Abstract:
Muscular strength, an important component of physical fitness, has an independent role in the prevention of chronic diseases whereas muscular weakness is strongly related to functional limitations and physical disability. Our purpose was to investigate the role of muscular strength as a predictor of mortality in health and disease. We conducted a systematic search in EMBASE and MEDLINE (1980-2014) looking for the association between muscular strength and mortality risk (all-cause and cause-specific mortality). Selected publications included 23 papers (15 epidemiological and 8 clinical studies). Muscular strength was inversely and independently associated with all-cause mortality even after adjusting for several confounders including the levels of physical activity or even cardiorespiratory fitness. The same pattern was observed for cardiovascular mortality; however more research is needed due to the few available data. The existed studies failed to show that low muscular strength is predictive of cancer mortality. Furthermore, a strong and inverse association of muscular strength with all-cause mortality has also been confirmed in several clinical populations such as cardiovascular disease, peripheral artery disease, cancer, renal failure, chronic obstructive pulmonary disease, rheumatoid arthritis and patients with critical illness. However, future studies are needed to further establish the current evidence and to
explore the exact independent mechanisms of muscular strength in relation to mortality. Muscular strength as a modifiable risk factor would be of great interest from a public health perspective.