FACTORS THAT MAY INFLUENCE THE HAND GRIP STRENGTH IN AN ADULT HEALTHY POPULATION

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FE15- Factors that may influence the hand grip strength in an adult healthy population.

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Background: Hand strength is an important independent surrogate parameter to assess outcome and risk of morbidity and mortality. This study aimed to determine the influence of cofactors in the grip strength. **Methods:** A representative population survey was used as the basis for prediction analyses (n = 296). Intra individual and inter individual variations of grip strength and their relation to several anthropometric factors were analyzed in a standardized manner for 296 healthy adults (women, n = 140; men, n = 156) aged between 20 years and 69 years. Measurements were done in neutral position of arm, forearm, and wrist with Jamar dynamometer. We also note the active side, profession, height, weight and size of the hand. The results were statistically analyzed using SPSS. The sample characterization was performed by frequency analysis; ANOVA was used to study the correlation between variables. **Results:** Mean strength was about 38% less in women (right 26,6 kg; left 25,16kg) than in men (right 43,13 kg; left 40,65kg). Grip strength peaks at [40-49] years of age with a important difference between those with less off 50 and with more off 50 years old. Anthropometric variables such as hand size, or sex showed a positive correlation with grip strength. Body mass index and type of work, showed only a partial positive correlation or no corre-lation with grip strength. **Conclusion:**

Easy-to-measure cofactors such as sex, age and body mass index have a high accurate prediction of normative pinch strength. We recommend side adjustment of measured values for intra individual comparison and inclusion of information regarding anthro-pometric characteristics, as well as using gender- and age-adjusted reference values.

Key words: Hand grip strength