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## Effect of oryzanol concentrate on diabetic nephropathy induced animal model

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Diabetic nephropathy (DN) is the most serious micro-vascular complication of diabetes. Involvement of sterol regulatory binding protein (SREBP1) in the development of DN may trigger the expression of TGF- $\beta$ , which enhances the accumulation of extracellular matrix in diabetic kidney. Oryzanol Concentrate (OC) shown to have hypo-lipidemic property has been evaluated for DN complications in the current study. Animals were grouped into starch fed; High fat fed and treated control (SFC, HFC, OFC 0.1 and 0.3%) as well as respective diabetics (SFD, HFD, OFD 0.1 and 0.3%). Diabetes was induced by injecting STZ to animals. Lipid profile in the HFD groups was altered significantly when compared to SFD group and was ameliorated by oryzanol concentrate treated groups in dose dependent manner. Increased glomerular filtration rate (GFR) and kidney weight in HFD groups were reduced with OC (0.1 & 0.3%) treatment by 1.09 and 1.3 fold. PAS and Immunohistochemistry of the sections showed the accumulation of glycoprotein and collagen (IV) in HFD whose intensity was reduced with OC groups. Expression of TGF- $\beta$  gene was corroborated with kidney sections of HFD (2.7 fold) and in treated groups, which down regulated by 1.3 and 1.36 fold, where the expression in SFD was 1.6 fold lesser than the HFD. Content of fat in kidney was higher in HFD when compared to SFD group and was reduced by OC. In the current study oryzanol concentrate had positive effect in reducing DN and use of such an ingredient in the preparation of food may be recommended for diabetics.

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