

Providing free supplies to low-income families improves type 1 diabetes

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Providing free supplies of insulin and blood glucose test strips to families with type 1 diabetes in low- and lower-middle income families can result in improved blood-sugar control and diabetes-related knowledge, a new study of families in India suggests. The research results will be presented Tuesday, March 20, at ENDO 2018, the 100th annual meeting of the Endocrine Society in Chicago, Ill.

In Indian families with type 1 [diabetes](#), the cost of care is largely borne by the [family](#), with the highest economic burden borne by the lower and lower middle socio-economic class families, said lead researcher Vijayalakshmi Bhatia, M.D., professor at Sanjay Gandhi Postgraduate Institute of Medical Sciences in Lucknow, India. "Paucity of financial resources may result in inadequate spending on diabetes, which in turn can have an adverse effect on healthcare outcomes," she said.

For a condition like diabetes, where self-management is the key to controlling the disease, other social factors such as education status, urban or rural dwelling and access to healthcare facilities, among others, may impede a good outcome, despite provision of insulin and other supplies, Bhatia said.

The researchers studied, for the first time in India, the effect on [blood sugar levels](#) and diabetes-related knowledge of reducing the cost-related barrier, by providing free insulin and [blood glucose test](#) strips to 85 patients (average age 13 ½ years) from low- and middle-income families for one year. Additionally, in the second six months of the study, half the

patients received phone calls from a diabetes nurse educator every two weeks.

The study found a significant improvement in hemoglobin A1c, a test that measures blood sugar control, at three and six months. Patients' knowledge of diabetes improved at six months despite only standard of care, with no special teaching or interaction. This suggests patients received improved insight into their diabetes through more frequent self-monitoring of their [blood](#) sugar levels, the researchers said.

During the second six months, the diabetes knowledge of the group receiving telephone calls improved compared to the non-telephone group. Improvements in A1c levels did not differ between those who received the calls and those who did not.

Urban families and families where the head of the household had more than a high school education showed greater improvement in diabetes knowledge than rural families or those with lower formal education.

"Policymakers can infer from this preliminary study that provision of free supplies will pay short-term (and possibly long-term via improved [knowledge](#)) dividends in improving the health of children and adolescents with type 1 diabetes from low- and lower-middle income families in a developing country," Bhatia said.

Provided by The Endocrine Society

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