



KNOWLEDGE AND COMPLIANCE TO DIABETIC DRUGS AND LIFESTYLE MODIFICATION AMONG DIABETIC PATIENTS RESIDING IN SELECTED URBAN COMMUNITY OF MEGHALAYA

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Abstract:

Introduction: Diabetes is a growing epidemic both in developed and developing countries. It is perhaps the most important non-infective epidemic to hit the globe in the present millennium. There are 425 million people with diabetes in the World. There will be 629 million people with diabetes in the World in 2045. China has the largest number of diabetics followed by India and USA. Diabetes, a complex metabolic disorder cannot be cured but can be controlled with regular exercise, diet and drug. It needs therapeutic life-style modification and self-care management for good control. **Aims:** To assess the knowledge and compliance of diabetic patients towards diabetic drugs and lifestyle modification and also to find out the relation between their knowledge and their compliance. **Methodology:** A descriptive cross-sectional study was conducted in areas under Pynthorbah Urban Health Centre of Meghalaya. Convenient sampling of 130 type 2 diabetic patients were recruited and information was collected using semi-structured questionnaire. Analysis was done using SPSS 21 version. **Result:** Out of 130 respondents 59.9% were females and 40.8% were males. In relation to age, majority of them were in the age group of 46-59 years (46.2%). The study also reveals that majority (48.5%) of the respondents were Christians, also most (42.3%) of them had only primary education. In relation to occupation, 40% of the respondents were housewives and according to their family income, majority of them earn < Rs. 20,000 per month. In regards to their personal habits, 35.4% of them were addicted to betelnut consumption. The study also found that 63.8% of the respondents had good knowledge of the diabetic drugs and 58.5% of them had good knowledge of lifestyle modification. Further the study also found that 58.5% of them comply with diabetic drugs, 57.7% with diet, and 66.2% comply with lifestyle modification. There was a significant association found between knowledge and compliance of diabetic patients towards lifestyle modification ($p < 0.05$). **Conclusion:** Diabetes is one of the non-communicable diseases that threaten the health of the general people. So, there is a need to reach the community people in their setting and educate them about diabetic lifestyle modifications so as to improve their health status and prevent complications.

Keywords: Diabetic drugs, Compliance, Knowledge, Lifestyle modification, Type 2 diabetes.

Introduction:

Diabetes is a chronic health problem and becoming more common in the world today. Globally, records show that every 21 seconds someone is diagnosed with diabetes and also around 40-70 % of populations is affected by foot ulcer. There are 425 million people with diabetes in the World. China leads the world today with the largest number of diabetes in any given country followed by India and USA¹. Diabetes is a complex metabolic disorder that cannot be cured but can be controlled with regular exercise, diet and drug. Complications like kidney failure and blindness are affecting diabetic patients. So, it needs therapeutic life-style modification and self-care management to achieve good control².

India, the second most populous country of the world, has been severely affected by the global diabetes epidemic. International Diabetes Federation says India's prevalence of diabetes among 20-79 year olds is 10.4%. India is second only to China, which has 72.9 million diabetics (2017) that will increase to about 134.3 million by 2045¹. According to IDF, up to 70 % cases of DM could be prevented through the adoption of healthy lifestyle. Bano A et.al.(2017)³, Umeh AE et.al. (2014)⁴& Sharma et.al (2010)⁵ reported that majority of the participants had poor knowledge and poor compliance to diabetic lifestyle modification. So, there is a need to reach the diabetic patients in their setting and assess their lifestyle modifications in order to have base line data for creating health awareness regarding diabetes and prevention of complications.

Method

A Descriptive cross-sectional design was adopted for the study. Data collection procedure was done from 2nd January 2018 to 27th January 2018. The study was conducted in Pynthorbah and Golflink, areas under Pynthorbah Urban Health Centre, Shillong Meghalaya. Participants for the study were recruited using convenient sampling method which includes all type 2 diabetic patients with duration of 6 months and above. Pregnant diabetic patients and diabetic patients who are unable to communicate either written or oral were excluded from the study. A total of 130 participants were recruited for the study. A sample size of 105 was estimated for the study.

Data were collected using semi structured questionnaires. Data were analyzed using Statistical Package of Social Science 21.0 version. Estimation of the cut-off score for knowledge and compliance of Diabetic drugs and lifestyle modification was drawn based on median value calculated by statistical procedures. \geq Median was taken as good knowledge and $<$ Median was taken as poor knowledge. Similarly, \geq Median was taken as compliance and $<$ Median was taken as Non-compliance.

Result

A total of 130 respondents were enrolled in the study. Out of 130 respondents, 59.2% were females within the age group of 46-59 years (46.2%). It was found that 42.3 % of them had completed their primary level. Majority (40%) of the respondents were housewives with a monthly family income of $<$ Rs 20000 (53.1%). About 44 (33.8%) of the respondents had family history of diabetes. The distribution of the respondents according to the duration of illness is shown in Table.1

Table 2 presents the distribution of respondents according to duration of Diabetic Clinic attendance from the previous visit. It is noted (40%) of the respondents visited in 0-1 month.

It is noted that 63.8% of the respondents had good knowledge regarding diabetic drugs (Fig1) and 58.5% of the respondents had good knowledge on Diabetic Lifestyle modifications. With regards to the compliance of the respondents, 58.5 % were having good compliance towards diabetic diet (Fig 2), 57.7% were having good compliance towards life style modification (Fig 3) and 66.2% were having good compliance towards life style modification.

Table 3 shows that there is a significant association of the knowledge of respondents towards diabetic lifestyle modifications and their compliance towards diabetic diet ($p=0.02$, at 95% level of Significance). The Respondents' Knowledge regarding Diabetic Diet influences their Compliance behavior. Table 4 shows that there is a significant association of the knowledge of respondents towards diabetic lifestyle modifications and their compliance ($p=0.02$, at 95% level of Significance). The Respondents'

Knowledge regarding Diabetic Lifestyle Modification influences their Compliance behavior. No association was found between knowledge of respondents towards diabetic drugs and their compliance towards diabetic drugs

Table 1: Distribution of respondents according to Duration of Illness (n=130)

Duration of Illness	Frequency (f)	Percentage (%)
0-2Years	29	22.3
>2-4Years	29	22.3
>4-6Years	28	21.5
>6-8Years	16	12.3
>8-10Years	12	9.2
>10Years	16	12.3

Table 2: Distribution of respondents according to Duration of Diabetic Clinic Attendance from the previous visit n=130

Duration of Last Diabetic Clinic Attendance from the previous visit	Frequency (f)	Percentage (%)
0-1 Month	52	40.0
>1-2Months	30	23.1
>2-3Months	22	16.9
>3-4Months	9	6.9
>4-5Months	1	0.8
>5-6Months	8	6.2
>6Months	8	6.2

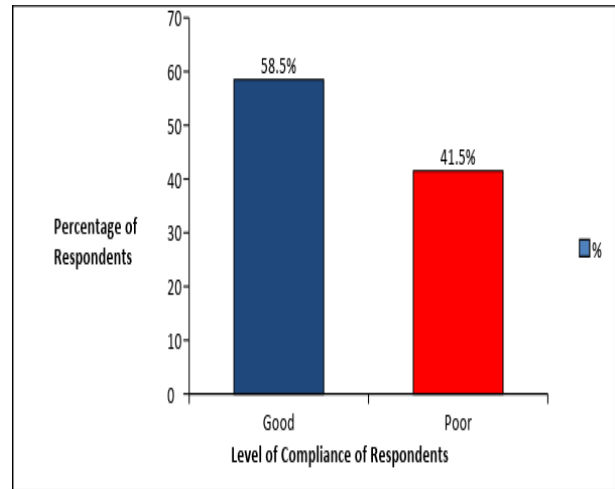


Figure 2. Compliance score of the respondents towards Diabetic diet (n=130)

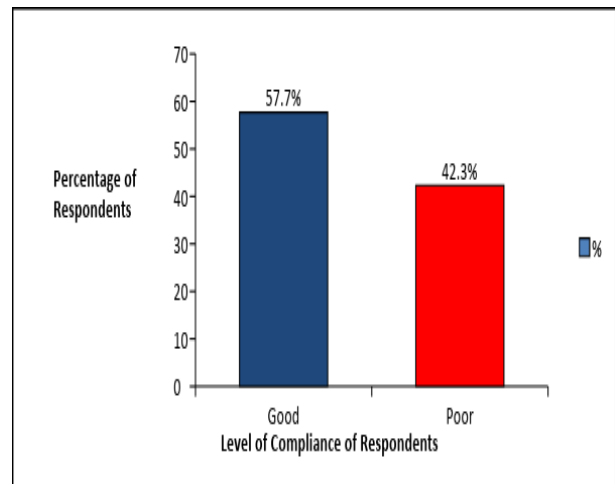


Figure 3: Compliance score of the respondents towards Diabetic Lifestyle modifications (n=130)

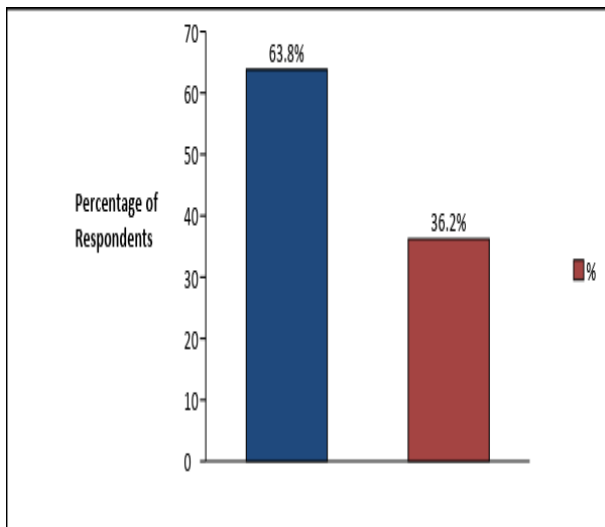


Figure 1: Knowledge score of the respondents (n=30)

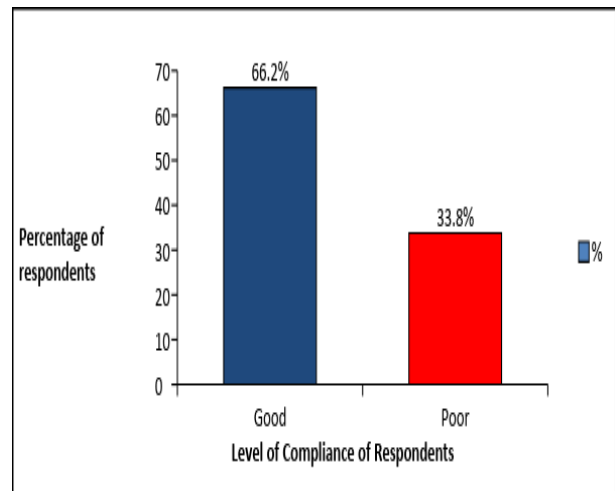


Figure 4: Compliance score of the respondents towards Diabetic Drugs (n=130)

Table 3: Association between Respondents' Knowledge regarding Diabetic Diet and Their Compliance (n=130)

Knowledge level	Non-compliance	Compliance	df	Tabulated value	Calculated Value	p Value
Poor Knowledge	31	23	1	3.84	9.579	*0.02
Good Knowledge	23	53				
Total	54	76				
*p<0.05= significant						

Table 4: Association between Respondents' Knowledge regarding Diabetic Lifestyle Modification and Their Compliance (n=130)

Knowledge level	Non-compliance	Compliance	df	Tabulated value	Calculated Value	p Value
Poor Knowledge	31	23	1	3.84	9.579	*0.02
Good Knowledge	24	52				
Total	55	75				
*p<0.05= significant						

Discussion

The present study found that the mean age of the Diabetic patients participated in the study was 55.8 (SD=10.655) years. Majority of the respondents were in the age group 46-59 years (46.2%). This shows that type 2 Diabetes is common in the middle age group people. Similar findings were found inconsistent with Nikhil P. Nawal et al (2010)⁶ mean age was 55.82 ± 10.2 years and CK Priyanka Raj et al (2010)⁷ mean age was 56.64 ± 11.38 years. Among 130 respondents, 59.9% of them were females. As is evident, the majority of participants were females, as has been reported in previous studies on this subject: DP. Parera et al (2013)⁸, 90% were female and 10% were male. Syiem D. et al (2012)⁹ also reported that 12.8% were female and 11.9% were male diabetics.

In the present study, it was found that 83 (63.8%) of the respondents had good knowledge (Median≥4) on diabetic drugs and only 47 (36.2%) of them had poor knowledge (Median<4). Comparison could not be done as no recent relevant literature was available.

This study found that majority, 76 (58.5%) of the respondents had good knowledge (Median≥7) on Diabetic Lifestyle modifications and only 54 (41.5%) had poor knowledge (Median<7) which is more as compared to the study conducted by Umeh AE et.al⁴ in 2014, where only 34% of the respondents had good knowledge on lifestyle modification and also a study conducted by Okanta HI et.al (2011)¹⁰ where 92.2% of respondents had poor knowledge of diabetic lifestyle modification. The findings of the present study is also more as compared to the study conducted by El azayiem Bayumi H et.al (2015)¹¹ which reported that 116 (77.3%) of the respondents had poor knowledge on lifestyle modification and even Ikombele JB (2011)¹² reported that 92.6 % of the respondents had low knowledge on lifestyle modification.

The present study also found out that majority, 76 (58.5%) of the respondents complied with diabetic diet, and only 54 (41.5%) of them did not which is similar as compared to the study conducted by Worku A.et.al (2014)¹³, where the overall proportion of dietary practice among the respondents was reported to be 51.4%. The

findings of the present study are more as compared to the study conducted by Ebrahim Z, et.al. (2014)¹⁴ where 12.5% of the respondents comply with dietary advice.

In relation to compliance to diabetic lifestyle modification, in the present study it was found out that majority 75 (57.7%) of the respondents complied with it, and only 55 (42.3%) did not which is similar to the study conducted by Umeh AE et.al (2014)⁴ where 59.3% of respondents complied with lifestyle modification. However, it is more as compared to the findings of the study conducted by Ebrahim Z, et.al. (2014)¹⁴ where only 21.1 % of the respondents comply with lifestyle modification and also the study conducted by El-AbbassyAmal (2014)¹⁵ which reported that majority, 84.0% of the respondents were not complying to exercise.

In the present study, it was found that majority 86 (62.2%) of the respondents complied to diabetic drugs and only 44 (33.8%) of them did not which is similar to the study conducted by Rwegerera G.M. et.al (2017)¹⁶ where 58.2% found to comply to anti-diabetic medications and also similar to the study conducted by Mukherjee S, et.al¹⁷ in 2012, where 57.7% of the respondents show good compliance to the anti-diabetic drugs. The findings of the present study are found to be more as compared to the study by Muliyl DE et.al (2012)¹⁸ where 52 % of the respondents were compliant to diabetic drug and are less compared to the study conducted by Teleb SM, & El-Shazly AA (2003)¹⁹ where 78% of the respondents had good compliance with the diabetic drug regimen. Furthermore, the present study found that there was a significant association of the knowledge of respondents towards diabetic lifestyle modifications and their compliance towards diabetic diet with p value > 0.05. The study also found that there is a significant association of the knowledge of respondents towards diabetic lifestyle modifications and their compliance towards diabetic lifestyle modifications with p value > 0.05. Comparison could not be done as no relevant literature was available.

Conclusion

Patients living with DM will have a better outcome of care if primary healthcare providers

regularly and effectively advise them on lifestyle modifications and continue to emphasize their importance at every clinic visit. This should improve their knowledge and compliance behavior and ultimately lead to better control of blood sugar.

In this study it was found that most of the type-2 diabetic respondents had good knowledge and good compliance regarding management of Diabetes. It was also found that there was significant association of the respondents' knowledge and their compliance towards diabetic lifestyle modification. Hence, practicing self-care behaviors, lifestyle modifications and having adequate diabetes knowledge must be emphasized in order to achieve good glycemic control. More emphasis on dietary and lifestyle modifications is needed from healthcare providers as well as continuous monitoring of patients' compliance to glycemic control and diabetes self-care behaviors is important. These can be taken in to considerations in order to attain the maximum compliance rate of diabetic patients towards their medications and lifestyle modifications.

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Conflicts of interest: The authors have none to declare.

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