



Assessment of menstrual cycle self-observation skills using the double-check symptom-thermal method based on chart evaluation¹

<https://doi.org/10.34766/fetr.v55i3.1211>

Katarzyna Piasecka^a, Ewa Ślizień-Kuczapska^b, Monika Pytka^c,
Paulina Łyszczarz^d, Monika Bieniak-Czerepak^e

^a Katarzyna Piasecka,¹ MD PhD, <https://orcid.org/0000-0002-3717-5926>

^b Ewa Ślizień-Kuczapska,² MD PhD, <https://orcid.org/0000-0002-2227-3849>

^c Monika Pytka,³ PhD, <https://orcid.org/0000-0001-5998-5156>

^d Paulina Łyszczarz,⁴ MA, <https://orcid.org/0000-0003-4436-2217>

^e Monika Bieniak-Czerepak,¹ PhD, <https://orcid.org/0000-0002-0477-915X>

¹ Department of Family and Geriatric Nursing, Chair of Integrated Nursing Care, Medical University of Lublin, Poland

² St. Sophia's Specialist Hospital in Warsaw, Poland

³ Faculty of Food Science and Biotechnology, University of Life Sciences in Lublin, Poland

⁴ Graduate of Nursing, Faculty of Health Sciences, Medical University of Lublin, Poland

Abstract: Systematic observation of the menstrual cycle allows a woman to monitor her procreative health, which has great diagnostic value. It gives the opportunity to learn about the natural rhythm of fertility and, in the case of observing abnormalities, reduces the time until the first medical consultation. Reliable learning of observation takes time and is carried out through a certified teacher of a particular method of fertility awareness. Therefore, this skill from the area of prevention and diagnosis should occupy an important place in the teaching of both health care workers and the education of women themselves. In Poland, there are several non-governmental non-profit organizations that provide professional teaching support in the field of health-promoting education and natural family planning. **Method:** I and III of self-cycle observation chart were studied. The total number of analyzed charts was 74. The study was based upon the SPSS Statistics package version 25. The $p < 0.05$ level was considered statistically significant. **Results:** The majority of women with high self-observation skills in menstrual cycle charting using the double-check symptom-thermal method were single, with a university degree (53.65%, $n = 22$), learning the method at the Lublin branch of Polish Association of Natural Family Planning Teachers (51.21%, $n = 21$), motivated to learn charting for procreative health monitor (75.60%, $n = 31$), with no support from a husband/fiancé/partner (60.96%, $n = 25$). **Conclusions:** The study group of women was homogeneous in terms of the eligibility criteria applied, i.e. they were all at reproductive age, had typical cycles and did not use any contraception methods, which would exclude self-monitoring of the cycle. The women's high skills in cycles self-observation are the result of the excellent quality of the NFP teacher of the sympto-thermal double check method work with the client, the ability to communicate and convey the principles of self-observation skills as well as the user's motivation to keep charting their cycles. The main goal of the women learning the method was to monitor their own procreative health.

Keywords: fertility bioindicators, menstrual cycle, sympto-thermal double-check method, self-observation, procreative health.

Introduction

Fertility awareness allows not only the woman herself, but also the couple to engage in intercourse responsibly and conscientiously, taking actual reproductive plans into account. Thus, natural family planning (NFP) forms a viable option for those

who are not interested in or have contraindications to mechanical or pharmacological contraception (Piasecka, Łyszczarz, Pytka, Ślizień-Kuczapska, Kanadys, 2022). NFP involves, among other things,

¹ Article in polish language: Ocena umiejętności samoobserwacji cyklu miesięczkowego metodą objawowo-termiczną podwójnego sprawdzenia na podstawie analizy kart <https://www.stowarzyszeniefidesetratio.pl/fer/2023-3Pias.pdf>

the systematic observation of the cycle by the woman, as prescribed by a given method, on a chart drawn up for this purpose.

The cycle chart with self-observations can be an element of prevention of reproductive health disorders and an aid for the physician in interpreting, diagnosing and administering treatment of gynaecological problems (Ślizień-Kuczapska, Smyczyńska, Rabijewski, 2020). The chart also makes it easier to monitor the progress of treatment for reproductive health disorders and helps the patient to adjust her plans (vacation, surgery) with the cycle. It can also be a reliable tool in the daily work with women, not only for the physician, but also for the nurse and midwife as part of their primary health care duties, with the latter roles gaining increasing competencies (e.g. by continuing prescription of hormonal medications administered by the physician or prescribing certain additional check-ups).

1. Overview of the typical menstrual cycle

A typical menstrual cycle according to self-observation rules is characterized by a correlation of the main signs of fertility, i.e. spike in BBT (basal body temperature), the peak of cervical mucus level and the peak of the cervix (Kinle, Szymaniak, 2009). The following criteria for typical menstrual cycles according to double-check fertility awareness methods (FAM) can be distinguished:

- normal length of the cycle,
- normal course of menstrual bleeding,
- normal occurrence of the cervical mucus symptom,
- normal changes occurring in the cervix,
- normal biphasic course of BBT,
- a minimum of 10 days of the luteal phase,
- convergence of major fertility indicators,
- limited perimenstrual complaints, e.g. premenstrual syndrome (PMS), menstrual soreness (Piasecka, Łyszczarz, Pytka, Ślizień-Kuczapska, Kanady, 2022).

All major bioindicators of fertility should be measured or tested according to specific rules of the method, in this case symptothermal double-check method. Their record is kept on a standardized paper card or in a mobile application. In the morning, immediately after waking up, the BBT symptom is recorded on the cycle chart; in the evening, after a day-long observation – the status of cervical mucus (Kuźmiak, Szymaniak, Walczak, 2014).

Based on more than 30 years of work of the Polish Natural Family Planning Teachers Association (PNFPTA) with women learning how to observe their menstrual cycles, a pattern for teaching the method under the guidance of a certified teacher was developed. The first three meetings with the woman being taught are carried out at weekly intervals; after the third meeting a month's break is recommended. If necessary, additional consultations are carried out. At the first meeting, the teacher conducts an interview and informs the trainee about the effectiveness of the method in planning and postponing conception, as well as how FAM can help the woman learn more about her fertility physiology. She can then use this knowledge to monitor her reproductive health. An interview with a woman involves collecting data for an individual metric, covering such information as age, place of learning the method, marital status, education, number of children, purpose of learning the method, and potential support from her husband / fiancé / partner in conducting self-observations. The teacher shares instructional materials on the basics of the anatomy and physiology of the male and female reproductive systems and the principles of observing basal body temperature (BBT). It is recommended that a sexually active client be informed that, optimally, for the first three observed cycles, she should not engage in sexual activity throughout the entire cycle. Otherwise, there is a risk of lowering the quality of observation results due to the impact of ejaculate on the mucus symptom – an indicator that may be difficult to correctly interpret in the cycle observation chart during the learning process. The second meeting a week after the first serves to verify the quality of the BBT measurement record in the chart. The teacher also guides the woman in self-interpretation of sample practice sheets, so that

she learns how observation is to be carried out and how mucus records should be interpreted. During the third meeting, a week after the previous one, the woman learns how to determine the fertile period based on her own menstrual cycle self-observation chart. The fourth meeting, a month after the last one, is intended to check if the woman knows how to and can correctly observe temperature (BBT) and cervical mucus. At the fifth meeting, three months later, the woman learns to carry out calculations.

It is only by being thorough and systematic that a woman can become proficient in the principles of a specific FAM. What is also required at this point is professional assistance from a qualified teacher as well as having enough time to master the observation of basic fertility indicators and analyse them in relation to determining the phases of the monthly cycle and recognizing periods of fertility and infertility. However, it is not only the knowledge and interpersonal skills of the teacher that makes the woman encouraged to observe her cycle and to keep correct, systematic records of fertility indicators in the observation chart. Above all, it is her own attitude and motivation.

The cycle chart contains information such as the date (month, year), consecutive days of the observed cycle, cycle length, cycle number, number of the next cycle chart (if the cycle lasts more than 40 days, its symptoms are recorded in the next chart), the time and place where the temperature measurement (BBT) was recorded in the form of a graph, the last day of menstruation (spotting/bleeding is also included in the duration of menstrual bleeding), the consecutive days of the cycle (the first day of menstruation is the first day of the cycle), planning and postponing the conception of a child, the shortest and longest of the last 12 observations of the monthly cycle, the image of the mucus (its appearance and the feeling it gives), height and hardness of the cervix (for sexually active clients who want to analyse this symptom), length of the luteal phase, time of temperature measurement (BBT), place of measurement (mouth, vagina, anus), fertile days in the cycle; also, prophylactic measures regarding breast self-examination immediately after menstruation, and recording any cycle disturbances and additional cycle-related observations and irregularities (Kuźmiak, Szymaniak, Walczak, 2014).

The aim of this study was to learn about the ability of self-observation of the monthly cycle according to the symptothermal double-check method among women of reproductive age who reported typical cycles.

2. Methodological basis of the study

The study used the method of documentation analysis obtained with the permission of the Polish Natural Family Planning Teachers Association (PNFPTA). The collected material covered the monthly cycle charts of women who received training in this area over a period of 7 years (from 2015 to 2022). Only those charts that appeared complete and met the criteria for a typical cycle were selected for statistical analysis. Charts with missing data and those not meeting the criteria for typical cycles were excluded from further analysis. Ultimately, the 1st chart of the observed menstrual cycle in a group of 33 women and the 3rd chart in a group of 41 women from the Poznań and Lublin branches of PNFPTA were analysed. All observation charts that qualified for analysis met the following criteria: they included records of at least 2 out of 3 main BBT fertility biomarkers (biphasicity of temperature waveform, notes from observation of cervical mucus), correlation of fertility symptoms, normal luteal phase, and normative length of bleeding. Based on the adopted criteria, a total of 12 observation charts were disqualified. The total number of charts analysed in the study was 74. During their FAM training, the women were not using contraception, had typical cycles, and were not in puberty, postpartum, breastfeeding or premenopausal. The majority of women, before starting to learn the symptothermal double-check method, did not know it earlier and did not use this method. The average age of the respondents was 29, with the youngest at 17 and the oldest at 42 years old.

From the first meeting with a certified teacher, every respondent worked using educational materials prepared by PNFPTA – these included a cycle observation notebook for recording observations on an ongoing basis. After a teaching cycle finished, the teacher who worked with the woman handed

over her observation charts to PNFPTA for archival purposes. The progress in acquiring self-observation skills and the thoroughness and accuracy of records entered in cycle charts were assessed on the basis of a proprietary scale specifically developed for this purpose. The scale incorporated the criteria for assessing the correctness of teaching self-observation of the menstrual cycle as developed by PNFPTA.

The criteria adopted in the proprietary (authors') scale for assessing observation skills of the surveyed women covered 7 areas, each of which could receive a maximum score of 9 points:

1. regularity in recording BBT measurements – max. 1 point;
2. entering days, months, year in which observations were conducted, days of menstrual cycle and monthly bleeding – max. 1 point;
3. completing cycle statistics: number of the cycle, number of the next cycle chart, the last day of menstruation, the longest and shortest of the last observed cycles, increase in temperature in the previous cycle (BBT), the day on which the first mucus occurred, the first day of the highly fertile mucus, the day of the peak of the mucus symptom, the third day of the peak of the mucus symptom, the overlap line, the third day of temperature above the overlap line, the length of the luteal phase, the length of the cycle, the time of temperature measurement (BBT), the place of temperature measurement (mouth, vagina, anus) – max. 2 points (1 point if completion is only partial);
4. conducting daily observation of cervical mucus – max. 2 points (1 point if completion is only partial);
5. correctly determining the peak of mucus – max. 1 point;
6. correctly determining the overlap line and spike in BBT – max. 1 point;
7. correctly determining the end of the fertility phase – max. 1 point.

A score of 0 to 4 points meant low skills and 5 to 9 points high skills of the surveyed women.

In addition to the observation charts, each woman filled out a metric with questions about her age, marital status, education, and the site of her FAM training.

For statistical analyses, the SPSS Statistica software, version 25 was used. The level of $\alpha < 0.05$ level was considered statistically significant. In the statistical description of the results, on the quantitative scale of the level of skills in cycle observation, the mean, standard deviation, median, mean rank, skewness and kurtosis coefficients were used. A statistical description of results of a nominal nature was carried out with the use of percentage and number distributions. In order to formulate statistical inferences about the level of skills in the symptothermal method, 95% confidence intervals for the mean were used. McNemar and Wilcoxon tests were used to examine the difference in the number of points scored in the first and last measurements. Assessments of the relationship between the respondents' classified scores and sociodemographic variables were verified using the chi-square test. The results thus obtained were presented graphically in tables.

3. Analysis of results

Our study examined whether the ability to observe the menstrual cycle depended on sociodemographic variables such as age, marital status, the site of FAM training, and education. More than half of the surveyed women (56.08%, $n = 23$) were single and (43.89%, $n = 18$) were married. Less than half of the respondents (46.33%, $n = 19$) received FAM training in the Poznań branch and more than half (53.64%, $n = 22$) in the Lublin branch of PNFPTA. Higher education was reported by more than half of the respondents (58.52%, $n = 24$). The analyses showed statistically significant correlations between the level of cycle observation skills and education (strong correlation, $p = 0.013$). As regards education, statistically significant differences were found between its higher and secondary levels. Respondents with secondary education displayed low observation skills (4.87%, $n = 2$). University and secondary school students exhibited a high

Table 1. The level of self-observation skills among female respondents versus sociodemographic factors in chart III of the cycle

Factor	Variable	Evaluation of the skills analysed in chart III				Chi-square test			
		High skill		Low skill		χ^2	df	p	V
		n	%	n	%				
Marital status	Single	22	53.65%	1	2.43%	1.740	1	0.187	0.206
	Married	15	36.58%	3	7.31%				
Site of FAM training	Poznań	16	39.02%	3	7.31%	1.464	1	0.226	0.189
	Lublin	21	51.21%	1	2.43%				
Education	Higher	22	53.65%	2	4.87%	12.605	4	0.013	0.554
	Secondary	4	9.74%	2	4.87%				
	Vocational	1	2.43%	0	0.00%				
	Secondary school / university student	10	24.39%	0	0.00%				

n – number of observations; % – percentage; χ^2 – test result; p – test probability; df – degrees of freedom; V – Cramér's V

Table 2 Monthly cycle self-observation skills vs. the goal of learning

The goal of learning	Factor level	Assessment of cycle observation skills Chart III				Chi-square test			
		High		Low		χ^2	df	p	V
		n	%	n	%				
Assessment of reproductive health	No	6	14.63%	3	7.31%	7.281	1	0.007	0.421
	Yes	31	75.60%	1	2.49%				
Postponing conception	No	19	46.34%	3	7.31%	0.812	1	0.368	0.141
	Yes	18	43.90%	1	2.49%				
Planning conception	No	33	80.48%	2	4.87%	4.438	1	0.035	0.329
	Yes	4	9.75%	2	4.87%				

n – number of observations; % – percentage; χ^2 – test result; p – test probability; df – degrees of freedom; V – Cramér's V

Table 3. Cycle observation skills vs. support in learning the method from husband / fiancé / partner

Support in learning the method	Factor level	Assessment of cycle observation skills Chart III				Chi-square test			
		High		Low		χ^2	df	p	V
		n	%	n	%				
From husband / fiancé / partner in learning the method	Yes	12	29.26%	3	7.31%	2.856	2	0.240	0.264
	No	2	4.87%	0	0.00%				
	N/a	23	56.09%	1	2.43%				

n – number of observations; % – percentage; χ^2 – test result; p – test probability; df – degrees of freedom; V – Cramér's V

Table 4. Assessment of the individual criteria of the self-reporting scale as a determinant of the thoroughness of the respondent's records and assessment of these skills in relation to cycle charts I and III.

Assessed skills	Number of points scored on a self-reported scale	Cycle observation chart				Test probability of the McNemar and Wilcoxon test p
		I n = 33		III n = 41		
		n	%	n	%	
Regularity of BBT measurements	0	16	48.48	13	31.71	0.070
	1	17	51.51	28	68.29	
Entering the dates of cycle days, bleeding, month and year of observation	0	3	9.09	3	7.32	1.000
	1	30	90.90	38	92.68	
Completing menstrual cycle statistics	0	3	9.09	3	7.32	0.827a
	1	13	39.39	13	31.71	
	2	17	51.51	25	60.98	
Daily observation of cervical mucus	0	13	39.39	11	26.83	0.423b
	1	2	6.06	5	12.20	
	2	18	54.54	25	60.98	
Correctly determining the peak of cervical mucus	0	6	18.18	2	4.88	0.250
	1	27	81.81	39	95.12	
Determining the overlap line and spike in BBT	0	2	6.06	3	7.32	1.000
	1	31	93.93	38	92.68	
Correctly determining the end of the fertile phase	0	6	18.18	4	9.76	0.375
	1	27	84.38	37	90.24	
Assessment of the respondents' skills based on the scores obtained	High	27	84.38	37	90.24	0.625
	Low	6	15.63	4	9.76	

a - Wilcoxon test result Z = -0.218; b-Wilcoxon test result Z = 0.801; p-test probability; n-number of observations; % - percentage

level of cycle observation skills (24.39%, n = 10). Table 1 presents an assessment of the level of the respondents' cycle observation skills according to sociodemographic factors such as marital status, the site of FAM training, and education.

Table 2 presents an assessment of the level of the respondents' cycle observation skills according to the declared goal of learning. The conducted analyses revealed statistically significant correlations between cycle observation skills and the goal of learning, i.e. reproductive health (moderate correlation, p = 0.007) and the goal of learning, i.e. planned conception (moderate correlation, p = 0.035). The women for whom the goal of learning the method was to monitor their reproductive health were more likely to exhibit high skills (75.60%, n = 31); in contrast, those who declared conception as their goal were more likely to belong in the low skill group (4.87%, n = 2).

Table 3 presents an assessment of the skills of the surveyed women according to the support they receive from their husband / fiancé / partner. The study found that most women with high menstrual cycle observation skills did not receive support from their husband / fiancé / partner (4.87%, n = 2), or the question did not concern them (56.09%, n = 23). Women who declared support in learning the method from their husband / fiancé / partner accounted for (36.56%, n = 15), with (7.31%, n = 3) of this group scoring low in cycle self-observation skills. Married women formed a group which included (43.90%, n = 18).

The study also analysed records in the cycle observation charts pertaining to the days of the cycle and the occurrence of changing, main fertility symptoms during the cycle, e.g. the BBT waveform and the occurrence of the cervical mucus symptom, as well

as the completed cycle statistics table i.e. information on planning or postponing conception, number of the cycle, number of the next cycle chart, the last day of menstruation, the longest and shortest of the 12 observed cycles, increase in BBT in the previous cycle, the beginning and end of fertility period, the day on which the first mucus occurred, the first day on which highly fertile mucus occurred, the day of the peak of the mucus symptom, the day of the peak of the mucus symptom + 3, the third day of temperature above the overlap line, the length of the luteal phase, the length of the cycle, and the time and place of measurement (mouth, vagina, anus).

Based on the analysis, it is worth noting that for all criteria, more than half of the respondents scored the maximum number of points (regardless of whether it was the first or third observation chart). The result that came closest to the adopted significance level of $p < 0.05$, but was not statistically significant, was the relationship between charts I and III in terms of the regularity of temperature measurements taken by the respondents ($p = 0.070$). The study showed an increase in the regularity of BBT measurements taken in chart III of menstrual cycle observation among the respondents. In chart I, 1 point for BBT measurement was scored by 51.51% ($n = 17$) of the women and in chart III by 68.29% ($n = 28$). Zero points were scored by 48.48% ($n = 16$) of the respondents; however, an increase in skills was found in chart III and the number dropped to 31.71% ($n = 13$). In the "cycle statistics completion" criterion in chart I, the maximum score was obtained by 51.51% ($n = 17$) of the women; in chart III this number increased to 60.98% ($n = 25$). The study also showed an increase in skills regarding daily observation of cervical mucus in chart III of menstrual cycle observation. In chart I, 2 points were scored by 54.54% ($n = 18$), 1 point by 6.06% ($n = 2$) and 0 points by 39.39% ($n = 13$) of the surveyed women. Under the same criterion, in chart III, 2 points were scored by 60.98% ($n = 25$), 1 point by 12.20% ($n = 5$) and 0 points by 26.83% ($n = 11$) of the women. The peak of cervical mucus was correctly determined by 81.81% ($n = 27$) of women in chart I and 95.12% ($n = 39$) in chart III. Six respondents (18.18%) in chart I failed to determine the peak of cervical mucus, while in chart III

it was only two of them (4.88%). In the criterion of correctly determining the end of the fertile phase, the maximum score was obtained by 84.38% ($n = 27$) of the respondents in chart I and 90.24% ($n = 37$) in chart III. Six respondents (18.18%) incorrectly determined the end of the fertility phase in chart I and four of them (9.76%) in chart III. The results are presented in Table 4.

4. Discussion

The subject matter of the study on the acquisition of skills in the self-observation of menstrual cycle using the symptothermal double-check method among women of reproductive age is novel insofar as the scientific literature, including papers in English, addresses it in a rather modest way. According to the authors, there should be many more such research works.

In our study, the women ranged in age from 17 to 42. The respondents' mean age was 28.91 with a standard deviation of 6.26. In the study by Tawara et al. the mean age was slightly higher at 32 years (Tawara, Tamura, Suganuma, Kanayama, 2012). Ayoola et al. conducted their study in the most age-diverse group of women, between 18 and 51 years old (Ayoola, Zandee, Adams, 2016). In the study by Crawford et al. the range was narrower at 30–44 years (Crawford, Pritchard, Herring, 2017). In the study by Najmabadi et al. the female respondents were between the ages of 18 and 40 (Najmabadi, Schliep, Simonsen, Porucznik, Egger, Stanford, 2021). In the study by Ecochard et al., the range was 19–45 years (Ecochard, Duterque, Leiva, Bouchard, Vigil, 2015). It was therefore a study that looked at a group of women in an age range most similar to our own research.

The study discussed in this paper, involving a group of women who observed their monthly cycles, shows that their motivations varied before learning the self-observation method. The respondents' prevailing need was to monitor their reproductive health and to postpone conceiving or conceive a child. In her study, Ślizień-Kuczapska found that observation of the menstrual cycle can be used for several purposes, i.e. to recognize periods of physiological fertility and

infertility in a woman, to diagnose and monitor the aetiological treatment of infertility, but also to detect at an early stage general disorders that may manifest themselves in cycle disturbances (Ślizień-Kuczapska, Smyczyńska, Rabijewski, 2020). Similar insights regarding the use of women's cycle charts are offered by Smyczyńska, who believes it is reasonable to employ observation charts in the diagnosis of female endocrine diseases. Self-observation of the menstrual cycle enables the identification of such symptoms as abnormal length of the various phases of the cycle, as well as disorders of cervical mucus or basal body temperature. Noticing these alarming symptoms correctly and as early as possible requires close cooperation of the patient not only with the physician, but especially with the natural family planning instructor (Smyczyńska, 2019).

Physicians can use the information in the cycle observation chart to diagnose and treat medical conditions and also to support or restore the healthy functioning of the reproductive and endocrine systems (protocols according to restorative reproductive medicine, RRM). Fertility awareness methods can also be recommended for highly effective family planning by professionally trained teachers/instructors (Duane, Stanford, Porucznik, Vigil, 2022).

Therefore, if we assume that the ability to self-observe the menstrual cycle according to a specific FAM is an important component of health-promoting education or "health literacy", then, as the authors emphasize, it is vital that further studies are conducted on comprehensive reproductive knowledge, involving a larger population of women (Ayoola et al., 2016), and that adequate programs are implemented to teach FAM to women who express interest in these methods. According to U.S. research, up to 60% of women are interested in learning more about fertility and fertility awareness from their physicians (Fertility Awareness-Based Methods. A Medical Update. FACTS, 2016).

Research by Hampton et al. indicates that the majority of women surveyed who sought help and support from various types of assisted reproductive technologies and attempted intercourse during the fertile phase lacked sufficient knowledge and, therefore, ability to correctly identify this phase; they also had low awareness of their

own fertility, which may have contributed to problems with conception (Hampton, Mazza, Newton, 2012). Research conducted by Stanford as part of Creighton Model Fertility Care System in the years 1996–2000 indicated that 65% of couples used it to postpone conception and 18% to plan conception. Research from 2009–2011 demonstrated a shift in these trends: 42% of couples who postponed and 41% who planned conception (Notare, 2019).

As observed in this research conducted on a group of female students, among others, who accounted for 24.39% ($n = 10$), cycle observation can be very useful in young women and girls who do not engage in sexual activity and who consider reproductive health to be important. For this reason, it seems expedient to educate girls and young women on how to identify fertility biomarkers and keep observation charts, considering the physiological peculiarities of this period of life (Ślizień-Kuczapska, Smyczyńska, Rabijewski, 2020).

In addition, Hampton et al. point to the need to pay more attention to educating women about their fertility awareness. This task would be assigned to primary health care nurses (Hampton, Mazza, Newton, 2012). Lundsberg et al. point out that there is too little involvement on the part of health care professionals regarding aspects of fertility health (Lundsberg, Pal, Garipey, Xu, Chu, Illuzzi, 2014).

The analysis of the respondents' menstrual cycle charts confirmed the possibility of specifying cycles in accordance with the adopted criteria for typical cycles. For every woman taught in this area, self-observation of the menstrual cycle is a source of knowledge about the state of her reproductive health, in addition to providing emotional balance and mental and physical comfort. In the case of women who are married or have a partner, the ability to determine the time of highest fertility and confirm the onset of ovulation based on biomarkers of the symptothermal double-check method allows planning or postponing conception; it also strengthens the relationship and facilitates effective communication between spouses/partners. This seems particularly important in view of an increased incidence of problems related to fertility disorders and the occurrence of abnormal

menstrual cycles. The method itself allows for early recognition of any anomalies and reduces the time before the patient consults a doctor, is diagnosed and undertakes treatment. A very important role is played here by an adequately prepared NFP teacher who can serve as a "liaison" between the patient and a health care professional, e.g. a physician (Szymaniak, Ślizień-Kuczapska, 2016; Ślizień-Kuczapska, Żukowska-Rubik, Sys, 2018). The lack of support from the husband or partner during the learning of the method for family planning is puzzling in light of the data on its relevance during the joint use of the method (Komorowska-Pudło, Rawicka, 2020). Perhaps this support reveals itself only at the stage of using the method requires additional study. The authors believe that papers of this type are a valuable source of information and should undergo further analysis.

Conclusions

1. Mastering the observation of menstrual cycle with the use of the symptothermal double-check method was found to increase over the course of FAM training between the first and the third cycles.
2. More than half of the respondents scored the maximum number of points according to the criteria of the observation skills assessment scale, both in charts I and III.
3. The majority of women who proved highly skilled in menstrual cycle observation had university degree and received FAM training at the Lublin branch of PNFPTA. They also did not obtain support from their husbands / fiancés / partners in learning the method, and their motivation for learning was to monitor their reproductive health.
4. High self-observation skills among the respondents are the result of women's motivation to learn and to use expert assistance from a certified FAM teacher.
5. It is advisable that the method be first taught to young women of school age and university students, as they usually do not yet have responsibilities associated with work or family.
6. In order to be able to interpret the chart completely unassisted, women should conduct continued observation of their cycles. They should also have access to consultations, in person or on-line, with FAM teachers.
7. Further research, education among the public, and training opportunities for health care professionals in this area of prophylactic measures are needed.

Bibliography

- Ayoola, A.B., Zandee, G.L., Adams, Y.J. (2016). Women's Knowledge of ovulation, the Menstrual cycle, and Its Associated Reproductive Changes, *Birth*, 43(3), 255-262. <https://doi.org/10.1111/birt.12237>
- Crawford, N.M., Pritchard, D.A., Herring, A.H., Steiner, A.Z. (2017). Prospective evaluation of luteal phase length and natural fertility, *Fertility and Sterility*, 107(3), 749-755. <https://doi.org/10.1016/j.fertnstert.2016.11.022>
- Duane, M., Stanford, J.B., Porucznik, Ch., A. Vigil, P. (2022). Fertility Awareness-based Methods For Women's Health And Family Planning, *Frontiers In Medicine*, 9, <https://doi.org/10.3389/fmed.2022.858977>
- Ecohard, R., Duterque, O., Leiva, R., Bouchard, T., Vigil, P. (2015). Self-identification of the clinical fertile window and the ovulation period. *Fertility and Sterility*, 103(5), 1319-1325. <http://dx.doi.org/10.1016/j.fertnstert.2015.01.031>
- Fertility Awareness based method a medical update FACTS, Natural Womanhood*, (2016). (From:) <https://naturalwomanhood.org/wp-content/uploads/NW-FACTS-Brochure-Jan-2016-update-FINAL-updated.pdf> (access: 01.07.2023).
- Hampton K.D., Mazza D., Newton J.M. (2012). Fertility-awareness knowledge, attitudes, and practices of women seeking fertility assistance. *Journal of Advanced Nursing*. 69(5), 1076-1084. <https://doi.org/10.1111/j.1365-2648.2012.06095.x>
- Kinle, M., Szymaniak, M. (2009). Fazy cyklu miesięczkowego i objawy płodności w cyklu miesięczkowym. (W:) M. Troczyński (red.), *Rozpoznawanie płodności. Materiały edukacyjno-dydaktyczne dla nauczycieli NPR, pracowników służby zdrowia oraz zainteresowanych zdrowiem prokreacyjnym*, 59-70. Warszawa: Polskie Stowarzyszenie Nauczycieli Naturalnego Planowania Rodziny.

- Kuźmiak, M., Szymaniak, M. (red.), (2014). *Rozpoznawanie płodności, metoda objawowo-termiczna podwójnego sprawdzenia, praktyczny kurs dla użytkownika metody, podręcznik*, Warszawa: Polskie Stowarzyszenie Nauczycieli Naturalnego Planowania Rodziny
- Lundsberg, L.S., Pal, L., Garipey, A.M., Xu, X., Chu, M.C., Illuzzi, J.L. (2014). Knowledge, attitudes, and practices regarding conception and fertility: a population-based survey among reproductive-age United States women, *Fertility and Sterility*, 101(3), 767-774. <http://dx.doi.org/10.1016/j.fertnstert.2013.12.006>
- Najmabadi, S., Schliep, K.C., Simonsen, S.E., Porucznik, Ch.A., Egger, M.J. & Stanford, J.B. (2021). Cervical mucus patterns and the fertile window in women without known subfertility: a pooled analysis of three cohorts, *Human Reproduction*, 36(7), 1784-1795. <https://doi.org/10.1093/humrep/deab049>
- Notare, T. (2019). *Humanae Vitae, 50 years later. Embracing Gods Vision for Marriage, Love, and Life; A Compendium. Edited*. Washington: The Catholic University Of America Press. <https://doi.org/10.2307/j.ctvkjb333>
- Piasecka, K., Łyszczarz, P., Pytka, M., Ślizień-Kuczapska, E., Kanadys, K. (2022). Analiza kart obserwacji cykli w grupie kobiet w wieku prokreacyjnym. *Kwartalnik Naukowy Fides et Ratio*, 3(51), 41-51. <https://doi.org/10.34766/fetr.v3i51.1115>
- Tawara, F., Tamura, N., Suganuma, N., Kanayama, N. (2012). Changes in cervical neutrophil elastase levels during the menstrual cycle, *Reproductive Medicine and Biology*, 11(1), 65-68. <https://doi.org/10.1007/s12522-011-0104-7>
- Smyczyńska, J. (2019). Diagnostyka i leczenie zaburzeń hormonalnych jako wyraz troski o zdrowie prokreacyjne i profilaktyka niepłodności.: Czy metody rozpoznawania płodności mogą być pomocne? *Kwartalnik Naukowy Fides et Ratio*, 39(3), 44-57. <https://doi.org/10.34766/fetr.v3i39.119>
- Ślizień-Kuczapska, E., Smyczyńska, J., Rabijewski, M. (2020). Wybrane zagadnienia zaburzeń kształtowania się zdrowia prokreacyjnego u dziewcząt. Czy warto włączyć obserwację cyklu do praktyki lekarskiej? *Kwartalnik Naukowy Fides et Ratio* 3(43), 303-319. <https://doi.org/10.34766/fetr.v43i3.318>
- Ślizień-Kuczapska, E., Żukowska-Rubik, M., Sys, D. (2018). W trosce o rozwój zdrowia prokreacyjnego rodziny. Poradnictwo medyczne i pozamedyczne w promocji karmienia piersią oraz zagadnień naturalnego powrotu płodności po porodzie. *Kwartalnik Naukowy Fides et Ratio*, 2(34), 50-73. <https://www.fidesetratio.com.pl/Presentations0/2018-04Kuczapska.pdf>