Hypoglycemic effect of an extract from date seeds on diabetic rats

To the Editor

I read the interesting study by El-Fouhil et al[1] on the hypoglycemic effect of an extract from date seeds on diabetic rats. *Phoenix dactylifera*, commonly known as the true date palm, is a palm in the genus *Phoenix*, cultivated for its edible sweet fruit. It is widely cultivated in Arabian countries. It is a blessing tree as it is mentioned in the holy Qur'an, "and tall date-palms, with ranged clusters" (Qur'an 50:10). Also, Prophet Mohammad (PBUH) asked Muslims to take care of the date palm "Honor your maternal aunt, palm" (Hadith Sahih Bukhari). Dates are consumed worldwide and are a main dietary staple for many Arabic people. They are popular energy boosters, hunger pacifiers, and possess several other health benefits. The prevalence of type 2 diabetes mellitus (T2DM) is steadily increasing worldwide, including the Arabian countries. Various studies have demonstrated that dates could be classified as a low glycemic index food items, therefore, they might be beneficial in glycemic and lipid control of diabetic patients.[2-4] In addition, a low glycemic index diet, such as dates with a higher amount of fiber, and minimally processed whole grain products were found to reduce glycemic and insulinemic responses and lowers the risk of DMT2.[5] Therefore, it might be suggested that dates can be a better substitute than its seeds extract in ameliorating glycemic response in diabetic patients. This represents a worthy objective to be evaluated by extensive comparative studies.

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Reply from the Author

I read with interest Prof. Al-Mendalawi's comments on our paper entitled "Hypoglycemic effect of an extract from date seeds on diabetic rats".[1] I appreciate his suggestion to perform a comparative study between dates and its seeds in ameliorating glycemic response in diabetic patients. However, there are some points that I must clarify. First, animals in our experiments were injected with streptozotocin that causes almost complete destruction of beta cells, and induces type 1 diabetes.[6,7] Therefore, the mechanism of action responsible for lowering blood glucose levels in those rats is not as simple as just ingestion of low glycemic index diet, such as in the case of T2DM. Second, the problem in type 1 diabetes is not to minimize high glycemic index food items but to substitute insulin, which is almost lacking. In addition, it appears that the effect of seed extract on diabetic rats has nothing to do with its glycemic index. A potential mechanism on pancreatic islets has been suggested in our paper,[1] and this is actually the subject of our next research. Third, having a low glycemic index,[4] dates can be a good substitute for natural or artificial sweeteners, however it could not be used as a hypoglycemic agent. On the other hand, date seeds have a potential hypoglycemic effect as suggested,[1] and in addition, have a higher total dietary fiber than wheat bran, and may have a potential use in bread making,[8] therefore, it is useful in both types of diabetes.

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