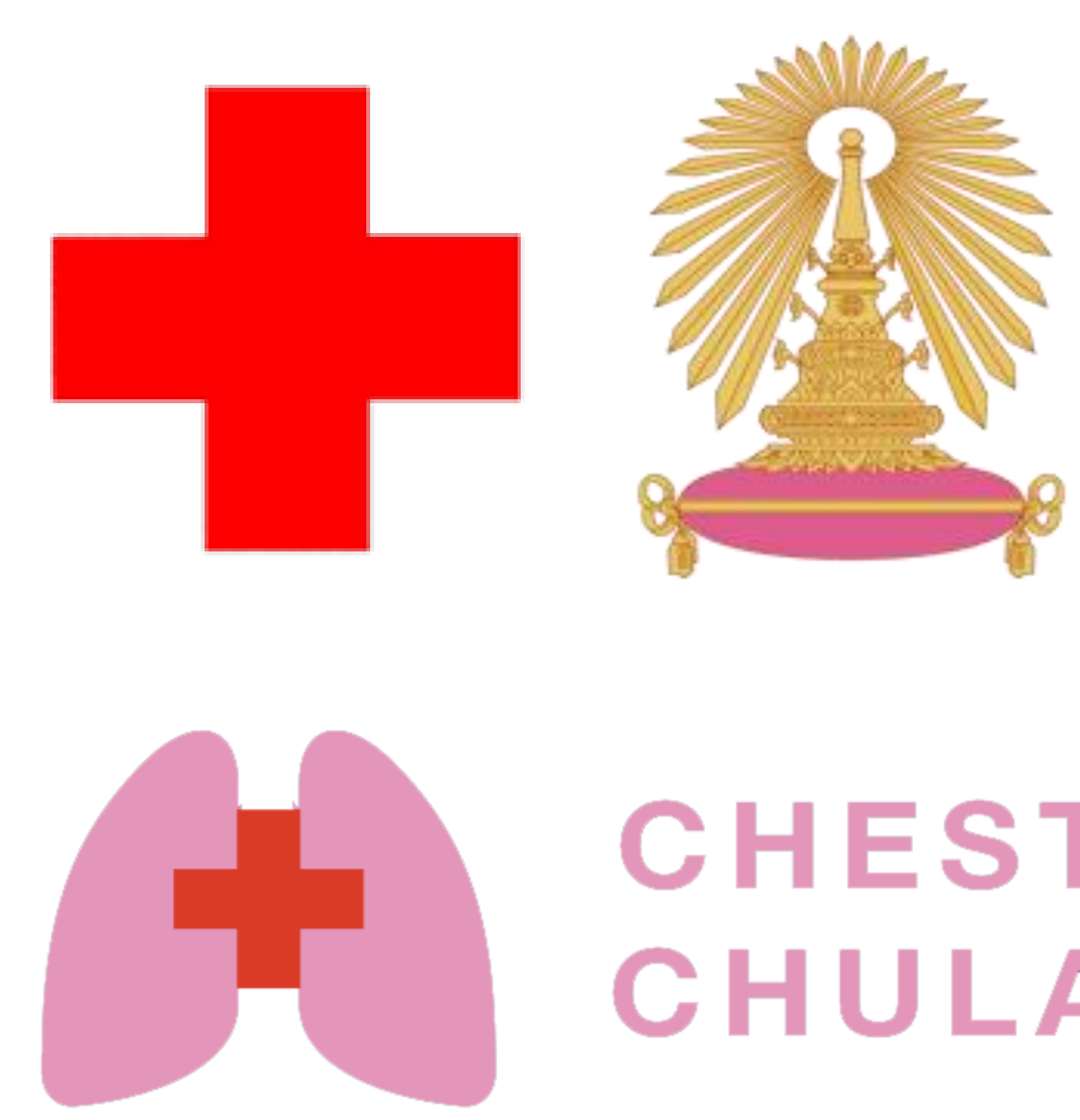


Effectiveness of watching instruction video before performing spirometry procedure in asthma patients-a randomized controlled trial



Nareerat Sae-eao¹, Anan Ananpipatkul¹, Natsuda Chatsuthamat¹, Supattra Netsuwan¹, Puttikarn Nukbun¹

¹Pulmonary Function and Clinical Exercise Testing Laboratory, Division of Pulmonary and Critical Care Medicine, Department of Medicine, Faculty of Medicine, Chulalongkorn University, King Chulalongkorn Memorial Hospital, The Thai Red Cross Society.

Background

Spirometry procedure required good patient effort and technique. The maneuver would spend more time to achieve acceptable and repeatable test results in some patients.

In asthma, spirometry is essential test for diagnosis and follow up. Watching instruction video before doing the test could improve spirometry technique and shorten time spent on procedure.

We aimed to investigate the effectiveness of watching instruction video before performing spirometry on time spent on procedure and quality of tests.

Methods

A total of 40 asthma patients were randomized into video group (VDO) and control. VDO group subjects were asked to watch 5-minute spirometry procedure instruction video before doing the test. Then, both groups received test instruction before and during the test by technician.

Acceptability and repeatability criteria for spirometry according to Official American Thoracic Society and European Respiratory Society Technical Statement 2019¹ were strictly followed.

Time spent on procedure, number of tests and test quality of both groups were compared.

Results

After randomization, there were 20 asthma patients in each group. The average \pm SD age of VDO & control group were 54.8 ± 16.4 years & 58.2 ± 13.2 years. Sixteen patients compared to 18 patients in control group and VDO group had spirometry experience before.

Both groups were able to perform good spirometry results.

The average time spent on procedure was longer in control compared to VDO group, 233 ± 97 seconds vs 170 ± 56 seconds; $p = 0.016$. Median number of tests was 5.5 times in control vs 4.5 times in VDO group, $p = 0.150$.

Table 1. Baseline characteristics

	VDO (N=20)	Control (N=20)
Age (years)	54.8 ± 16.4	58.2 ± 13.2
Male (N,%)	10 (50%)	11 (55%)
1 st time spirometry	2 (10%)	4 (20%)

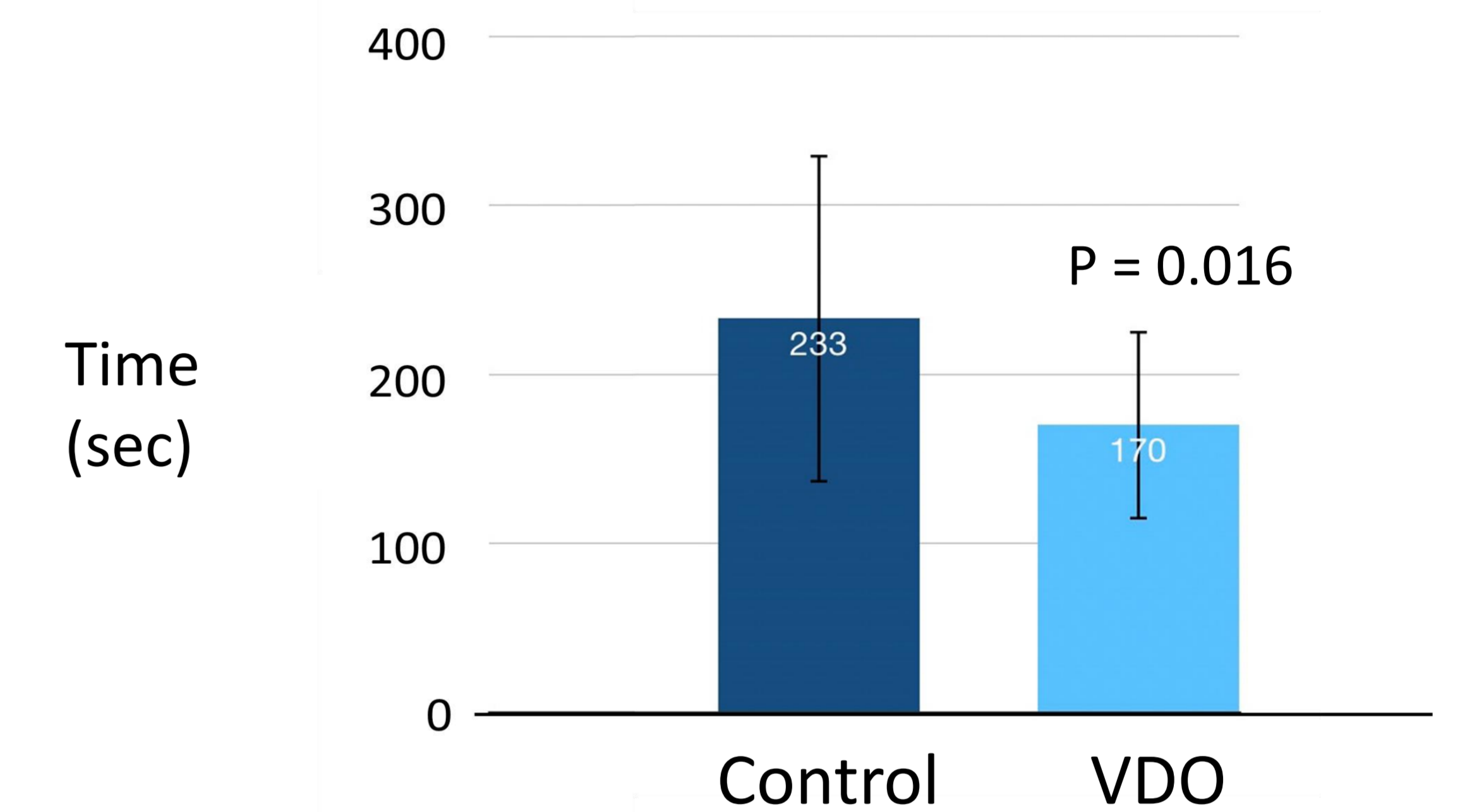


Figure 1. Time spent on procedure

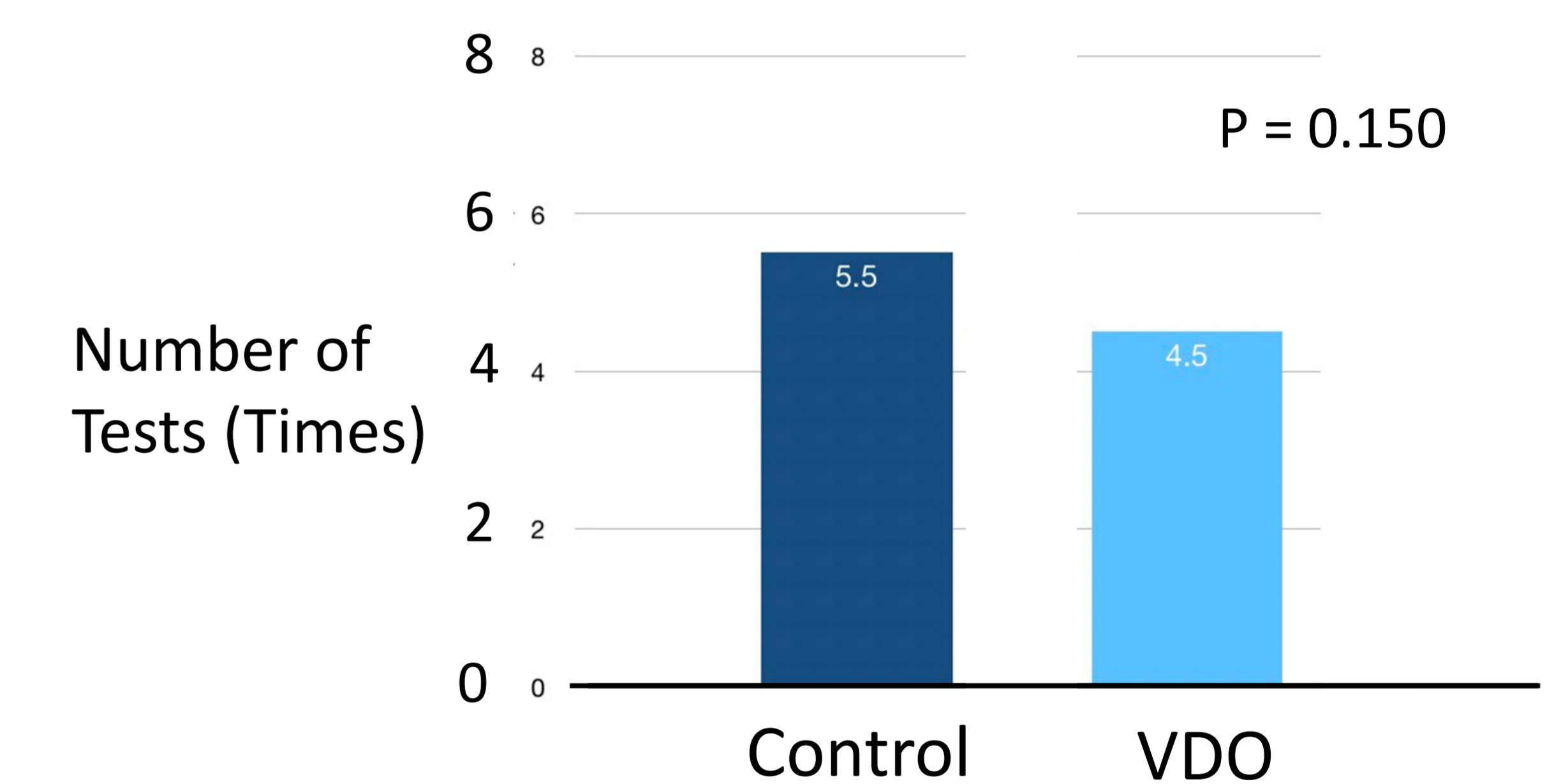


Figure 2. Number of spirometry test (median)

Conclusion

Watching instruction video before performing spirometry test could shorten the time spent on spirometry procedure and did not diminish the test quality.

Acknowledgment : Thank you Dr Worawan Sirichana and Dr Sarita Thawanaphong for contribution to this project.