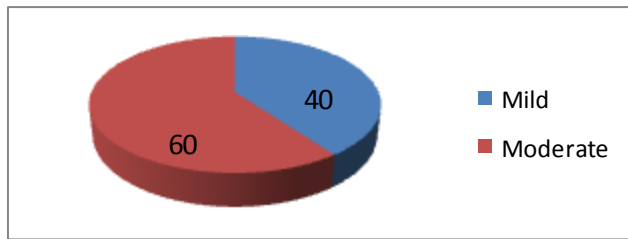








Out of total score of 38, majority (62%) of patients acquired a score between 13 to 25 which revealed that they had moderate level of psychosocial problems associated with insulin administration. 34.3% of patients acquired a score between 0 to 12 showing that they had mild problems and remaining 3.7% of patients scored between 26 to 38 and revealed to have severe problems (mean  $16.5 \pm SD 5.3$ )



**Figure 6:** Distribution of subjects according to severity of overall problems

Out of total score of 47, majority (60%) of patients had scored between 16 to 31 which revealed that they had moderate problems and remaining 40% of patients acquired a score between 0 to 15 which showed that they had mild problems associated with insulin administration (mean  $17.5 \pm SD 5.8$ )

**Table 5:** Correlation of the duration of insulin administration and the problems associated with insulin administration

Problem	Correlation	P value
Physical problems and duration of insulin therapy	0.051	0.382
Psychological problems and duration of insulin therapy	0.252**	0.000
Overall problems and duration of insulin therapy	0.242**	0.000

Study revealed that psychological problems are more than physical problems. It was found that there is a significant correlation between duration of insulin administration and problems associated with insulin injection.

## 5. Discussion

Present study revealed that the physical problems associated with insulin injection were minimal with majority of them reporting tenderness at the site of injection as their major problem [5]. A study conducted on insulin injection practices showed that 65% of patients had injection site problems. It can be concluded that patients need skill development on insulin administration techniques and need to be given opportunity for hands on training to minimize the insulin injection site problems.

Majority of subjects avoided carrying insulin vial while travelling. It was also found that the disease never hindered them from undertaking long trips or parties. This shows that majority of them used to skip insulin doses during those days and was not worried about changes in blood sugar levels that it may bring about. This supports the results of a study in US which showed that patients intentionally omit insulin doses due to interference with daily activities, injection, pain and embarrassment [6]. Several studies shows that decreased

insulin regimen compliance among patients with diabetes mellitus leads to inadequate glycaemic control [7]. Hence it is essential to emphasize compliance to insulin therapy for better glycaemic control.

The present study revealed that there is a significant correlation between duration of insulin injection and problems associated with insulin injection. It shows that patients on insulin injection for a longer duration are at higher risk for developing problems related to insulin injection. This can be minimized by following correct insulin injection techniques, proper site rotation, single use of needles and regular self site checkups.

## 6. Recommendations

On the basis of the findings of the study, the following recommendations were made

- The study can be conducted on a large sample and in multiple settings so that findings can be generalized
- An observational study on insulin administration techniques can be done in home setting
- An experimental study can be conducted on the effect of training package on insulin administration techniques

## 7. Conclusion

The following conclusions were made based on the findings of the study.

- Majority of subjects had moderate level of problems associated with insulin injection
- There is a significant correlation between duration of insulin injection and problems associated with insulin injection.

## References

- [1] Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long term complications in insulin dependent diabetes mellitus. *N Engl J Med.* 1993; 329: 977-986
- [2] United Kingdom Prospective Diabetes Study (UKPDS). Overview of 6 years therapy of Type II diabetes: a progressive disease. *Diabetes* 1995;444: 1249-1258
- [3] Centers for Disease Control and Prevention. Age adjusted percentage of adults with diabetes using diabetes medication, by type of medication.[internet] [cited 14 Jan 2015] Available from: [www.cdc.gov/diabetes/statistics/meduse/](http://www.cdc.gov/diabetes/statistics/meduse/)
- [4] Berzin RS. Translating research in insulin injection technique: implications for practice. *Diabetes Educ* [internet] 2012 Sep-Oct [cited 3 Feb 2015]38(5): 635-43. Available from <http://www.ncbi.nlm.nih.gov/pubmed/>
- [5] Patton SR, Eder S, Scwab j. Survey of insulin site rotation in youth with Typ1 diabetes mellitus. *J Peediatr Health Care* [internet] 2010 Nov-Dec [cited 13 Jan 2015];24(6):365-71. Available from <http://www.ncbi.nlm.nih.gov/pubmed/209714>
- [6] Meece J. Dispelling myths and removing barriers about insulin in Type 2 diabetes. *Diabetes Educ*[internet]

2006 Jan-Feb[ cited 20 Jan 2015 ];32(1suppl):9S-18S.Available from  
<http://www.ncbi.nlm.nih.gov/pubmed/16439485>

- [7] Crawford CL, Johnson JA. To aspirate or not too aspirate. That is the question: An integrative review of the evidence. Nursing [internet]2012 Mar [cited 12 Jan 2015];42(3):20-5.Available from  
<http://www.ncbi.nlm.nih.gov/pubmed/22343951>

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