Selecting Intermittent Fasting Type to Improve Health in Type 2 Diabetes: A Machine Learning Approach

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Intermittent fasting (IF) is the cycling between periods of eating and fasting. The main types of IF are: complete alternate-day fasting; time-restricted feeding (eating within specific time frames such as the most prevalent 16:8 fast, with 16 hours of fasting and 8 hours for eating); religious fasting such as the Ramadan (occurs one month per year, with eating taking place only after nightfall). IF can be effective in reducing metabolic disorders and age-related diseases by bringing about changes in metabolic parameters associated with type 2 diabetes. Questions do remain, however, about the effects of the different types of IF as a function of the age at which fasting begins, gender and severity of type 2 diabetes. In this paper we describe a machine learning approach to selecting the best type of IF to improve health in type 2 diabetes. For the purposes of this research, the health outcomes of interest are changes in fasting glucose and insulin. The different types of intermittent fast offer promising non-pharmacological approaches to improving health at the population level, with multiple public health benefits.