The bachelor thesis is divided in theoretical and empirical part. The theoretical part deals with preanalytical variability influencing blood test results with a closer view of elements that can be affected by a nurse. The empirical part consists in quantitative research using questionnaires which determine the nurses's awareness about this issue. Qualitative research focuses on the use of this knowledge in nursing practice by methods of observation. The aim of this research was to investigate the knowledge level of nurses in the issue of preanalytical phase of blood sampling and to confront theory with practice. Subsequent comparison of the results of both methods showed that the commonly usedpractice is not always consistent with theoretical knowledge. The most important discrepancy between theory and practice has been established in connection with the preparation of the patient, the duration of application of a tourniquet, the flexion-extension arm exercise prior to sampling and shaking of test tubes containing blood.