Background: Infection has a devastating impact on the health of elderly patients. Some of the literatures shows when the elderly are infected, the response of fever may be blunted, therefore diagnosis and treatment are likely to be delayed which caused higher mortality. However, the relationship between febrile response and age not yet have consistent conclusion.

Purpose: The aims of this study were to determine the relationship between febrile response and age when the body suffers acute infection.

Method: The study used a retrospective, repeated measures, comparison, and correlational design. The databank of infection control center was used to select sample subjects. In relating to medical records, bloodstream infection cases hospitalized from January 1, 2007 to December 30, 2007 were retrieved. The data was collected by method of medical record review. The parameters of febrile response in adult and elderly patients were examined and compared. The variation of body temperature and fever parameters during the infection episode was analyzed. The SPSS statistical software package was used to analyze the data. The difference and associations which are related to age and fever magnitude were detected by T-test and Pearson correlation.

Results: Total samples were 204 included 110 younger adults (19-64 years) and 94 older adults (over 65 years). The difference of the demographic characteristics in adult and elderly patients was not found except Barthel index. The mean of baseline temperature was 36.33°C (SD 0.32°C), and there was no difference between adult and elderly groups. The mean of onset temperature of infection was 38.33°C (SD 0.77°C), and the age was not a predicting factor. The mean of peak temperature and the maximum magnitude of febrile were 38.92°C (SD 0.74°C) and 2.58°C (SD 0.80°C), The correlations between age and peak temperature was significant (r=-.183, p=.009).And the correlation between age and maximum magnitude of febrile also was significant (r=-.179, p=.010).

Conclusion and suggestion: The findings of the study demonstrate that old age makes no difference in the baseline temperature and the onset temperature. However, the age was associating in the peak temperature and maximum magnitude of febrile. The findings of the study have contributed to fill the knowledge gap of infection and febrile responses in geriatric medicine and nursing.