Appointment nonadherence is a health behavior that represents a burden to health care systems. On March 1, 2015, a new negative reinforcement intervention involving ‘service fees’ for a visit without appointment was implemented at King Abdullah University Hospital in Jordan. To evaluate the effect of this intervention in improving patient adherence to medical appointment, a retrospective preintervention and postintervention analysis was used, including all patients (n = 65,535) who had scheduled appointments at 39 outpatient clinics. A repeated-measures analysis of variance was first performed. Then, a multivariate linear regression model was used to identify factors that might predict individuals who are likely to attend or miss their appointments and those who have a greater tendency to visit the hospital with or without appointments. Although the average percentage of appointments attended was more than missed preintervention and postintervention, the decrease in percentage of missed appointments was more pronounced postintervention. Also, the average percentage of visits without appointments was less than visits with appointments in both times, but the decrease in the percentage of visits without appointments was more prominent after. The regression analysis revealed that younger, married and male patients were more likely to miss their appointment before and after the intervention. Also, younger patients had a tendency to attend without appointments. Conversely, patients with the lower copayment rate had a tendency to adhere to appointment times. In conclusion, negative reinforcement interventions could improve patient appointment adherence rates. Accordingly, interventions designed that consider evidence and are theory-based are needed to change patient behavior.