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**Prevalence of Malnutrition and Determinants of Nutritional Status  
Among Elderly People: A Population-Based Study in Rural  
Bangladesh**

**AKADEMISK AVHANDLING**

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## ABSTRACT

**Introduction:** Both the number and proportion of persons aged 60+ years are growing rapidly in almost all countries of the world. Research shows that elderly people are nutritionally vulnerable and that their nutritional profiles differ with type of disease. Disease, increasing age, being a woman, and social factors such as lack of social support, limited social network or social isolation are all associated with malnutrition among elderly people. In Bangladesh, the malnutrition prevalence is among the highest in the world. Although more than one third of the population are malnourished, figures for elderly people are hard to find because most of the research and public health activities are focused on women in reproductive age, and children and young adults.

**Aim:** The aim of this thesis is to describe the nutritional status of individuals aged 60 years and older, living in a rural community in Bangladesh, with particular focus on the impact of demographic, disease and social factors on nutritional status in old age.

**Methods:** This thesis uses data from a multi-disciplinary cross-sectional study of people aged 60+ years. The study was conducted in a rural area in Matlab, Bangladesh during August 2003 to January 2004. Data were obtained through home interviews where information on demographic, socio-economic, social support and self reported health status were collected. The participants in the survey were invited to a nearby medical sub-centre for a complete clinical examination on another day, conducted by physicians and including taking medical history, physical examination and collection of blood samples. Nutritional status was assessed using the Mini Nutritional Assessment (MNA), that is a simple and rapid tool to screen older persons for malnutrition. A total of 850 elderly individuals were randomly selected from the surveillance database, of which 625 subjects participated in the home interviews, and 473 underwent clinical examination. Information on complete nutritional status was available for 457 individuals.

**Results:** The findings show that the prevalence of malnutrition among older people living in a rural community in Bangladesh is 26%. In addition, more than half of the participants (62%) were at risk of being malnourished. Only 12% were diagnosed as well-nourished according to MNA. Women were found to have significantly lower MNA scores than men ( $p < 0.01$ ). Almost 60% of the participants were illiterate. Literates had higher MNA scores compared to the illiterate elderly ( $p < 0.001$ ). More than half (64%) of the participants had no personal income and persons who had an income also had better nutritional status ( $p < 0.05$ ). The prevalence of both self-reported health problems and medical diagnoses were high. According to the clinical diagnoses, more than three quarters of the elderly people suffered from acute infections, 69% had sensory impairments, and more than one third had chronic diseases. Persons with acute infections had lower MNA scores ( $p < 0.001$ ). Among the self-reported health problems, all health problems except for pain were significantly associated with lower MNA scores. The majority (84%) of the participants received regular financial support. More women (92%) than men (74%) received regular financial support ( $p < 0.001$ ), and elderly people who received regular financial support had higher MNA scores ( $p < 0.05$ ).

**Conclusions:** This study reports a high prevalence of malnutrition among elderly people in rural Bangladesh. In order to reduce the proportion of the undernourished worldwide, it is important to address this subset of the population. This research also shows that malnutrition is associated with both disease and non-disease related factors. To reduce the proportion of malnutrition among elderly people in low-income countries, it may therefore not be enough only to reduce poverty. Simultaneously, morbidity needs to be addressed by improving health care for the elderly.