PRESCRIPTION OF AMERICAN DIABETES ASSOCIATION
DIETARY AND PHYSICAL ACTIVITY RECOMMENDATION FOR
PRE-DIABETICS: A REVIEW

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Abstract: Diabetes is the 6th most common cause of death in the US. The burden of diabetes continues to increase and its future implications will be far greater if current trends continue. In 2005, an estimated 7% (20.8 million children and adults) of the US population were reported to have diabetes. About 54 million Americans were pre-diabetic (fasting blood glucose between 100 and 125 mg/dl). Annually, 4-9% of persons who are pre-diabetic may go on to develop type 2 diabetes (T2DM). One in three people born in the US in 2000 are projected to develop diabetes at some point in their lifetime. A 165%-225% increase in diabetes prevalence for all ages is projected between 2000 and 2050. Compelling scientific evidence indicates that lifestyle change prevents or delays the occurrence of T2DM in high-risk groups. Maintenance of modest weight loss through diet and physical activity has been shown in several studies to reduce the incidence of T2DM. Pre-diabetics with fasting blood glucose of 110-125 mg/dl and one or more risk factors for diabetes such as obesity are at greater risk of developing T2DM. Hence, prescribing the American Diabetes Association (ADA) recommended diet and physical activity (ADA D&PA) regimen for those persons might delay or prevent this incurable chronic disease. Thus, the objectives of this study are to assess the prescription of the ADA D&PA recommendations and its effectiveness on glycemic control of pre-diabetes. Meta-analysis and a comprehensive review of the scientific literature were employed in this study. In general, most studies showed a significant difference in weight loss with low fat diet and increased physical activity intervention. Studies comparing lifestyle intervention to metformin showed that diet and exercise were more effective than the drug metformin in preventing T2DM in at-risk patients. There are very few studies with sufficient data that examine the effectiveness of diet and physical activities on T2DM incidence and glycemic control in ethnic minority populations. Data from baseline examinations of the Jackson Heart Study indicate that 16.5% of the cohort (n=5302) were pre-diabetics. Some supportive evidence suggests that lifestyle interventions are more effective in preventing or delaying progression from pre-diabetes to T2DM. Based on findings from this research the next goal is to assess the dietary practices and level of physical activity of pre-diabetics in the Jackson Heart Study – the single largest epidemiological study of cardiovascular diseases in African Americans.

Keywords: Type 2 diabetes, pre-diabetes, pre-diabetics, glycemic control, American Diabetes Association (ADA), diet, dietary practices, physical activities, metformin, meta-analysis