ABSTRACT

Metabolic syndrome comprising diabetes mellitus is obtaining the distinction of a potential epidemic in rural India where majority of the patients are malnourished, posturing substantial healthcare burden. A randomized controlled trial, carried out on 120 volunteers of either gender revealed improvement in the parameters reflecting insulin sensitivity, indicating the decrement of the insulin resistance with the correction of the under-nutrition, thereby preventing the progression into overt diabetes. Apart from lifestyle parameters, dietary pattern influenced by religious practices involving unplanned skipping of meal, job requirements and financial constraints also plays an important role in development of insulin resistance and metabolic abnormalities raising susceptibility to Diabetes. Diabetes and pre-diabetes stages (insulin resistance) are associated with increased risk for cognitive decline and with increased rates of brain atrophy which are associated with dementia. Web based system that detect dementia in diabetics by a well construct questionnaire coupled with computerized system for detecting dementia using MRI report may overcome the limitations of the objective assessment proposed accuracy rate of 67%. Diabetes is also associated with by impaired wound healing and secondary wound infections attributing to the economy. Semi-quantitative and qualitative appraisal of tissue structure and immuno-histochemistry encompassing collagen I and III studies done to elucidate therapeutic potential of alcoholic extract of *Ocimum sanctum* in wound healing in diabetic rabbit model conveyed rapid regeneration of damaged epidermis in basil extract treated wound in comparison to control, akin to normal skin. Fabricated Iodine crosslinked gut sutures demonstrated promising physico-mechanical features like suitable tensile strength and knot strength and absence of clinical signs of infection in diabetic model supported by wound swab culture. Encouraging primary evidences for swifter wound healing requisites further experimental validation for the translation and standardization of the product from bench to bedside.