A prospective investigation for primary percutaneous coronary intervention (PPCI) for Acute ST-segment elevation myocardial infarction (STEMI)

## Introduction:

Acute ST-segment elevation myocardial infarction (STEMI) is a major cause of morbidity, mortality, and disability worldwide. Patients with the history of cardiovascular disease but not a recent acute risk are often referred as stable coronary artery disease (CAD). It is misleading to call this status as “stable” for two important reasons: the risks of cardiovascular events are underestimated and continue to exist, including lifestyle changes and low life qualities. Antiplatelet and anticoagulant agents play an important role in pharmacological treatment to optimize clinical outcomes in patients besides undergoing primary percutaneous coronary intervention (PPCI). The timely reperfusion with PPCI is still the first consideration the treatment of choice in this setting.

## Specific aims:

To investigate whether PPCI improves patient’s life quality besides the antithrombotic therapy with a indication for anticoagulation.

## Methods:

This study will be based on a well randomized prospective longitudinal study for six years. The main purpose is to investigate the potential beneficial effects of PCI on STEMI patients. The patients will be asked to fill the questionnaires for multiple questions relate to both physical health status and the satisfaction on the quality of life. The first survey will be completed after the primary surgery and then once for every 3 months. The risk rate, odd rate, with other epidemiological and statistical analysis will be performed.

## Justification:

The sample size and power analysis are calculated based on the first time and 6-month-after questionnaire results. The standard deviation for 6-month treatment group is 19.16, effective difference is 8.0, and the power is 80%. we supposed that 91 people per group will enough for the test. Around 390 people are required to detect the difference of 10% between PPCI intervention group and the control group.