

# Role of Counselling to Improve Compliance in the Management of Type 2 Diabetic Mellitus, an Experience of 61 Cases at Tertiary Care Facility Hyderabad Sindh

Counselling to Improve the Management of Type 2 Diabetic Mellitus

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## ABSTRACT

**Objective:** To assess role of counselling to improve compliance in management of T2 Diabetic Mellitus patients.

**Study Design:** Cross sectional study.

**Place and Duration of Study:** This study was conducted at the Department of Medicine, Isra University Hospital Hyderabad from January 2018 to September 2018.

**Materials and Methods:** Sample size was 61 cases, informed consent was obtained from all patients enrolled, proforma was designed and filled for each patient. Data was analyzed on SPSS version 21, Chi – square test was applied for statistical significance.

**Results:** In our study gender distribution of patients in the study population, males 27 (44.24%) and females 34 (55.71%), the commonest age group 50 – 59 years, males 12 (19.67), females 20 (32.78%), rural 44(72.12%) urban 17 (27.86%). Out of 61 patients 5 lost follow up, one death due to fatal complication of DM and 55 were followed up. Out of 55patients40 (72.72%) improved compliance after counselling male 21 (38.18%) and female 19(34.54. %) respectively, mean of HbA1c was  $8.1 \pm 2$ . Out of 55 patients 15 (27.27%) did not improve in compliance after counselling, male 5 (9.09%) and female 10 (18.18%), mean of HbA1c was  $11.4 \pm .3$ . Chi – square value was significant (p-value <0.05)

**Conclusion:** There is significant improvement in compliance level after counselling in T2DM patients. Health care providers, pharmacists and other professionals should play their role to improve the patient's knowledge of disease and treatment of T2DM.

**Key Words:** Counselling, improvement, management, T2 Diabetic Mellitus

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## INTRODUCTION

Type 2 Diabetic Mellitus (T2DM) is the most common form of Diabetic Mellitus, which is 90% - 95% of all diabetic patients<sup>1</sup> and is expected to increase 439 million by 2030<sup>2,3</sup>. It is a global public health problem and keeps a steady increase in developed counties, such as US and Japan. And it has become serious issue at epidemic rate in developing countries such as India, Pakistan, Bangladesh, Brazil and Indonesia<sup>4</sup>. Among which the prevalence rates are 12.1%, 16.98% and 9.7% in India, Pakistan and China respectively<sup>5,6,7</sup>.

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Rising rate of childhood obesity worldwide is serious risk factor for T2DM<sup>8</sup>.

There are many risk factors leading to non – compliance in the management of T2DM<sup>9</sup>. Adherence to life style changes (diet and exercise) and drug treatment improves compliance<sup>10</sup>.

Drugs and life style modification to control T2DM and related conditions can only be effective through compliance to the physician advice. World Health Organization (WHO) has shown that adherence to long – term therapy for chronic illnesses in developed countries averages around 50%<sup>11</sup>. Compliance rates are reduced for patients with chronic diseases than with acute diseases, so decline in adherence is most rapid after 6 months of therapy<sup>12</sup>. Such reduced adherence not only results in poor health outcomes but it also has a significant impact on health care costs.<sup>11</sup>

## MATERIALS AND METHODS

Total 61 patients of T2 Diabetic Mellitus were enrolled from outpatient clinics of medicine department of Isra University Hospital Hyderabad after informed consent was obtained. Study design was cross-sectional

interventional and based on non - probability purposive sampling. Study period was from January 2018 to September 2018. Compliance was defined as adherence to physician’s advice regarding diet, exercise, drug treatment and improvement in HbA1c level. These patients were counseled and followed up monthly for 3 months to observe the improvement in compliance after counselling. Data was analyzed on SPSS version 21, Chi – square test was applied for statistical significance.

**Inclusion Criteria:**

1. Age above 30 years
2. Willing for participation

**Exclusion Criteria:**

1. Age below 30 years
2. Not willing for participation

**RESULTS**

Table 1. shows distribution of patients in the study population, males 27 (44.24%) and females 34 (55.71%), the commonest age group 50 – 59 years, males 12 (19.67%), females 20 (32.78%),

Table 2. shows distribution of patients according to residential area, rural 44 (72.12%) male 23 (37.70%), female 21 (34.42%. Urban 17 (27.86%), male 4 (6.55%), female 13 (21.31%).

Table 3. shows distribution of patients according to outcome of follow-up. Out of 61 patients 5 lost follow up, one death due to fatal complication of DM and 52 were followed up.

Table 4. shows distribution of patients according to improvement in compliance after counselling in the management of T2DM, out of 55 patients 40 (72.72% improved, male 21 (38.18%), female 19 (34.54%), mean of HbA1c was 8.1 ±.2

Table 5. shows distribution of patients according to non - improvement in compliance after counselling in the management of T2DM. Out of 55 patients 15 (27.27%) did not improve, male 5 (9.09%), female 10 (18.18%), mean of HbA1c was 11.4 ± .3

**Table No.1: Distribution of patients according to age and gender(n=61)**

Age groups	Male		Female	
	No.	%	No.	%
30 – 39 years	7	11.47	1	1.64
40 – 49 years	6	9.83	8	13.11
50 – 59 years	12	19.67	20	32.79
> 60 years	2	3.27	5	8.19
Total	27	44.24	34	55.73

**Table No. 2: Distribution of patients according to residential area (n=61)**

Residence	Male		Female	
	No.	%	No.	%
Rural	23	37.70	21	34.42
Urban	4	6.55	13	21.31
Total	27	44.25	34	55.73

**Table No. 3: Distribution of patients according to outcome follow up n=61**

Group	Number
Follow up	55
Lost follow up	5*
Death	1*

\*All were females

**Table No. 4: Patient improvement in compliance after counselling(n=55)**

Gender	Number	%age	Mean of HbA1c % ± SD
Males improved	21	38.18	8.1±.2
Females improved	19	34.54	
Total	40	72.72	

\*p – value <0.05

**Table No.5: Patient non - improvement in compliance after counselling (n=55)**

Gender	Number	%age	Mean of HbA1c % ±SD
Males not improved	5	9.09	11.4± .3
Females not improved	10	18.18	
Total	15	27.27	

\*p – value <0.05

**DISCUSSION**

Non-adherence is a major factor that could lead to morbidity and mortality in diabetic patients. World Health Organization have emphasized that “increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments. Adherence to long-term therapy for chronic illnesses among developed countries averages only 50%<sup>11</sup>

In our study population improvement in compliance rate after counselling is 72.72%. Which is comparable with study done by Olufunsho Awodele et al (Lagos, Nigeria 2015)<sup>13</sup>in which Overall improvement in compliance rate was 86.8 %. Likewise, other studies reported by Krishnaveni Kandasamy et al (Tamil Nadu, India 2017)<sup>14</sup>, Ann Marry Swaroop et al(Bangalore, India 2016)<sup>15</sup>Anoop Kumar et al (Kerala, India 2015)<sup>16</sup>, Shareef J et al (Karnataka, India 2016)<sup>17</sup>, Mathew EM et al (Tamil Nadu, India 2014)<sup>18</sup>, Kumari G et al (New Delhi, India)<sup>19</sup>and Malik S. et all (Karachi Pakistan 2016)<sup>20</sup> have demonstrated significant improvement in glycemic control and other end points.

Our study is inconsistent with study conducted by Bhurji N et al (UK, Canada 2016)<sup>21</sup> on South Asian countries patients from Pakistan, India, Bangladesh living in Europe vs Western countries patients with type 2 diabetes. Overall, there was little improvement in HbA1c level although other outcomes did improve. The smaller studies in India demonstrated significant

improvement in glycemic control and other end points.<sup>21</sup>

## CONCLUSION

It can be concluded that there is significant improvement in compliance level after counselling in T2DM patients. Health care providers, pharmacists and other professionals should play their role to improve the patient's knowledge of disease and treatment of T2DM.

### Author's Contribution:

Concept & Design of Study: Shamsuddin Solangi  
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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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