Menopause is a critical period of women’s life often characterized by neurovegetative symptoms, a body of physical and psychological disturbances that compromise quality of life, mostly due to oestrogen deprivation. A number of studies suggest that these symptoms might be attenuated after antioxidant supplements. Nevertheless, the rationale underlying the use of this approach is still vague, since, at present, there is no population-based studies that have convincingly proved the existence of a relationship between climacteric disturbances and oxidative stress (OxS). To address this issue we carried out a cross-sectional investigation on 82 peri- and post-menopausal women who were evaluated for menopause symptoms, using the Green Climacteric Scale, and serum OxS markers, including both antioxidants and products of oxidative damage. Multivariate regression analysis showed that antioxidants serum level tends to decrease with the worsening in psychological (in particular feeling tense or nervous, difficulty in sleeping, feeling tired or lacking in energy, loss of interest in most things) and somatic (muscle and joint pain, breathing difficulties) symptoms. The latters also appeared to be positively associated with the level of markers of oxidative damage to proteins, which, in turn, was found higher in those women suffering from acute vasomotor disturbances such as hot flushes and night sweats. In conclusion, our study suggest that OxS might be involved in the development of some of the most frequent climacteric disturbances affecting women at midlife. This findings support the use of antioxidant treatment (or even better antioxidant rich diet) for improving the life’s quality of these women.