



Assessment through KAP among Diabetic Patients at Hyderabad Sindh

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Received 3rd January 2017 and Revised 24th May 2017

Abstract: Diabetes is one of chronic problem all around the globe. Discrepancies and misconceptions are very frequent and serious issues, generally occurs in health care system and specially in case of chronic conditions management process like DM, and it has been reported to be another major problem that drawback treatment outcomes and through its big burden over patients as well as the whole health care system, disturbing prescribing pattern and driving away from the recommended diabetic regimen guidelines. A total of 240 patients were recruited from different clinics of Hyderabad for this study, and a specially designed KAP questionnaire was used to collect required data and information about diabetic patients regarding disease, complications and its management. It has been found that males represented highest portion of recruited sample with 142(59%) case while females were accounted for the rest 98(41%) case, the vast majority of patients were from urban areas with 164(68%) case, in compare to 76(32%) from rural areas. Based on age distribution most of diabetic patient lied in 40-49 years age group i.e. 102(42.5%) followed by 30-39 years i.e. 48(20%), 50-59 years i.e. 44.01(18.34%), 60-69 years i.e. 36(15%), 70-79 years i.e. 9.98(4.16%). Regarding patients history it has been revealed that almost 70% [162(67.5%)] of patients had a positive family history for diabetes. 82(34.16%) patients were illiterate, 116(48.34%) were primary pass, 42(17.5%) were secondary pass. About 40% (39.16%) of patients were suffering from diabetes for less than 5 years. Overweight and obese patients represented respectively 32.5% and 23.34% of the collected sample, and 52.5% of the patients were smokers. In respect of complications associated with DM it has been found that, about 30% of patients were suffering from primary hypertension. Furthermore, when blood glucose level were tested it has been found that only 45.83% of patients were in normal ranges from 126-200mg/dL, and the rest of patients were fluctuating between hyper and hypoglycemia. Regarding treatment regimens it was clear that most of patients were on combination therapies with 64.1%.

Furthermore, when knowledge of the patients were tested it has been observed that only 35% of patients understood the term diabetes, 74.17% of them did not even know the normal values of blood glucose level, and 65.83% did not know any of the symptoms of the disease patients. However, it has been spotted that only 18.33% of patients knew about the disease associated complications. Investigations concerning life style of the patients revealed that 68.33% of them do not regularly exercise even though they have some free time for it, and 61.67% of the patients were not following any specific diet plan, and unfortunately 75.83% of patients do not monitor their glucose level or even check their glycemic stat on regular bases. To conclude, it is crystal clear that proper medication counseling is essential in any health care system, it plays a vital role in management of chronic conditions like diabetes mellitus. Medication counseling may also help to avoid many undesirable side effect, prevent serious health related events, slow down or even stop the deterioration in health condition of the patients, and reduce mortality rate in society and help to reach the optimum goals of any treatment plan.

Keywords: Diabetes, Counseling, KAP, Hyderabad.

1. INTRODUCTION

Diabetes Mellitus a well-known disease and a very popular chronic condition affecting hundreds of millions of patients worldwide, responsible for millions of hospitalization annually, and leading to an extremely diverse diseases and complications that may vary from a slight disturbance of blood glucose level to life threatening conditions and sometimes even death. According to the WHO this disease has become not only an endemic condition that was linked to the rich nations and developed countries any more, but also it has become more prevalent than ever causing worldwide outbreaks including the developing world (Federation, 2010). It has been estimated that more than 422 million patients is suffering from DM all around the world, representing almost 9% of adults' populations and unfortunately those numbers are continuously increasing (Global report on Diabetes, 2016).

In 2015, The International Diabetes Federation (IDF) has reported that there is more than 35.4 million diabetic patient in the Middle East and North African regions (MENA), out of which more than 7 million case was reported from Pakistan alone with occurrence rate of 6.9% among adults aged from 20-79 years in Pakistan (Diabetes In Pakistan 2015), (Din., 2014). In fact Pakistan unfortunately happed to be the 7th in the world in term of prevalence of diabetes and the 133rd in term of health care system due to many reasons and factors, and type-II diabetes represented the vast majority of patients (Ansari, *et. al.*, 2015), (Hussain, 2016). It has been anticipated that by 2040 D.M will become globally so pandemic that every 10 persons 1 at least will be diabetic, and some studies expected that by 2030 there will be more than 14 million patient of DM in Pakistan (Hussain, 2016), (Ansari, *et. al.*, 2014).

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The most important preventive measure that can be taken to prevent DM outbreak in the future is to arm people with knowledge through proper medical counseling and massive education, because it is the key factor to maintain a healthy life style. To make the patients understand diabetes we have to know first where does their knowledge limits or boundaries lies?, by using specifically designed knowledge, attitude, and practice (KAP) surveys we can reach very important assessable quantitative as well as qualitative information that is very essential to clear any possible misconception, correct frequent discrepancies, explain familiar misunderstanding and bust out the most common health related myths (Monde, 2011).

Self-control, life style adjustment, psychological support and constant monitoring have an incredible impact on physiological state of patients, which proved to be deeply correlated with positive therapeutic outcomes and improves the quality of life of diabetic patients and even proved to be helpful to reduce the impact of risk factors among population in risks of getting DM (Standards of Medical Care in Diabetes, 2014), (Nathan, 2014), which all can be achieved by proper medical counseling. In the USA, similar actions were taken in multiple studies to analyze the implications of proper education and counseling of patients which proved to be helpful to improve the quality of life of diabetic patients with type-II diabetes (Alexandria, 2012). Which in prolonged time represents a high probability of reducing the risks of common macro as well as micro vascular complications associated with diabetes. Proper medical counseling, patient education, and supportive groups certainly have a significant effect to improve the patient compliance which in term leads to more strict control over blood glucose level which is very effective to eliminate the serious complications of DM or at least help to lessen its effect on prolonged time.

One of the major responsibilities of a clinical as well as community pharmacist is to participate and collaborate in various efforts required to eliminate possible risks factors of developing DM, as well as to help mopping up the damage caused by this chronic condition by mass education about medication, regular counseling, developing individualized treatment plans, increasing the general awareness about avoidable risks factors, and helping the patients to develop healthy life style, proper dieting program, and maintain strict control over patient blood glucose levels (McCulloch, 2016). In fact some studies has suggested that a combination of proper targeted education, commitment, and compliance of diabetic patients can be helpful to reduce the chance of future complications by motivate the patients to change their current behavior and change

their approach toward surrounding circumstances and cultural factors (McInnes, et. al, 2011), (Kent, et. al, 2013).

2. MATERIAL AND METHODOLOGY

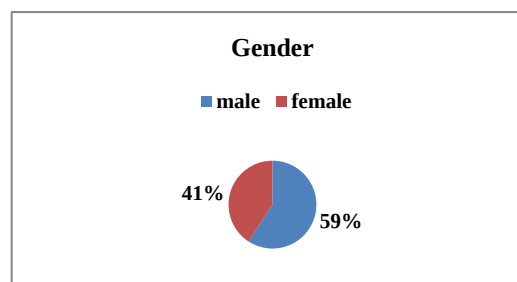
A six-month qualitative descriptive study was carried out at various clinics of Hyderabad city. A total of 240 patients were selected for this study by random sampling method. Upon each visit of patient to the clinic, glycemic level was checked by using glucometer. However, the data was collected by designing the KAP (knowledge, attitude and practice) questionnaire, which explain overall knowledge provided to the patient about therapy, their disease, life style modification, body care, self-cleanliness, blood glucose level monitoring and management of the patient that were recommended to be followed at least twice a month. An informed consent from patient and HCP was obtained before inclusion in study.

3. RESULTS

A total of 240 samples were randomly selected from Hyderabad city especially Latifabad for this comparative study to gather the information useful for the diabetic patients regarding medication counseling of type II diabetic patients. In this study the collected data is distributed in various aspects that explore the patient knowledge about the rational use of medication and their disease status.

Gender	Number of Patients	Percentage
Male	142	59%
Female	98	41%
Total	240	100%

Table 1 show the analysis result about the gender wise distribution of data. Out of 240 diabetic patient 149



were male and 98 were female. The high prevalence of diabetes found in male i.e. (59%) than in females i.e. (41%).

Table 2 shows the analysis result about the area wise distribution of collected data. In respect of area, most of the people belonged to urban areas i.e. 164 rather than rural areas i.e. 76. Diabetes mellitus were found higher in the people of urban area i.e. 68% such as it is believed that the people of urban areas are more

health conscious and pay attention to their health than the people of rural areas i.e. 32% as they are mostly unaware about their health issues.

Table 2: Area wise distribution of Patients

Locality	Number of patients	Percentage (%)
Urban	164	68%
Rural	76	32%
Total	240	100%

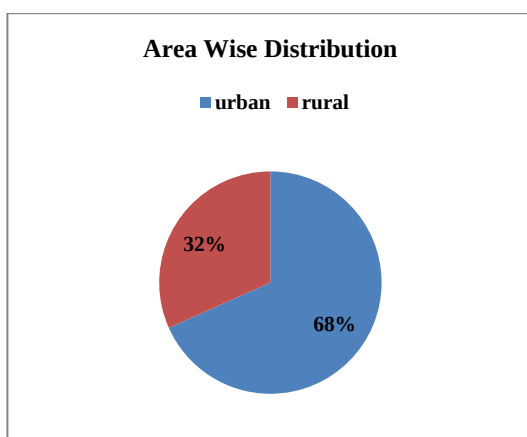


Table 3 shows the analysis results about the age wise distribution of the data. It shows that the maximum samples of the patients belonged to 40-49 years i.e. 102(42.5%) and 30-39 years i.e. 48(20%) followed by 50-59 years 44(18.34%), 60-69 years i.e. 36 (15%) and finally 70-80 years i.e. 9.98 (4.16%).

Table 3: Age wise distribution of patients

Age Group	Number	Percentage
30-39	48	20%
40-49	102	42.5%
50-59	44.01	18.34%
60-69	36	15%
70-80	9.98	4.16%
Total	240	100%

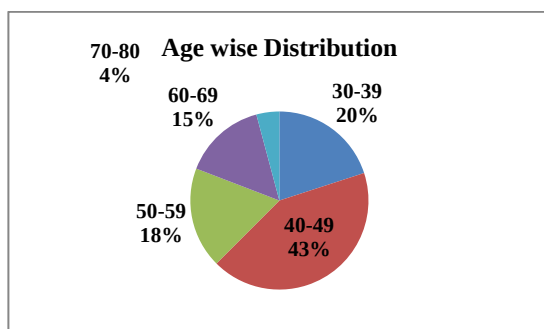


Table 4 shows the analysis results on the basis of occurrence of sign and symptoms of diabetes mellitus in the patient. The increase number of patient was found

during study with the positive history of diabetes i.e.162 (67.5%). However, the sign and symptoms of diabetes are blurring of vision, increased thirst and hunger, weight loss, frequent urination, fatigue, slow healing of wounds, areas of darkened skin etc. and the number of patient found without history of diabetes were 78 (32.5%).

Table 4: Distribution of patients on the basis of their family.

Family History	Number of patients	Percentage
Present	162	67.5%
Absent	78	32.5%
Total	240	100%

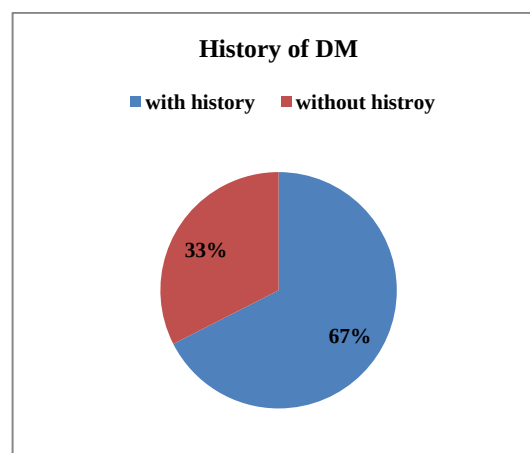


Table 5 shows the result about the literacy rate of the patient selected during the study. The greater number of the patient were found primary passed i.e. 116(48.34%) followed by the number of patient were illiterate 82(34.16%) and patient who passed secondary level were 42 (17.5%).

Table 05: Distribution of patients as per literacy rate.

Literacy rate	Number	Percentage
Primary pass	116	48.34%
Illiterate	82	34.16%
Secondary pass	42	17.5%
Total	240	100%

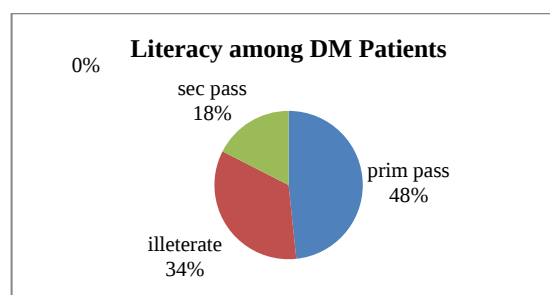


Table no 6 shows the data gathered by KAP (Knowledge, attitude and practice) questionnaire that

were answered by participant regarding their Knowledge about the disease. According to this table, 94 (39.16%) patients suffering from diabetes since 3-5 years. 78 (32.5%) patients were overweight and 56(23.34%) patients were come under obesity. More than half of the patients 126(52.5%) were smokers. 70(29.17%) patients systolic BP was lying between 130-139mmHg, while 74(30.83%) patients diastolic BP was lying between 80-89mmHg. Furthermore, fasting blood sugar of 110(45.83%) of patients was between 126-200mg/dl. 154 (64.1%) patients were on

combination therapy majority of the patients 156 (65%) did not know about the term diabetes. 178(74.17%) of the patient did not know about the normal range of diabetes and 158 (65.83%) patients did not know the symptoms. The greater number of the patients 196(81.66%) had no idea about complication of diabetes. 164(68.33%) of the patients did not exercise regularly and 148(61.67%) did not follow the proper diet plan. Most of the patients 182(75.83%) did not check their glycemic level.

Table 06: Data regarding KAP

Knowledge, attitude& practice	Number of patients	Percentage
Number of the patients having diabetes since 3-5 years	94	39.16%
Number of the overweight patients	78	32.5%
Number of Obese patients	56	23.34%
Number of patients who are Smokers	126	52.5%
Monitoring of blood pressure		
Systolic BP between(130-139mmHg)	Systolic B.P 70	29.17%
Diastolic BP between(80-89mmHg)	Diastolic B.P 74	30.83%
Monitoring of fasting blood sugar Between (126-200mg/dl)	110	45.83%
Number of the Patients having combination therapy	154	64.1%
Number of patients did not know about term diabetes	156	65%
Number of patients did not know about the normal range of diabetes	178	74.17%
Number of patients did not know the symptoms of diabetes	158	65.83%
Number of patients did not know about complications of diabetes	196	81.66%
Number of the patients did not exercise regularly	164	68.33%
Number of the patients did not follow the diet plan	148	61.67%
Number of the patients did not checked their glycemic level	182	75.83%

4. DISCUSSION

This is a comparative study to observe the outcomes of proper counseling among the various diabetic patients of different age groups, different belongings and genders. Moreover, one study shows a data of 13 (72%) male and 5 (28%) female out of total 22(18) patients. At contrary, this study has a huge sample size of 240 patients were analyzed. However, this study includes 142 males and 98 females respectively.

Subsequently precedent study was done over the period of 12 month on the other hand, this study was accomplished within 6 months. Moreover, this study elaborates 67.5% of diabetic patients, comparatively to

a study which contains 25% of the total sample size Furthermore, previously done study was based exercise on the management of blood glucose levels.

However, this study is based on overall effects of counseling as per KAP (Knowledge, Attitude and Practice). Similarly, one of the previous study data showed that a huge number of patients 69 (37.91%) belonged to 51-60 years and lowest number of patients 25 (13.74%) belonged to 17 years [25]. However as per our study a largest number of patients 102 belonged to 40-49 years and lowest number of patients 9.98 belonged to 70 - 80 years.

5. **CONCLUSION**

Diabetes is one of the most challenging issues now days that requires proper counseling to manage it properly. However, a pharmacist is the mandatory component. Moreover, it was generally observed that male gender was found more dominant than female gender. Subsequently, urban settings had more diabetic ratio than rural settings. Furthermore, it was also analyzed that majority of patients didn't know about their illness and its control. So it is clear that Diabetes requires proper management that can only be ensured by the end of pharmacist who can aptly pragmatically motivate the patient to topple down the diabetes induced morbidity and mortality rate in society.

REFERENCES:

- Ansari, R. M., J. B. Dixon, J. Coles, (2015). Type 2 Diabetes: Challenges to Health Care System of Pakistan, International Journal of Diabetes Research 4(1): 7-12. doi:10.5923/j.diabetes.20150401.02
- Ansari, R. M., J. B. Dixon, C. J. Browning (2014) Self of type 2 diabetes in middle-aged population of Pakistan and Saudi Arabia. Open J Prev Med 4:396-407.
- Alexandria, V. A., (2012). Medical Management of Type 2 Diabetes, American Diabetes Association 2013.
- Diabetes in Pakistan (2015). Middle East and North Africa region (MENA), International Diabetes Federation 166 Chaussee de La Hulpe, B-1170 Brussels, Belgium.
- Din I., (2014). Health Outcomes and the Pakistani Population. Cambridge Scholars Publishing. .
- Global report on Diabetes, (2016). World Health Organization. ISBN 978 92 4 156525 7 (NLM classification: WK 810). https://issuu.com/uniccanberra/docs/who_global_report_on_diabetes (Accessed on 2nd January 2016)
- Hussain, A., I. Ali, (2016). Diabetes Mellitus in Pak: A major Public Health Concern Arch Pharma Pract 7: 30-32
- International Diabetes Federation. (2010). Types of diabetes. Retrieved September 25, from <http://www.idf.org/types-diabetes>. (Accessed on 12th July 2015)
- Kent, D., M. G. D. 'Eramo, P. M. Stuart, J. M. McKoy, P. Urbanski, S. A. Boren, L. Coke, J. E. Winters, N. L. Horsley, D. Sherr, R. Lipman, (2013). Reducing the risks of diabetes complications through diabetes self- and support. Popul Health Manag. (2): 74-81.
- Monde, M. D., (2011). Pathway Component: Caring capacity & practices; health care. Date of Design: Search Category: health & nutrition services; caring capacity, norms, & Contact Institution: <http://www.medecinsdumonde.org/Outils/Nous-ontacter> practices URL: <http://tinyurl.com/ok9p72y>. (Accessed on 17th August 2015)
- McCulloch, D. K., (2016). MD, Patient education: Preventing complications in diabetes mellitus (Beyond the Basics). September 2016
- McInnes, A., W. Jeffcoate, L. Vileikyte, F. Game, K. Lucas, N. Higson, L. Stuart, A. Church, J. Scanlan, J. Anders, (2011). Foot care education in patients with diabetes at low risk of complications: a consensus statement. Diabet Med. 28(2): 162–167.
- Nathan, D. M., (2014). for the DCCT/EDIC Research Group. The Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications Study at 30 Years: Overview. Diabetes Care 2014 Jan; 37(1): 9-16.
- Standards of Medical Care in Diabetes (2014). American Diabetes Association, Diabetes Care 37 (Supplement 1): S14-S80.