

IMPACT OF HEALTHY LIFE STYLE ON THE PATIENTS OF DIABETES MELLITUS

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ABSTRACT

RESEARCH QUESTION: Impact of healthy life style modification on the patients of diabetes and impaired group

STUDY DESIGN: Prospective study design

STUDY SETTING: Swarn Jayanti Park and adjacent sector 18 , Indira Nagar, Lucknow

STUDY PERIOD: January to June 2010

RESULTS: The results of the analytical findings of the data shows that the fasting glucose reading decreases significantly as the outcome of medication, along with the adoption of healthy life style and the same conclusion is on the impaired group.

KEY WORDS: Impaired glucose, glucometer, structured interview

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INTRODUCTION

Diabetes mellitus type 2 is an iceberg of disease, in which 150 million people suffer worldwide.

Years	World	South East Asia	Nepal	India
2000	171,000,000	46903000	436000	19.4million
2030(projected)	366000000	119541000	1328000	60million

Ref:- WHO estimates

It is estimated that 20% of the current global diabetes population lives in south east asia region. Unfavourable modification of lifestyle ,and dietary habits that associated with urbanization are believed to be the most important factors in the development of diabetes .A bulk of evidence from studies indicate that the ethenic,presumably genetic, vulnerable of Asians manifests into diabetes is subjected to unfavourable lifestyle .Unfortunately,there is still inadequate awareness about the real dimensions of the problem among general public.India has the highest number of diabetes patients in the world,as such there is an urgent need to put a break on this escalating epidemic of diabetes . One such step would be the education to lay people in general and diabetic patients in particular with this view point under consideration a project was undertaken and carried out,under the main theme with sole objective. 'To asses the effect of adopting life style modification on the patients of diabetes and the impaired group who are likely to get diabetes.'

AIMS

- ✓ To increase the knowledge about the disease,and selfcare.
- ✓ To improve\promote a change in health related behavior of patients of diabetes and impaired group.
- ✓ To emphasize importance of control measures in avoiding further complications.
- ✓ To develop understanding balance between nutrition,exercise and medication.
- ✓ To enable patients to live with quality life through self restrain in terms of unhealthy practices like drug addiction,junkfood,and sedentary habit etc.

MATERIAL AND METHOD

The present study was conducted under following steps.

- (a) Identification of problem area and problem group.The present study was conducted at the swarnjayanti park in the city of Lucknow in india.The publicity was done in

the park and nearby houses of the area,that free test for the detection of diabetes will be conducted at the gate of the park,on a fixed date and time

- (b) Design of tools:-
Structured interview formats(interview form and history sheets)were used for collection of information from diabetes patients and impaired group.
Major aim of the interview were-
 - To secure information
 - To form a hypothesis
- (c) Technique used:-
 - Lecture\discussion
 - Group discussion
 - Demonstration and video
 - Question and answer sessions
 - Diabetes support group sessions(discussion among diabetic patients)
- (d) Use of technique:- Fasting blood glucose was measured by means of glucometer 4.6

Interpretation of blood test for fasting blood glucose

NORMAL VALUE	IMPAIRED FASTING VALUE	DIABETES
<110 mg/dl	110-126mg/dl	>126mg/dl

Note: In the use of glucometer the blood is drawn from fingertips i.e.from capillary which contains more glucose than venous blood,so for all practical purpose,10 mg/dl from capillary value is deducted to compare with venous blood.

Field intervention:-in this study 264 persons participated.By random selection of study and control group as follows:

- (i) Diabetic group:-
 - (a) Diabetic group who will take drug and exercise both (study group)
 - (b) Diabetic group who will take drug only and no exercise. (control group)
- (ii) Impaired group
 - (a) Impaired group who will take exercise(study group)

- (b) Impaired group who will not take exercise
(control group)

The main field activities/intervention in diabetes and control group were as follows:

- (i) Collection of the history of the respondent participated in study ,through structured interview method.
- (ii) Examine pulse rate,B.P.,eyes,skin,foot were done.
- (iii) During study of 6 months ,two fasting blood glucose tests were done one before study and in the end of study.
- (iv) Education for prevention ,control and treatment ,skin care,foot care,risk factor,frequent diet,exercise etc,were imparted.
- (v) Distribution of the handout.
- (vi) Videofilm demonstration.
- (vii) Demonstration and practice of yoga especially pranayam,bhastrika,kapal-bharti,and anulom,viyloom, and preksha yoga (as practiced by jain munis by concentrating on the left side of abdomen) together with brisk walking according to their cardio-respiratory reserves were taught.
- (viii) Counseling questions and answers sessions were held.
- (ix) Meeting of diabetic support group was done once a month, where the patients explained through experiences
- (x) They were made aware that drugs will not give effective results if exercise is not done.
- (xi) Sessions of 2-4 days each were done in all 6 months period of study.
- (xii) Free distribution of antidiabetic tablets of glimepride per day was given to diabetic patients.The tablet has to be taken once daily ½ an hour before breakfast.
- (xiii) The diabetic patients were also told about hypoglycemia and no exercise should be done on empty stomach.They were also instructed to keep with them sugar,toffee etc and if they feel more dizziness, other symptoms of hypoglycemia they should take more sweet,sugar etc.They were also told to keep a diabetic card with them.

Fasting blood glucose observed in impaired group who were doing exercise(mg/dl)

S.No.	FIRST- READING	LAST-READING
1	125	115
2	119	116
3	126	110
4	120	122
5	111	100
6	123	123
7	121	115
8	113	111
9	115	105
10	126	115
11	119	105
MEAN LEVEL	120	112

In testing the significance of difference between mean levels of fasting blood glucose level of impaired group at two point of time i.e. pre and post adoption of healthy lifestyle ,especially exercise the p-value is found to be less than 0.01 i.e. $p < 0.01$, which is highly significant,It means that the difference between mean levels as before and after adopting healthy lifestyle is as before and after adopting healthy lifestyle is highly significant in case of impaired group who are doing exercise to indicate that mean level fasting blood glucose has decreased considerably after adopting healthy lifestyle.

Fasting blood glucose observations in diabetic group ,who were doing exercise (mg/dl) along with medication.

S.No.	FIRST- READING	LAST-READING
1	140	115
2	132	112
3	134	125
4	130	130
5	128	118
6	155	130
7	140	128
8	129	115
9	135	125
10	138	115
11	148	122
MEAN LEVEL	137	121

In testing significance of difference between mean levels of fasting blood sugar of diabetic group at two points of time i.e pre and post adoption of healthy life style, and medication by t-test,the corresponding p-value is found to be less than 0.01 i.e. $p < 0.01$

This shows that difference is highly significant and that the mean fasting blood sugar level has decreased significantly, as a result of medication by t-test, corresponding p-value is found to be less than 0.01 i.e. $p < 0.01$

This shows that difference is highly significant and that the mean fasting blood sugar level has decreased significantly as a result of medication along with adopting healthy life style.

Diabetic group (taking medicine without any exercise):-

Following Table gives comparison of fasting blood sugar levels of diabetic group patients who are exclusively on medicine and not doing any exercise

S.No.	FIRST- READING	LAST-READING
1	165	148
2	144	129
3	180	179
4	140	129
5	130	118
6	138	136
7	130	127
8	128	126
9	140	139
10	128	127
11	130	129
MEAN LEVEL	141	135

In testing significance of difference between mean levels of fasting blood sugar of diabetic group, exclusively on medicine without any exercise, as at two points of time i.e first and last reading, the p value for the t-statistic is found to be less than 0.05 but more than 0.01 i.e $p < 0.05$ but > 0.01 to indicate that it is significant but not highly significant.

This shows that mean level of fasting blood sugar has no doubt decreased as a result of medication but not to that extent as in case of medication along with exercise.

OBSERVATION AND RESULT

- (i) Diabetic group:-the mean level of fasting blood sugar in diabetic group with exercise has decreased as a result of medication but not to that extent as in case of along with exercise.
- (ii) Impaired group:-the mean level of fasting blood glucose has decreased considerably after adopting healthy life style and exercise.

DISCUSSION

Analytical finding of data result to that "Fasting blood sugar level decreased significantly in diabetic group, as well as in the impaired group.

Thus diabetes is a disease where patient has to be knowledgeable about diabetes i.e. he has to know what he has to do about it, and how and why? In no other disease patient education is more important. Several studies have also shown that patient education ensures his willingness, and active participation in his own health management, thereby preventing serious complications, and minimizing the need of hospitalization.

During intervention it was observed that:

1. • They have the disease
 - Its complications are serious
 - It can be controlled
 - Medication alone can become efficacious if combined with healthy lifestyle
2. • Successful education transferred the patient from phase one to phase five as follows:
 - Phase 1. Shock and denial of reality
 - Phase 2. Revolt (why it is happening to me)
 - Phase 3. Bargaining (leave me alone. I will think over treatment)
 - Phase 4. Hopeful
 - Phase 5. Acceptance

CONCLUSION

The present study has been an attempt to know the effectiveness of healthy lifestyle on people suffering from diabetes mellitus having raised fasting glucose tolerance on the volunteers.

The findings arrived during the course of study were as under:

Fasting blood from the fingers of volunteers were collected and measured by glucometer.

By random selection 11 patients in each of the following group were selected

(1) DIABETIC GROUP

- (a) Diabetic group on drug and on exercise (study group)
- (b) Diabetic group on drug only and no exercise (control group)

(2) IMPAIRED GROUP**(a) Impaired group on only exercise (study group)**

The results of final fasting blood glucose level was encouraging. On the whole on the basis of testing of hypothesis by t-test of significance, and corresponding p-value the following conclusion was drawn.

- The mean fasting glucose level in diabetic patients with drug and exercise were highly significant probability level.
- The mean level of fasting blood glucose has considerably decreased after adopting a healthy lifestyle especially exercise in impaired group.

RECOMMENDATIONS

The main recommendations, as on the basis of the findings of the present study conducted on a group of clear diabetic patients are as under:

- Healthy lifestyle should be part and parcel of treatment.
- Medication can only be fully successful if healthy lifestyle is willingly accepted by the patients of the diabetes.

However, the above findings need caution keeping in view that the study was restricted only to few people

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