30.1	5.4
I do regular check-ups (visiting the doctor)	36.6	61.3	2.2

Table 6: Gender and age wise variation in K-A-P

K-A-P attributes	Female (%)	Male (%)	<40 Years (%)	≥40 Years (%)
Having correct knowledge	78.2	72.4	71.0	77.5
Having positive attitude	86.1	86.2	86.4	85.9
Currently practicing good habits	59.3	65.3	58.5	69.5

About 89% of the delegates were regularly taking health precautions weather they are diagnosed with diabetes or not. However, a majority of the respondents did not do a regular health check-up (RBS and BP) or visit a doctor [Table 5].

The data did not show a significant difference in the KAP by gender and age. However, it was marked that male respondents were marginally better off in practicing good habits as compared with female participants. Similar result was also found for people with more than or equal to 40 years. Overall, participants were having a good knowledge and were showing positive attitude but less proportion and practice toward diabetes management [Table 6].

DISCUSSION

The results reveal that diabetes-related knowledge is fair, attitude is positive, and the practice is good among the social scientists working in the field of social health. Though the number of people with diabetes was very less but they were having significant knowledge about diabetes management. The main concern is that nearly 30% people with diabetes were not doing good practices to avoid complications of diabetes but they have nearly 96% knowledge on signs and symptoms of diabetes.

Knowledge is a vital weapon to fight diabetes, knowledge will help to assess the risk factors of diabetes and it will increase the motivation to take appropriate treatment and it will also help to do good practices. KAP among community members in a Kenya study showed that only 29% respondents had good knowledge on diabetes and is highly associated with level of education.[6] IDF study on KAP in three rural communities of San Juan, Batangas, Philippines showed that 43% people with type 2 diabetes had good knowledge on diabetes.[7] The current data showing a higher knowledge corroborates the relationship as almost all the respondents are social scientist and associated to some kind of health-related research. Because of this, inclusion of social scientist in any advocacy and program implementation for diabetes prevention would impact the results to a greater extent. In similar lines, associating the social scientist in some voluntary program for community knowledge can help in brining good results for diabetes management programs. A study from Pakistan revealed that proper education and awareness programs can change the attitude in people with diabetes.[8] Higher education and professional job holders are having higher levels of awareness on diabetes management.[9]

Studies indicate that the knowledge among the diabetes patients is poor[10] and social scientists with their link to the community-based programs may influence in improving the knowledge among the diabetes and nondiabetes population as a peer support.[11]

The current data from the screening camp shows a positive attitude toward the avenues for the diabetes

prevention by the social scientist. This attitude would help in the counseling and advocacy practices of this group in any type of community-based diabetes prevention program. A study involving Family Physicians indicated that those who did not have diabetes, themselves, had a better attitude toward diabetic subjects. This can be attributed to a higher level of importance given to this disorder and its complications by nondiabetics.[12] The psychological impact of a chronic illness is known to alter the attitude of the individual.[13]

If patients are not symptomatic, they and their caretakers avoid visiting a doctor. The role of the health care provider, in the case of chronic illness, is different than that of acute conditions.[12] The professionals who are working for public health in a nonmedical environment can complement hugely to the medical practicing professionals to bring a well-balanced KAP for managing diabetes complications and preventing diabetes.

CONCLUSION

The burden of diabetes is huge and continues to put pressure on the economy of the developing and underdeveloped nations. In India, this is more important as every fifth diabetes person belong to India. Therefore it is imperative to work effectively toward implementing a holistic program for diabetes prevention by ensuring proper knowledge in the community. Professional working in the social sector and health may contribute significantly in improving the overall KAP for diabetes prevention in the community. The social scientists are "Change Agents" for the changing diabetes in the community and must actively volunteer to bring the change.

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