Results of an efficacy-finding study (EFS) with the computer-thermometer Cyclotest 2 plus containing 207 cycles

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Abstract

Prospectively collected cycles of 207 women were used to find out the efficacy of the Cyclotest 2 plus algorithm in detecting the fertile time in a woman’s cycle. The results of the device were compared with the beginning and the end of the fertile time identified by the symptothermal method (STM) of natural family planning (NFP). It was found that the algorithm led to a dangerous reduction of the fertile time (FT) in only 2 out of 207 woman cycles (0.96%). However, at the end of fertile time (FE) the device requested more abstinence than was necessary in about 12% of the cycles. We feel that more research should be performed on detecting the end of the fertile time.

Introduction

There are various principles used to monitor a woman’s cycle: taking the BBT, watching changes in the secretion of the cervical mucus, monitoring urinary excretion of special cycle hormones or measuring changes of the electrical resistance of vaginal or salivary secretions. Also, the growing follicle can be monitored very accurately using modern vaginal ultrasonography. For some of these parameters it can be helpful to apply modern technology for detection, determination and evaluation of the values determined [1].

Cyclotest 2 plus (UEBE GmbH, Wertheim, Germany) is a device that measures BBT very accurately so that it can detect a temperature shift of 0.05°C. One to three days after ovulation the BBT rises by 0.2–0.4°C and this rise can be detected very easily by the device. On the data measured it applies the rules of the temperature method of NFP formulated as a special algorithm. The temperature probe is technically very accurate. We have tested the efficacy of the algorithm for detection of the beginning and the end of the fertile time of a woman’s cycle. It was the goal of
this prospective study to compare the expression of the device with the results of the well-known symptothermal method (STM) of NFP.

Materials and methods

Four thousand four hundred and thirty cycles were collected and prospectively evaluated using the rules of STM practiced by the German NFP groups [2].

Beginning of the fertile time (FA)

5-days rule: The first 5 days of the cycle can be considered infertile.

‘minus 20’ rule: Shortest cycle minus 20 days = duration of the infertile period at the beginning of the cycle.

‘minus 8’ rule: The day of the earliest first higher temperature (out of at least 12 temperature charts).

‘minus 8’ days: The last infertile day at the beginning of the cycle or appearance of the first mucus, whichever comes first.

End of the fertile period (FE) using a double-check

The infertile period after ovulation starts either on the evening of the third day after the peak mucus symptom or on the evening of the third higher temperature, which ever comes later.

At the same time the Cyclotest 2 plus algorithm, which is incorporated in a device with the same name, was applied on the temperature values, and the beginning (FA), the end (FE) and the length of the fertile time (FT) was determined. The results of both evaluations were incorporated into a 4-field table (matrix) and a simple 2-field comparison was applied. Women were sorted to exclude those who contributed less than 13 cycles; 236 women were left who contributed at least 13 cycles or more. These 236 women were included in our study, which compared cycle parameters detected by NFP and by application of the Cyclotest 2 plus algorithm.

Results

From the 236 women 29 had to be excluded as they reported in the 13th cycle no first higher reading and so complete symptothermal rules could not be applied. Table 1 shows the comparison of the values of both methods (NFP vs. Cyclotest 2 plus) in respect to the beginning of the fertile time (FA): in 120 women (58%) the beginning of