The aims of this study were to investigate the Fatigue Severity Scale's Turkish version's validity, reproducibility, internal consistency and parameters. Multiple sclerosis patients' disability levels were determined by the Expended Disability Status Scale and depression status was established with the Beck Depression Inventory. The Fatigue Severity Scale and Beck Depression Inventory were administered through self-report methods and assistance, without guidance, given where needed. An interval of 1 week was allowed between the applications. Seventy-two definitely diagnosed multiple sclerosis patients and matched 76 healthy controls were included. The multiple sclerosis patients' median Expended Disability Status Scale score was 4.0 (1.0-9.5). There were statistically significant differences between multiple sclerosis patients' and healthy controls' Fatigue Severity Scale scores (P<0.001). After controlling for depression, Fatigue Severity Scale scores were lowered, but there was still a significant difference between them (P<0.001). There was no significant difference between the interviews for Fatigue Severity Scale1 and Fatigue Severity Scale2 (P=0.719). Internal consistency for Fatigue Severity Scale was good for multiple sclerosis patients (ICC=0.81, P<0.001). Cronbach's alpha of Fatigue Severity Scale1 was 0.89; Fatigue Severity Scale2 was 0.94. Expended Disability Status Scale scores (P<0.05) and Beck Depression Inventory scores (P<0.001) have a significant effect on the Fatigue Severity Scale. In conclusion, scales have a great importance in following up and assessing the results of treatment strategies. The Turkish validation of the Fatigue Severity Scale is reliable and valid, and is an appropriate tool to assess fatigue in the Turkish multiple sclerosis population.