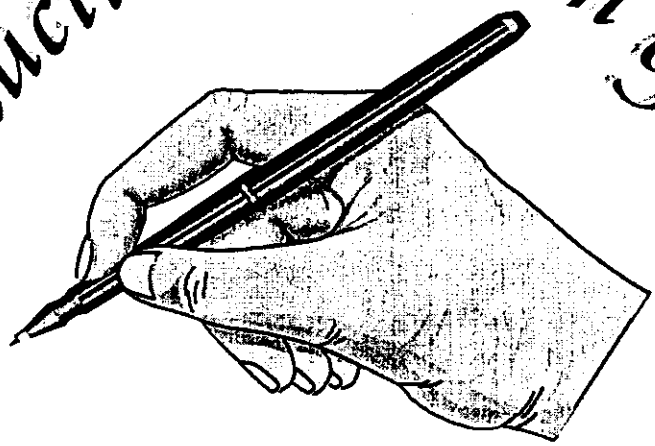
# Introduction and aim of work



# INTRODUCTION AND AIM OF THE WORK

**Rational and Background:**

Heart rate variability is defined as the amount of heart rate fluctuations around the mean heart rate ***(Grossman et al., 1991 and Kleiger et al., 1991).***

Heart rate variability can be used as a mirror of the cardio-respiratory control system. It is a valuable tool to investigate the sympathetic and parasympathetic function of the autonomic nervous system.

Heart rate variability measurements are easy to perform, non-invasive and have good reproducibility if used under standardized conditions ***(Grossman et al., 1991 and Kleiger et al., 1991).***

Heart rate variability is influenced by factors such as respiratory rate and posture, increasing age is associated with lower heart rate variability, which is comparable with its influence on the classical autonomic function tests ***(Piha, 1991).***

**Hypothesis:**

Rheumatic fever is closely related to infection with group A Beta streptococci and the hypothesis is that antibodies to the streptococcus cross react with heart muscle in subjects whose own heart antigen resemble those of the streptococcus, causing an autoimmune reaction.

In many patients a similar cross-reaction occurs with synovial tissue to produce arthritis, or with brain tissue causing chorea ***(Kaplan, 1969)***.

***Measurements of HRV provides*** a non-invasive method to obtain reliable and reproducible information on autonomic modulation of heart rate and has become an important tool for risk assessment ***(Tuininga et al., 1994)***.

## AIM OF THE WORK

The purpose of the present study is to determine heart rate variability changes in children with rheumatic fever and the use of HRV as a diagnostic mark of rheumatic fever.