The aim of this study was to evaluate the effects of achieved systemic risk factors on periodontal parameters in a Turkish population. Material and Methods: Of 226 individuals (94 male, 132 female), at least 20 years old were included in this cross-sectional study. Systemic risk factors were based on The National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III) criteria and individuals were categorized according to the number of the risk factors as no risk factor to five risk factors. Periodontal parameters (plaque index, gingival index, probing depth, clinical attachment level, sulcus bleeding index, numbers of missing teeth) and sociodemographics were recorded. Results: There were statistically significant relations between age, education level, body mass index, abdominal obesity, osteoporosis, tooth brushing frequency, flossing and the number of risk factors. Increase in the number of risk factors was associated with higher clinical periodontal parameters and number of missing teeth. Conclusion: Our findings provide an important contribution to data that highlight the role of host response in interaction between periodontal diseases and achieved systemic risk factors.