

## Are Women Adequately Informed by Publications on Contraception? An International Perspective

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### Abstract

The paper argues by way of an international comparison that U.S. research publications as well as public health media provide inadequate information on contraceptive methods. To support this argument, the paper analyses the most salient publications as well as websites of public health agencies and compares them to European publications. It concludes that U.S. research has to intensify efforts to strive for accuracy and completeness to enable women to exert their autonomy as fully informed patients.

**Keywords:** Contraceptive methods; Family planning; Public health; Ovulation

### Introduction

U.S. research generally provides accurate and complete information on a wide array of health issues, including birth control, contraception, and related topics. As contraception remains of pivotal interest worldwide [1], U.S. researchers have taken a leading role with publications on a variety of issues such as family planning as a cost-saving service [2] long-acting contraception and teenage pregnancy [3] teen sexual health [4] and contraception as a primary care service [5,6].

The hegemony of U.S. research on women's issues, however, seems challenged when efficacy of contraceptive methods is at stake. An analysis of the most pertinent publications focusing on contraceptive methods viewed from an international perspective reveals that women in the U.S. are not as well informed about this topic as women in the European Union.

### Discussion

In seeking information on contraceptive methods millions of women turn to the publications by one of the most influential agencies, the U.S. Food and Drug Administration. In fact, the FDA provides information on contraception by presenting a consumer-friendly survey of FDA-approved contraceptive methods [7]. Yet, to the disappointment of many women seeking alternatives to pills and devices, there is no mention of such methods as Symptothermal, Ovulation, Two day, and Standard days, i.e., methods that have been included in international research and in research on contraceptive technology for several years. Their estimates for perfect use of 0.4 (symptothermal), 3 (ovulation), 4 (Two day), and 5 (Standard days) respectively [8] indicate that they can compete with some of the methods included in the FDA survey. Disregard for such methods is not reconcilable with the bioethical principle of "informed consent", which requires complete and accurate information for the patient on all aspects of a medical issue, in this case availability of contraceptive methods. In addition, the principle of *nil nocere* must be taken into account because it stipulates priority for the least harmful methods. As

the FDA makes no mention of any other method besides the 19 listed in the survey, several methods are doomed to fall into oblivion although they are internationally recognized [9] and have the advantage of being unblemished by any side effects and risks. It has to be feared, therefore, that U.S. women inquiring about contraceptive options are left with the disappointing impression that there are no other contraceptive methods available than the 19 listed by the FDA.

The lack of completeness conspicuous in the FDA survey is particularly striking from an international perspective. More precisely, European research has investigated the issue of contraception as a long-known phenomenon in the history of medicine and has endeavored to establish for each single method its proper failure rate [10]. Instead of collectively attributing failure rates to a group of methods, European scholars over the years have made efforts to assess each method individually [11]. As a result of these efforts the symptothermal method with a Pearl Index of 0.8 has emerged as one of the reliable methods, surpassed only by tubal sterilization (Pearl Index 0.09-0.4), depot gestagens (Pearl Index 0.03-0.9), and oral contraceptives (Pearl Index 0.1-1.4). According to German research the basal temperature method (Pearl Index 1-3), is superior to chemical spermicide (Pearl Index 12-20), while the cervical mucus (Pearl Index 15-32), and calendar after Knaus-Ogino (Pearl Index 15-40) are somewhat comparable to coitus interruptus (Pearl Index 8-38) [10]. The clear distinction among the various methods made by European research is rather an exception in U.S. research publications and public health media where inaccurate failure rates are still being disseminated.

The U.S. Department of Health and Human Services (Office on Women's Health) [12] adapted WHO data to provide information on family planning and assigned collectively 24% ("number out of every 100 women who experienced an unintended pregnancy within the first year of typical use") to the so-called "fertility-awareness based methods". These are considered as the least effective, just slightly superior to the "spermicide method" (28%). Such an assessment exclusively for typical use and not for perfect use, does not take into account that the nomenclature "fertility-awareness" encompasses at least four different methods, each one with a failure rate of its own, ranging from 0.4 (symptothermal) to 5 (Standard Days) [9].

Interestingly enough these methods are described only in a different website with focus on fertility awareness, provided by the Office of Population Affairs [13]. Here again, a common failure rate of 25% is indicated for the four methods, as if all of them were equally effective, or rather ineffective. What is noteworthy in this website is a new classification of fertility awareness, namely Basal Body Temperature (BBT), cervical mucus and computation of standards days. The "symptothermal" is described as a combination of BBT and cervical mucus, but all four methods are grouped under one single failure rate, namely 25 although it seems logical that a method combining two other ones should show increased efficacy.

Moreover, the website fails to provide a description of all the salient components of the symptothermal method, namely observation of "symptoms" such as low backache, mastalgia, peritoneal irritation and fleeting lower abdominal pain ("mittelschmerz") [14].

Equally incomplete is the information presented by other government-funded websites. In a "women's health" publication by the Office on Women's Health [15] natural family planning is erroneously identified as the "rhythm method" and attributed a failure rate of 24. This identification obscures the fact that "natural family planning" is not a method per se but just a taxonomic nomenclature, and the figure quoted might be correct for the cervical mucus method but not for the basal temperature (perfect use failure rate 1-3) or symptothermal method (perfect use failure rate 0.8) [10]. In a different version of the "women's health" website, some of the characteristics of the symptothermal method are correctly described but under the ambiguous heading of "natural family planning/rhythm method" and the failure rate of 25 is defined as the "number of pregnancies expected per 100 women," i.e., without any differentiation between typical and perfect use.

Surprisingly, lack of accuracy appears also in publications by specialists on gynecological issues such as the American Congress of Obstetricians and Gynecologists who stated as recently as 2015 that natural family planning "is not as effective as other methods of birth control" [16]. From an international perspective it seems misleading to speak collectively of natural family planning without distinguishing among the various methods, and it is obviously incorrect to state that they are not as effective as other methods because the symptothermal method with a Pearl Index of 0.8 is comparable to IUDs (Pearl Index of 0.14-2), and the temperature method (Pearl Index of 1-3) is still more effective than the condom (Pearl Index of 4-5) [10].

Surprisingly, error-prone statements appear also in publications emanating from academic institutions. Under the heading "temporary contraception options" by "UW Health", [17] only the ovulation, the symptothermal, and the rhythm method are mentioned. In describing their characteristics, the symptothermal method is apparently confounded with the temperature method and assigned the same Pearl Index as the ovulation method ("90-95% effectiveness rate"). In addition, it is discredited as involving "a lot of details". The truth, however, is that the symptothermal method involves nowadays only few details, especially in conjunction with easily available smartphone applications. In the originally developed "cycle sheet", body temperature and changes in cervical mucus had to be recorded, including position, opening and consistency of the portio vaginalis cervicis [10]. Regarding the symptoms to be observed it should not be overlooked that for some women attention to details is a welcome opportunity to get better acquainted with their own body and not a condition for the efficacy of infertility treatments.

Although some publications furnished by academic institutions follow the traditional classification of fertility awareness methods and contain correct descriptions of the symptothermal method they fail to indicate a failure rate [18]. Others add unverified comments linking fertility awareness methods to religion by stating that these methods are recommended only for those "whose strong religious beliefs prohibit standard contraceptive methods" [19]. As it is true that for some women with specific cultural backgrounds a religious reason might encourage use of one of the natural methods, in many instances the primary motif is an aversion to pills or devices and fear of complications. Most websites, fortunately, avoid bias and strive for objectivity, as for example that of the Mayo Clinic [20]. Here, the rhythm method is identified as the calendar method, and the symptothermal method is defined as the combination of the cervical mucus method with body temperature.

What is astonishing from an international perspective is the fact that even U.S. scholarly publications do not contribute to more accurate assessments of methods. The widely-known National Health Statistics Report [21] speaks in an unspecific manner of "fertility awareness" and indicates the probability of pregnancy as 25.3 ("probability of a contraceptive failure within the first 12 months of typical use of a contraceptive method"). As there is no specification of the methods belonging to fertility awareness and no reference to perfect use, this figure leads to the assumption that all the methods that usually are considered as fertility awareness have the same probability of a contraceptive failure, regardless of typical or perfect use. In addition, this statement contradicts the findings of experts in the statistics of failure rates, who attribute 0.4 to the most efficient of the fertility awareness, i.e., natural family planning methods [8].

Unexplained failure rates appear also in one of the leading medical reference books, the MSD Manual [22]. Although this scholarly remarkable work with a long history states correctly as early as 1999 that the symptothermal method is the most precise in determining the days where abstinence is mandatory, it attributes to this periodic abstinence method a failure rate of 10%, which does not agree with the 0.3 pregnancy rate established by international research [23].

Similarly, failure rates without attention to the specificity of each individual method are to be found in publications by specialists in reproductive health. In studies emanating from the Guttmacher Institute fertility awareness-based methods are not distinguished from one other but indiscriminately assigned a failure rate of 0.4-5 for perfect use and 24 for typical use [24]. In addition a new taxonomy is introduced listing three groups of methods as belonging to the fertility awareness-based methods, i.e., "cervical mucus methods, "body temperature methods, "and "periodic abstinence." Besides the problem of a novel taxonomy, this study raises the question of how a method with a remarkable failure rate of 0.4 (symptothermal) or 3.0 (ovulation) in case of perfect use can deteriorate to a disappointing failure rate of 24 in case of typical use. A possible explanation is provided by a most recent study (2016) on failure rates in case of typical use, based on demographic as well as health survey data from 43 countries outside the U.S. [25]. In a comparison of data the authors explain that their estimates regarding periodic abstinence were surprisingly lower for the developing world (i.e., 13.9) than for the U.S. (i.e., 24). A possible explanation for such an unexpected disparity might be that the figure for the U.S. [24] is an outdated estimate, not based on recent investigations but taken "from 1995 and 2002 National Surveys of Family Growth..." [26]. This assertion dovetails with the statement made by contraceptive technology research affirming the use

of outdated figures: "Estimates of the probability of pregnancy during the first year of typical use...are taken from the 1995 National Survey of Family Growth" [9].

#### Conclusion

In view of the continued use of outdated figures and incomplete information on contraceptive methods it seems self-explanatory that present-day information is insufficient to enable women to make decisions as fully informed autonomous patients. In addition to the disregard for the bioethical principle of informed consent affirming completeness of information there is also neglect of the principle of *nil nocere* stipulating priority for the least harmful method. In view of the inadequacies found in various publications and websites, heightened sensitivity to bioethics and accuracy of data must be postulated from researchers and publishers to warrant autonomous decision-making processes for each woman, regardless of her socio-cultural background or religious belief.

#### Implications

The socio-political importance of access to contraception for all women has been sufficiently proven and underscored by the stipulation of saving taxpayer money through family planning. What remains to be accomplished is dissemination of information in compliance with bioethical principles, i.e., accurate and complete descriptions of all available methods of contraception, including those that are most suitable for women who seek to avoid risks and side effects [27]. As in other societies [28], a considerable segment of the U.S. population professes a preference for a "natural" lifestyle. This segment might be particularly inclined to embrace contraceptive methods that are most fittingly labelled "natural" so that the percentage of women who are presently not using contraception (38%) could be reduced further. From a bioethical viewpoint it seems mandatory that information on all available methods be provided in accordance with the principles of informed consent and *nil nocere* so that each woman is enabled to exert her autonomy and make a well-reflected choice according to her own needs and convictions, as has been claimed as early as 2003 [29].

#### Conflict of Interest

The author declares no conflict of interest.

#### Declaration

Author contribution is 100%.

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