Inflammatory Bowel Disease (IBD) is a chronic inflammation of the gut presenting with phases of active inflammation, remission and relapses. To ensure real-time information about the inflammatory activities in the gut for both, the clinician and the patient, we have developed a calprotectin home test called IBDoc®. The IBDoc® system consists of a stool collection and extraction device (CALEX® Valve) and an immunochromatographic calprotectin rapid test, which is read using a smartphone application (CalApp®) controlling the phone’s camera. Once the result is calculated by the app it is sent automatically to a webserver (IBDoc® Portal). There the treating physician has immediate access to the result. The objective of this study was to evaluate the usability of the IBDoc® calprotectin home test system with lay users in respect of handling both, the physical test components as well as the integrated software.

RESULTS

All 25 lay users were able to generate a calprotectin test result by themselves. 24 out 25 users were able to collect and extract a stool sample with the CALEX® Valve extraction device without major problems, and 22 out of 25 were confident that the rapid test was performed correctly. When asked how easy it was to measure the test cassette with the smartphone, the users judged this question with an average score of 4.4 on a 5-point Likert scale. 21 users out of 25 felt comfortable to use a smartphone for a medical test. The IBDoc® system reached a mean SUS score of 82 on a scale from 0 to 100 compared to the software industry’s average score of 68(II).

CONCLUSIONS

This usability study shows that calprotectin home testing using a smartphone as measuring system was well accepted among the tested lay users. The complexity of the application is low, the entire IBDoc® system can be considered very user-friendly and is easy to handle by lay users without prior knowledge or experience with immunochromatographic rapid tests.

References:

Disclosure: In relation to this presentation, I declare the following, real or perceived conflicts of interest:
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