IJIRR

International Journal of Information Research and Review
Vol. 03, Issue, 09, pp. 2787-2789, September, 2016

Research Article

RET ON PPBG AND OBESITY AMONG TYPE II DIABETIC SUBJECTS

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ARTICLE INFO

Article History:

Received 20th June 2016
Received in revised form
15th July 2016
Accepted 25th August 2016
Published online 30th September 2016

Keywords:

RET
PPBG.

ABSTRACT

Effects of RET among Indian type II diabetic subjects in improving glycemic control using PPBG were established in this 12 weeks study with due statistical means. Also a drop in waist circumference following RET are proven scientifically as key results of this research conducted among type II diabetic patients.

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INTRODUCTION

Between the age group of 30-69 years non communicable diseases accounts for premature mortality in India for 55% in 2015 (Cancer, Heart Diseases and Diabetes) as reported by WHO 2016. LANCET 2013 reported that India has the third largest obese population with 11% being obese. India having 62 million known diabetic subjects, at least 30 million of them are obese suffering from multiple health complications of both diabetes and obesity (Swagata yadavar 2015), most people with type II diabetic mellitus are not active (Mortro etal 2007) and regular physical activity may prevent or delay diabetes and its complications (Loimala etal 2003). An elevated PPPG concentration may contribute to suboptimal glycemic control (ADA 2001). PPBG was reported to be a good index of glycemic control type II diabetes and better correlation with hba_1c was recorded (ADA 1999). A Japanese study by Takashi etal 2006 using PPPG as predictor for the incidence of diabetes with higher specificity and sensitivity. The objective of this original research study was to analyze the efficacy of RET on PPBG and obesity in type II diabetic Mellitus.

MATERIALS AND METHODS

100 known type II diabetic mellitus subjects were recruited from a special diabetic camp conducted at Velachery, Chennai – 600100 in the year 2010. Exclusion Criteria were Type I diabetes, diabetic subjects on insulin therapy, type II diabetic not medically treated.

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Inclusion Criteria was both sex with known type II diabetic subjects between the age group of 30-60 years. All the subjects were at random allotted into two groups with control group (n=50), and an experimental group (n=50), while all the subjects had continued prescribed medication and their day to day physical routines, experimental subjects alone were assigned with fifteen specific physical activities using Physioball in supine, side, prone and sitting postures. All the subjects venous sample of PPBG and waist circumferences were recorded once at the beginning and after 12 weeks competition of the study which was tabulated, and analyzed with due statistical means as displayed in the results below:

DISCUSSION

- Efficacy of therapy focused on lowering PPBG is superior than FBG to optimize. overall glycemic control (Edward etal 2000) and diabetes prevention study has demonstrated that PPBG was an independent risk factor for mortality in patients with type II diabetic mellitus than FBG (Hanefeld etal 1996). PPBG hyper glycemia has been associated with increased risk of micro vascular (De veciana etal 1995) and macro vascular complications (Balkan etal 1998). Honolulu heart study have demonstrated an increased coronary heart disease events is independently associated with an increased PPBG (Donanne etal 1987) and (Lowe etal 1987) have recorded the risk of CV disease and all cause mortality increases with increasing PPBG. Subjects in Group II have benefited using RET a lowering of PPBG,

Table 1. Progression of exercises with set, repetitions, holding, duration and frequency

Week	Repetitions	Holding of Each activity	Set of 15 Exercises	Duration	Frequency
0-4	1	-	‘’	20 Minutes	Thrice a Week
5-8	2	5 Second	‘’	30 Minutes	
9-12	3	10 Second	‘’	35 to 40 Minutes	

This original research study was conducted between 2010-2014 at Chennai, Tamil Nadu, State - India.

Table 2. Results of pre and post mean values and paired ’t’ test of group I and group II on PPBG and WC

Parameters Test			Group pre and Post Mean Values					Paired ’t’ Test	
PPBG (mg / dl)		I	Mean	II	Mean	Group	SD	SE	Level of Significance
	Pre	190	Increased by 5%	201	Decreased by 12%	I	5.50	.78	P>.1 X
	Post	200		178		II	II 5.33	.75	P<.001 XX
	Pre	95		93	Decreased by 5%	I	.89	.13	P>.1 X
WC (Cms)	Post	95		88		II	7.50	1.06	P<.001 XX

X – Insignificant
XX – Highly Significant

from the risk of micro and macro vascular complications. As lowering of PPBG by 12% as shown in table 2 among group II subjects treated with RET, where as control subjects PPBG has increases by 5%.which is similar to another study with single bout RET among type II diabetic subject with drop in PPBG by 15% (Subramanian 2016).

- Moderate intensity exercises in the post abortive state have been shown to decrease plasma glucose concentrations and is followed by an increase in insulin sensitivity (Martin etal 1995) and the post exercise glucose clearance is closely related to the depletion of muscle glycogen during exercise (Zorzon etal 1986). Clinical effectiveness of RET on obesity and diabetes, 2 major cardiovascular risk factors were recorded by (Rosamond etal 2008). Excess adipose tissue in particular abdominal and visceral adipose tissue (VAT) was linked to metabolic syndrome (Braith etal 2006) and is thought to alter normal plasma concentrations of glucose, lipids and can lead to higher rates of diabetes mellitus, atherosclerosis, ischemic heart diseases and stroke (Park etal 2003), hence in this study with reduction in obesity as with drop in waist circumference by 5% among group II subjects with RET have benefited against the above said complications is evident. Ibanez etal 2005 have shown in a 16 week study on diabetic subjects with RET greater reduction in blood glucose levels with significant loss of visceral fat.

Conclusion

With an increasing prevalence of diabetes and obesity globally, the importance of resisted exercises were analyzed in this study and proved with evidences. Further studies an larger sample size, studies of longer duration, effects of detraining with RET, Studies using other blood glucose profiles, other parameters of exercises such as vibration and means of resistance such as thera band are recommended. Limitations of the Study are this study has only evaluated waist circumference and PPBG and the study represents urban population only.

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