Marital Functioning in Couples Practicing Periodic Abstinence for Family Planning

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Sergio Barroilhet^{1,2}, Camila Señoret¹, Ximena Mallea³,
Rosemarie Fritsch^{2,4}, Paul Vöhringer², and José-Antonio Arraztoa³

Abstract

Objective: To compare dyadic (marital) functioning between users of natural family planning (NFP) and users of artificial methods of contraception (AMC).

Method: A cross-sectional study was conducted in healthy, over eighteen-year-old couples living in stable relationships recruited from primary and secondary health centers in Santiago, Chile. Participants were assessed using a structured interview on sociodemographic and sexual aspects. Primary outcome, marital functioning, was studied using the Dyadic Adjustment Scale (DAS).

Results: One hundred and thirty-eight couples were studied, sixty-nine in each user group. Both groups had a similar average time living together (124.3 vs. 126.9 months). DAS results were consistent with functional couples in both groups, but on average, the NFP group had a significantly higher DAS score than AMC. After controlling for age, socioeconomic status, time in the relationship, and religious commitment in multivariable analysis, the NFP group had a 47 percent (odds ratio = 1.47) greater possibility of having a functional marital score above the cutoff (DAS > 114) when compared with the AMC group. The AMC group reported more frequency of sexual intercourse but similar sexual satisfaction. Most (>60 percent) of the NFP couples mentioned that their methods improved their relationship.

Conclusion: There are sociodemographic differences between both groups, explained partly by unequal access to NFP centers. Both groups have DAS scores within functional range, but NFP users have a higher probability of being in that functional range. This study of mentally and emotionally healthy couples highlights the importance of family planning methods on intimate relationships.

Summary

Marital functioning is affected by family planning methods. A structured interview and a specific inventory to address conjugal functioning were applied to a group of healthy couples who live in stable relationships and are users of natural family planning (NFP) or artificial methods of contraception (AMC). The results were consistent with functional couples in both groups, but on average, the NFP group had a significantly higher score

¹ School of Psychology, University of Los Andes, Santiago, Chile

² School of Medicine, University of Chile, Santiago, Chile

³ Programa Cuidado y Estudio de la Fertilidad, PROCEF, Ob-Gyn Department, School of Medicine, University of Los Andes, Santiago, Chile

⁴ School of Medicine, University of Los Andes, Santiago, Chile

Corresponding Author:

José-Antonio Arraztoa, Programa Cuidado y Estudio de la Fertilidad, PROCEF, Ob-Gyn Department, School of Medicine, University of Los Andes, Santiago 7620001, Chile.

Email: jaarraztoa@miuandes.cl

than the AMC group. The use of NFP explained this difference. This study of mentally and emotionally healthy couples highlights the importance of family planning methods on intimate relationships.

Keywords

contraceptives, natural family planning, marital satisfaction, dyadic function

Sexual behavior, and specifically its reproductive dimension, is one of the most important areas for the development and strengthening of bonds in an intimate relationship. Since the 1960s, family planning methods have become a relevant form of reproductive control. Many different family planning methods have been established and can be divided into two groups: artificial methods of contraception (AMC) and natural family planning (NFP). Leaving aside lactational amenorrhea (Van der Kleijnen, and Van den Berk 2003), which is a prolonged period of infertility due to the effect of prolactin on ovarian function, NFP methods are based on periodic sexual abstinence. These methods, known as the rhythm, basal body temperature, and ovulation-based method, are techniques to monitor biological signs of fertility in women, enabling couples to make a diagnosis of their state of fertility and to use this information to attempt or avoid pregnancy (Fehring and Kurz 2000). The term AMC applies to methods that act by suspending or blocking fertility temporarily or eliminating fertility permanently (e.g., sterilization).

According to the World Contraceptive Use 2013 report (United Nations, Department of Economic Social Affairs PD 2009), worldwide, approximately 63.2 percent of stable couples with women of reproductive age (between fifteen and forty-nine years) use some family planning method; however, the numbers range from 4 percent in South Sudan to 88 percent in Norway. In developed regions, usage is more prevalent, reaching 70.1 percent compared with 62.1 percent in developing regions. Globally, 57.0 percent are users of AMC (sterilization, oral contraceptive pills, injections or implants, IUDs, condoms, other barrier methods, and others), and 5.6 percent use methods based on abstinence (2.9 percent use NFP, 2.7 percent are abstinent, and 0.5 percent use another method).

In Latin America and the Caribbean, the use of any family planning method reaches 72.8 percent. AMC is used by 66.6 percent, while 5.7 percent use abstinence-based methods. Regarding Chile, the World Contraceptive Use 2009 report provides data from 2006 corresponding to the use of the four most

prevalent family planning methods, which are used by 64.2 percent of fertile couples: 7.1 percent of women relied on sterilization, 29.1 percent on oral contraceptive pills, 18.9 percent on the use of an IUD, and 9.1 percent on condoms. Data on NFP users were not reported. However, the first National Survey of Life and Health in Chile (Ministerio de Salud de Chile, Instituto Nacional de Estadísticas de Chile 2000) showed that 47.5 percent of the population over fifteen years of age used some family planning method. Among these, 94.9 percent use AMC and 2.7 percent use NFP.

In addition to effects on fertility, the use of family planning methods is associated with effects in marital functioning and sexual life and satisfaction of couples who use them. These effects have been rarely studied in stable couples.

Marital functioning relates to a couple's degree of satisfaction regarding certain aspects of their relationship considered central in its global valuation. It is equivalent to other denominations like marital quality, satisfaction, consensus, adaptation, or adjustment that have been used as global measures of marital functioning (Gottman 1990). Sexual satisfaction is a subjective and complex multifactorial experience, and there is no agreement on a unique definition. Despite this, when asked about sexual satisfaction, every couple will give an answer related to a mixture of two main domains: physical satisfaction (physical pleasure and sexual rewards) and psychological or emotional satisfaction (pleasurable feelings during sexual activity; Monteiro-Pascoal, De Santa Bárbara-Narciso, and Monteiro-Pereira 2014). Also, sexual satisfaction has been consistently related to marital satisfaction (Young et al. 1998).

There are differing views of the influence of NFP on couples' marital functioning, sex life, and sexual satisfaction. It has been suggested that NFP methods are harmful for the couple and that users experience psychological stress related to abstinence, loss of spontaneity in sexual relations, more arguments, and increased fear of pregnancy (Crowley and Crowley 1966; Hefernan 1977; Marshall and Rowe 1970; Odds 1999). In contrast, other studies have shown

that users of NFP enjoy an improvement in their relationship beyond their sexual adjustment including improvement in communication; understanding of their fertility, intimacy, and shared responsibility; peace of mind; mutual trust; self-control; and spiritual well-being (Billings, Billings, and Caterinich 1989; Borkman and Shivanandan 1984; Fehring and Lawrence 1994; Hilgers et al. 1982; McCusker 1977; Tortorici 1979; Vande Vusse et al. 2003). We found only one study, unpublished in peer-reviewed journals, that assessed marital functioning and sexual satisfaction among NFP and AMC users, using a quantitative scale (Edgar and Daughtry 2005). In this study, Edgar and Daughtry sent questionnaires to 601 NFP and AMC couples, and 42 percent of the sample returned them. They found no differences in sexual frequency, marital satisfaction in the marital functioning scale, and number of children. AMC users reported being more satisfied with their family planning method compared with NFP method. This difference was significant even though both groups reported high levels of satisfaction with their relationship and family planning method.

Notwithstanding, all these studies used small samples, are based on mailed questionnaires (favor self-selection), and have high attrition. In addition, there are no studies in the Latin population addressing this topic. Therefore, the purpose of our study is to compare the marital satisfaction between users of NFP and AMC in the Chilean population visiting fertility regulation clinics. Additionally, we explore comparative sociodemographic variables and variables related to couple sexual life and sexual satisfaction.

Material and Method

Subjects

The Chilean population is very diverse in origin, being mainly from southwestern European countries (Spain and Italy) and mixed with native populations. We used a nonprobabilistic convenience sample. To be included, participants had to be adult couples over eighteen years of age, in a stable relationship for at least one year, using a family planning method for at least six consecutive months, and giving informed consent. With the goal of excluding subjects with other factors that could affect relationship function, we applied the following exclusion criteria: history of recent childbirth, lactation, and medical illness requiring specialized treatment. We used the Goldberg General Health Questionnaire (GHQ-12; Araya, Wynn, and Lewis 1992) to rule out clinically

significant emotional illness or concurrent psychopathology. We excluded subjects with a GHQ-12 score of four points or above.

Instruments

We administered an ad hoc structured two-section interview: the couple answered the first jointly, and each member of the couple answered the second section individually. This interview was tested in a pilot study of four couples.

In the first section, we collected sociodemographic data, information on family composition, religion, level of religious commitment, and a history of current and past use of family planning methods: type, duration, and the use of any complementary method. The socioeconomic level was determined using the Hollingshead (1975) Index, which uses variables of education and occupation of both members of the couple to determine the family's social status, with higher scores indicating higher SES. In the second section, we asked each member of the couple separately about their personal clinical history and their sexual life and sexual satisfaction.

The main outcome, marital functioning, was studied utilizing the Dyadic Adjustment Scale (DAS; Spanier 1976). This is a self-administered thirty-two-item test that measures marital adjustment and other indices of marital quality such as communication (Gordon et al. 1999). It has been extensively used in both research and daily clinical practice (Touliatos, Perlmutter, and Straus 1990). The total score ranges between 0 and 151 points and represents a general assessment of marriage functioning. Higher scores indicate higher marital functioning. The DAS is composed of four subscales, each assessing more specific aspects of the dyadic relationship (Sholevar 2003). The dyadic consensus subscale assesses the level of agreement on several issues regarding the functioning of the couple (education of the children, finances, conventionality, relationship with the partner's family of origin, etc.). Dyadic satisfaction evaluates the subjective perception of satisfaction of each partner with the relationship. Dyadic cohesion evaluates the level of implication and companionship of the relationship, and expression of affection evaluates the degree to which respondent agrees with partner regarding emotional affection (Tapia and Poulsen 2009). Internal consistency as well as the test-retest reliability of the DAS (over an eleven-week interval) is high, with both reaching a value of 0.96 (Spanier 1976). Furthermore, it has been noted that the DAS has a good capacity to

differentiate problematic marriages from those satisfied with their level of adjustment (Crane, Allgood, and Larson 1990) and, consequently, is considered an instrument to measure marital functioning. The original version of the DAS continues to be a reference in marital research (Graham, Liu, and Jeziorski 2006; Spanier 1989, 2000). The Chilean version of this instrument showed adequate psychometric properties, with a reliability of 0.96, showing a solution of four factors that explained 58 percent of the variance. The cutoff for the Chilean version is 114 points. Couples, who score below this, belong to the dysfunctional category in terms of marital adjustment.

Experimental Design

Recruitment was conducted through a sequential nonprobability convenience sampling. Researchers presented the project at clinical meetings in obstetrics and gynecology, in several primary and secondary health centers in Santiago, both public and private. The candidate couples were introduced to the research team for an eligibility interview and to determine both inclusion and exclusion criteria. The recruited couples signed informed consent forms.

A trained evaluator assessed the couples. Whenever possible, a face-to-face interview was conducted first with both members of the couple, and then with each one individually. However, when this was not possible, the full structured interview was conducted with each member separately, either in person or by telephone. When the couple gave conflicting answers during the common portion of the structured interview, these were resolved by contacting the woman again, and if this was not possible, by considering the woman's responses as the common response for the couple. The institutional review board approved the study.

Statistical Analysis

Descriptive analysis consisted of frequency analysis for qualitative variables and mean and confidence interval (CI) for quantitative variables; however, when the distribution was highly skewed, we used the median and standard deviation. For this, we used SPSS Version 11.0. For the analysis of quantitative variables common to both members of the couple (e.g., length of relationship), we used the average of the responses of each of member of the couple. We used χ^2 testing to analyze nominal or ordinal categorical data. For comparison of means between two groups, the Student's *t*-test was performed when

the distribution was normal, and the Mann–Whitney test was used when the distribution was not normal. In addition, when variables were scales, the nonparametric Mann–Whitney *U* test was used.

To compare means between more than two groups, an analysis of variance was performed. We also performed post hoc analyses with the Tukey method. Correlations with significance were estimated using the Pearson correlation coefficient or Spearman's ρ in the case of nonnormal univariate distributions. Given the important multifactorial influence present in psychosocial variables, evaluation by interviews or psychological tests supports lower correlations as satisfactory. Correlations between 0.10 and 0.29 are considered weak, those between 0.30 and 0.49 are moderate, and those greater than 0.5 are considered strong (Rosenthal and Rosnow 1991). To assess the relationship between the degree of marital adjustment and the family planning method used by the couple, the dependent variable (DAS total score and subscales) was adjusted for confounding factors and potential mediating factors. Two types of multivariate regression models were used.

When the DAS score was analyzed as a continuous variable, linear regression models were developed. In this case, the estimates reported were mean changes in the DAS score and subscales, with their respective 95 percent CIs. In a secondary analysis, the dependent variable was dichotomized, and consequently, we used multivariate logistic regression models. The cutoff score of great than 114 corresponds to the value recommended by the authors of the DAS scale validation in Chile (Tapia and Poulsen 2009). In this secondary analysis, estimates were reported as odds ratios (*ORs*) with 95 percent CIs. For the development of the final multivariate regression models, we utilized backward elimination, using Akaike information criteria, which optimizes selection of cofactors to obtain the greatest proportion of variance explained by the final model using the maximum likelihood method. The analyses were performed using STATA Version 11 and R software (R Package Version 2.16).

Results

Our sample included 138 couples, 69 couples using NFP and 69 couples using AMC. It was possible to evaluate both members of the couple simultaneously in 68.2 percent of NFP couples and in 75.5 percent of the couples using AMC ($p = .135$). Sociodemographic characteristics of the sample are summarized in Table 1. The time living together in the

Table 1. Sociodemographic Characteristics.

Characteristics	NFP User Couples		AMC User Couples		<i>p</i>
	Men (<i>n</i> = 69)	Women (<i>n</i> = 69)	Men (<i>n</i> = 69)	Women (<i>n</i> = 69)	
Age (CI 95 percent)	36.7 [35.2, 38.3]	34.3 [32.8, 35.7]	36.1 [34.3, 37.9]	33.8 [32.3, 35.3]	.592/.615
Marital status					.035/.041*
Married	63 (91.3)*	63 (91.3)*	51 (73.9)*	51 (73.9)*	
Single	4 (5.8)*	5 (7.2)*	15 (21.7)*	15 (21.7)*	
Separated	2 (2.9)	1 (1.4)	2 (2.9)	1 (1.4)	
Divorced	0	0	1 (1.4)	2 (2.9)	
Type of couple commitment					.001*
Civil marriage		3 (4.3)		11 (15.9)	
Civil and religious marriage		60 (87.0)*		40 (58.0)*	
Cohabitation		6 (8.7)*		18 (26.1)*	
Educational level					.021/.021*
Incomplete basic schooling	11 (15.9)	6 (9.8)	20 (29.0)	11 (17.5)	
Complete basic schooling	13 (18.8)	12 (19.7)	21 (30.4)	22 (34.9)	
Incomplete higher education	9 (13.0)	9 (14.8)	9 (13.0)	12 (19.0)	
Complete higher education	36 (52.2)*	34 (69.8)*	19 (27.5)*	18 (28.6)*	
Socioeconomic status					.001*
Low		1 (1.4)		5 (7.2)	
Medium–low		8 (11.6)*		18 (26.1)*	
Medium		17 (24.6)		18 (26.1)	
Medium–high		16 (23.2)		21 (30.4)	
High		27 (39.1)*		7 (10.1)*	
Financial situation (perception)					.514/.377
Stable	57 (83.8)	58 (85.3)	54 (78.3)	54 (78.3)	
Unstable	11 (16.2)	10 (14.7)	15 (21.7)	15 (21.7)	
Type of family					.374
Nuclear biparental		61 (88.4)		58 (84.1)	
Extended biparental		7 (10.1)		11 (15.9)	
Extended single parent		1 (1.4)		0	
Single-parent compound		0.7		0	
Number of children					.210
Mean (CI 95 percent)		2.4 [2.1, 2.7]		1.9 [1.8, 2.0]	
Median		2.0		2.0	
Religion					.049*/.140
Catholic	60 (87.0)*	61 (88.4)	47 (68.1)*	52 (75.4)	
Evangelical	3 (4.3)	4 (5.8)	12 (17.4)	11 (73.3)	
Protestant	0	0	1 (1.4)	2 (2.9)	
Jehovah's witnesses	0	0	2 (2.9)	1 (1.4)	
Another religion	5 (7.2)	1 (1.4)	4 (5.8)	2 (2.9)	
Agnostic/atheist	1 (1.4)	3 (4.3)	3 (4.3)	1 (1.4)	

(continued)

Table 1. (continued)

Characteristics	NFP User Couples		AMC User Couples		<i>p</i>
	Men (<i>n</i> = 69)	Women (<i>n</i> = 69)	Men (<i>n</i> = 69)	Women (<i>n</i> = 69)	
Religious commitment (<i>n</i>)	38	43	44	53	.007*/.007*
No commitment	1 (2.6)	0	2 (4.5)	3 (5.7)	
Somewhat committed	6 (15.8)*	3 (7.0)*	18 (40.9)*	12 (22.6)*	
Committed	15 (39.5)	20 (46.5)	19 (43.2)	28 (52.8)	
Very committed	16 (42.1)*	20 (46.5)*	5 (11.4)*	10 (18.9)*	
Major religious commitment	77 percent*		73 percent*		.003*

Note: NFP = natural family planning; AMC = artificial methods of contraception; CI = confidence interval.

relationship with the current partner was 124.3 months (95 percent CI [104.8, 143.7]) for users of NFP and 126.9 months (95 percent CI [108.2, 145.7]) for couples using AMC ($p = .893$). Table 2 summarizes NFP and AMC group's specific methods of family planning and time of use.

Marital Functioning in Users of Family Planning Methods

Results of descriptive analysis of the comparison of marital adjustment according to the DAS among users of NFP and AMC are shown in Table 3. In both groups, the average DAS total score was consistent with that of functional couples. Considering members of the couple individually, men using NFP had a significantly higher DAS total score compared to their peers in the AMC group, while among women no such difference was seen. When considering the couple's averages, NFP users had higher DAS total scores, higher scores in the dyadic consensus, and dyadic satisfaction scales (Table 4). The discrepancy between members of a couple with respect to their total DAS score was similar for both groups ($F = 0.01$, $p = .9134$).

Results of Multivariate Analysis

To perform these analyses, initially we observed any possible patterns in cases without information about a particular variable. Regarding the dependent variable, we applied a simple imputation process for the few lost items on any item on a DAS scale (for specific percentage of missing data). Concerning independent variables, after analyzing the pattern of missing data, we decided to specifically restrict the analysis to complete cases for the variable "religious compromise score." This was decided because this

variable comprised one of the major confounding factors between the DAS total score and the type of family planning method used. The final sample for these analyses was 178 individuals (eighty-nine couples, forty using NFP and forty-nine using AMC).

After controlling for age, socioeconomic status (SES), time in the relationship, time using the method, and the level of religious compromise in the multivariable analysis (Table 5), we found that couples using NFP had a 47 percent ($OR = 1.47$) greater probability of having a DAS total score above the cutoff (DAS > 114) when compared with users of AMC. Also, the continued use of NFP over time increased the probability of a DAS total score in the functional range by 1 percent per month ($OR = 1.01$).

Meanwhile, we found that the dyadic satisfaction subscale averaged 3.15 points higher in couples using NFP compared to users of AMC (95 percent CI [0.735, 5.583], $p = 0.011$). Also, a difference of one unit in SES (Hollingshead scale) was correlated with an average score 0.71 points higher in the dyadic satisfaction subscale (adjusted for age, time relationship, level of religious commitment, and length of use; 95 percent CI [0.010, 0.011], $p = .024$).

Sexual Life and Sexual Satisfaction among NFP and AMC Users

The sexual frequency and the sexual satisfaction scores reported by men and women users of each family planning method, the mean of the average frequency, and sexual satisfaction score for each couple are presented in Table 6. Correlation (p) in reported sexual frequency between members of a couple was 0.674 ($p < .001$) for users of NFP and 0.721 for users

Table 2. Type and Use History of Family Planning Method (FPM).

	NFP User Couples (<i>n</i> = 69)	<i>n</i> (Percent)	AMC User Couples (<i>n</i> = 69)	<i>n</i> (Percent)	<i>p</i>	
Leading FPM	Ovulation method	62 (89.9)	Oral contraceptives	35 (50.7)	<.001*	
	Basal body temperature	1 (1.4)	Injectable hormonal contraceptive	2 (2.9)		
	Rhythm	5 (7.2)	IUD	24 (34.8)		
	Mucothermal	1 (1.4)	Condom	8 (11.6)		
Subordinate FPM	Basal body temperature	1 (1.4)	Withdrawal	1 (1.4)		
	Rhythm	1 (1.4)	Condom	1 (1.4)		
	Condom	8 (11.6)	Rhythm	1 (1.4)		
	None	59 (85.5)	None	66 (95.7)		
Time using current FPM (months)						
Mean (CI 95 percent)	47.4 [39.6, 55.3]*		68.4 [59.3, 77.57]*			
Median	30.0		60.0			
Time distribution of current FPM					.302	
6 months to 2 years	46.4		30.4			
>2–4 years	20.3		17.4			
>4–6 years	8.7		13.0			
>6–8 years	10.1		11.6			
>8–10 years	7.2		11.6			
>10 years	7.2		15.9			

Note: NFP = natural family planning; AMC = artificial methods of contraception; CI = confidence interval.

Table 3. Individual Dyadic Adjustment Scales Score.

		Mean [95 Percent CI]		<i>p</i>
		NFP	AMC	
Women	Total	123.9 [121.0, 126.8]	120.4 [115.9, 124.9]	.183
	Dyadic consensus	55.4 [54.2, 56.7]	54.6 [52.9, 56.3]	.421
	Dyadic satisfaction	41.4 [40.3, 42.5]*	38.1 [36.5, 39.8]*	.01*
	Expression of affection	9.4 [9.1, 9.8]	9.3 [8.6, 9.9]	.667
	Dyadic cohesion	17.8 [16.9, 18.6]	17.6 [16.3, 18.9]	.833
Men	Total	126 [123.3, 128.6]*	122 [118.2, 125.8]*	.043*
	Dyadic consensus	55.6 [54.4, 56.7]	54.4 [52.7, 56.1]	.254
	Dyadic satisfaction	42.4 [41.5, 43.4]*	39.1 [37.3, 40.9]*	.01*
	Expression of affection	9.8 [9.4, 10.2]	9.3 [8.7, 9.9]	.158
	Dyadic cohesion	18.2 [17.2, 19.1]	18.5 [17.3, 19.6]	.659

Note: NFP = natural family planning; AMC = artificial methods of contraception; CI = confidence interval.

of AMC ($p < .001$). The correlation between members of a couple regarding their sexual satisfaction score was 0.444 ($p < .001$) and 0.336 ($p < .001$), for users of NFP and AMC, respectively. In couples using AMC, there was a positive correlation between sexual frequency and sexual satisfaction

score ($p = .334$, $p < .001$); however, this correlation was not seen in couples using NFP ($p = .104$, $p = .266$).

In asking members of the couple if they believed that the use of their current family planning method had affected or changed their relationship in some

Table 4. Couple Dyadic Adjustment Scales Score as FPM Used.

	Mean [CI 95 Percent]		<i>p</i>
	NFP	AMC	
Couple			
Total	124.8 [122.1-126.3]*	120.1 [116-124]*	.038*
Dyadic consensus	55.5 [54.4-56.6]*	53.7 [52.3-55.1]*	.048*
Dyadic satisfaction	41.6 [40.7-42.5]*	38.8 [37.5-40.1]*	.01*
Expression of affection	9.4 [9.0-9.8]	9.4 [8.9-9.9]	.959
Dyadic cohesion	18.3 [17.5-19.0]	18.2 [17.2-19.2]	.946

Note: NFP = natural family planning; AMC = artificial methods of contraception; CI = confidence interval.

Table 5. Multivariable Analysis of Functional Marital Adjustment.^a

	Odds Ratio	Standard Error	<i>z</i>	<i>p</i>	Confidence Interval 95 Percent
Age	0.98	0.040	−0.61	.545	[0.902, 1.056]
Socioeconomic status	1.00	0.017	0.18	.861	[0.970, 1.036]
Time of relationship	0.10	0.003	−0.07	.947	[0.992, 1.007]
Religious commitment	1.24	0.566	0.47	.639	[0.506, 3.031]
Natural family planning (NFP)	1.47	2.031	2.02	.040*	[1.040, 11.228]
NFP time of use	1.01	0.005	1.98	.043*	[1.000, 1.022]

^aDyadic adjustment scales score > 114.

Table 6. Sexual Frequency and Satisfaction.

	NFP User Couples Mean [CI 95 Percent]	AMC User Couples Mean [CI 95 Percent]	<i>p</i>
Sexual frequency (number of coitus per month)			
Men	6.8 [5.9, 7.7]*	9.4 [8.2, 10.7]*	.002*
Women	6.9 [6.0, 7.8]	8.84 [7.45, 10.2]	.070
Couple	6.9 [6.0, 7.7]*	9.1 [7.9, 10.4]*	.007*
Sexual satisfaction (scale 1–7)			
Men	6.5 [6.4, 6.7]	6.5 [6.2, 6.7]	.475
Women	6.4 [6.3, 6.6]	6.1 [5.8, 6.4]	.392
Couple	6.5 [6.3, 6.6]	6.3 [6.1, 6.5]	.695

Note: NFP = natural family planning; AMC = artificial methods of contraception; CI = confidence interval.

way, we found that couples using NFP thought that their use had improved or significantly improved their relationship in some manner (totaling 60.8 percent of men and 63.8 percent of women, respectively). On the other hand, 1.4 percent of women considered that NFP had worsened their relationship, while 1.4 percent of men considered that these methods had significantly worsened the relationship. For their part, 65.2 percent of men and women using

AMC considered that their relationship had not changed, 11.6 percent of men and 13 percent of women stated that the relationship had improved, and 23.2 percent of men and 21.7 percent of women reported that the relationship was worsened.

Mediating Factors

We performed analyses to determine the presence or absence of mediating factors that might modify the relationship between the type of family planning method and marital functioning according to the DAS total score. Initially, we analyzed the degree of religious commitment of the couple. Because the religious commitment score was highly right-skewed (higher religious commitment), we dichotomized religious commitment into “without major religious commitment” (25 percent of the sample) and “with major religious commitment” (75 percent of the sample). In addition, 30 percent of responses on religious commitment were missing, and these data were missing in a random pattern relative to the dependent variable (DAS score). We therefore deleted cases without information on this predictor from this analysis. Subsequently, we examined factors such as the current economic situation of the couple, number of the woman’s children living in the

home, use of oral contraceptives, and the monthly frequency of sexual intercourse and availability of privacy for sexual activity. In the analysis of complete cases (with no missing data), none of the abovementioned variables were statistically significant modifiers of the relationship between marital satisfaction degree and type of family planning method used ($p > .05$).

Discussion

In this study, we compared marital functioning among users of NFP and AMC. We found sociodemographic differences between groups, with a significantly higher proportion of couples of high SES and of married couples in the NFP group compared with users of AMC. Additionally, in the case analysis, compared with male AMC users, male users of NFP were more likely to be Catholic, and there was a higher frequency of completed higher education and being very committed to their religion among both male and female users of NFP. Chile has a mixed healthcare system: public and private. Due to lower cost, the majority of Chileans of middle and lower SES are enrolled in the public system, which does not list NFP as a method of family planning, so these couples are generally not familiar with this alternative. Moreover, the availability of initial and follow-up instruction in the use of NFP in health centers available to persons of low and medium-low SES is quite scarce. This could explain the lower concentration of NFP among middle- and low-SES Chileans. Thus, sociodemographic differences found could be explained by the frequency of use of one or another fertility planning method among different social classes.

Most users of NFP used the ovulation method, while AMC users were mostly allocated to either oral contraceptive pills or IUDs. Complementary methods were not generally used in either group, but when used, they were more frequently used by NFP couples (mostly condoms). In both groups, this could be explained by an intention to increase the effectiveness of the method or avoid sexually transmitted disease. On the other hand, AMC users had a longer time of use compared with users of NFP. Although this question was not addressed directly in this study, it could presumably be due to long-term IUD use among AMC users.

Both NFP and AMC groups presented scores within the functional range of overall marital functioning according to the DAS and in each of the four subscales. Also, discrepancy between partners was adequate in both groups (<10 points difference in the

DAS; Tapia and Poulsen 2009), reflecting a high level of agreement on marital functioning (Tapia et al. 2009). Comparison of the partners in both groups showed statistically significant higher scores on marital functioning in the NFP group compared with the AMC group. In the bivariate analysis of NFP, male users showed a comparatively higher total dyadic adjustment and dyadic satisfaction, and women using NFP showed comparatively higher dyadic satisfaction, compared with their respective peer AMC users. After controlling for confounding variables, NFP users were more likely to have a more functional marital adjustment (47 percent more likely) compared to pairs of AMC users. Similarly, continued use of NFP over time had a positive impact on marital satisfaction (increasing by 1 percent the probability of having a functional marital adjustment for each month in which the method is continued). In contrast to Edgar and Daughtry's results—who didn't find any difference in marital functioning between AMC and NFP groups—our results support the view that NFP could be beneficial for a couple's relationship. These findings are in line, albeit from another point of view, with those described by Fehring and Lawrence (1994) who showed that the use of NFP favors a feeling of spiritual and existential well-being in the user couples, compared with AMC users. Likewise, the same author observed a lower divorce rate among NFP users compared to those who used contraceptive methods (Fehring 2015). Indirectly, these results corroborate what was observed in our study. Also, the fact that this study has analyzed the interactions of hypothetical modulating factors (SES, religious commitment, etc.) on the relationship between family planning methods and marital adjustment permits us to suggest that the effects of NFP could have certain specificity on the potential functionality of the couple. One of the specific features of NFP is to provide a context for couples where the role of the "us" is encouraged, as both partners should periodically review their motivations for facing potential pregnancy. Contrariwise, in the context of AMC, there is no special stimulus to periodically review such motivation because physiological fertility is blocked. An important conceptual nuance is glimpsed here. The NFP methods are diagnostic methods, and the generated diagnostic information on fertility status is given to the couple for their decision process. They can decide to utilize this information to attempt a pregnancy or to avoid one. This leads to a concept of family planning or integrated regulation of fertility, seen not solely as acts of pregnancy prevention. Furthermore, this conceptual nuance strengthens an

understanding of fertility as a characteristic of each member of the couple managed by both, not altered but respected in its own physiological nature. This perspective shifts the traditional concept of NFP to a new one as a *lifestyle* that promotes interaction and frequent dialogue within the couple (Fehring and Kurz 2000), which is not necessarily required for users of AMC. Thus, NFP methods are diagnostic methods, not contraceptives. The information they generate may be used by the couple in accordance with their motivations in the moment, independent of their previous intention. In this sense, these methods appeal to human faculties such as reason and will, allowing exercise of individual freedom unconstrained by health workers. This same characteristic presents a challenge to the couple, because the methods require an effort that competes with other demands of modern life. The observation that prolonged use of NFP increases the likelihood of scoring in the functional range on the DAS for each month of use may suggest a causal effect on marital functioning: it may have an "educational" impact on the way of life within the couple's relationship. Along the same lines, it is possible that the differences found with the use of NFP are because the relationships of couples using these methods are already functional. If we accept that the sexual dynamic within couples using NFP as more demanding of "us" and requiring greater "consciousness" of the motivations regarding childbearing and therefore appealing to a more explicit and consensual decision, it could be that the same dynamic may expose latent or intercurrent dysfunction among partners. NFP could function as a "marital stress test," highlighting unresolved marital discord. Thus, the beneficial effect of NFP could exist primarily for those who are already in functional relationships. In contrast, for those couples in nonfunctional relationships, the use of NFP could be stressful, increasing the dysfunction. Something similar might occur in the presence of physical or mental illness and family dysfunction. Our study included couples free of illnesses, which could have had the effect of selecting couples with good marital functioning in whom NFP could have had an amplifying effect on adjustment. With a sample of dysfunctional relationships caused by illness or emotional deficiencies, perhaps the use of AMC would have associated with a relatively better (or less conflicted) fit compared to NFP. If this is true, both opposing views of the effects of NFP and AMC on relationships could be correct and not mutually restrictive. For instance, the population surveyed by Oddens (1999) showed a more negative impact on sexual life in NFP subpopulations in

comparison with oral contraceptive users, IUD users, and sterilized German women. However, this investigation says nothing about the partnership status of the participant neither about their marital functioning. The survey was applied to a general population sample of unknown health conditions. This question, which requires further research to answer, is of utmost clinical importance. If the effect of using NFP on marital satisfaction, an important aspect of a couple's happiness, depends on the degree of functionality, it would be necessary for instruction in NFP to be accompanied by previous or concurrent psychological interventions to help improve the relationship. Clinical services exclusively focused on the regulation of fertility without understanding of the relational and affective context of the couple are incomplete. These data suggest the necessity of couples-related services in NFP centers.

Sexual frequency and sexual satisfaction were secondary outcomes, and results should be considered exploratory, given the high probability of Type I error due to multitesting.

Sexual frequency is an item with significant variability among different societies. The reported sexual frequency in our study would be consistent with the range of one to two times a week reported by other authors in Western countries (Ubillos, Paez, and González 2000). With respect to the number of sexual encounters, there was discordance between couple members in some cases, which could be explained by the tendency of men to report more and women to report less, especially in Latino culture (Wellings et al. 2006). The greater average frequency of sexual relations in AMC users could be explained by the availability of more accessible days to have sexual relations. Nevertheless, there was no observed difference in sexual satisfaction between the two groups. While this could be explained by lack of statistical power, it is interesting to note that among AMC users (but not NFP users) sexual frequency was correlated with the degree of sexual satisfaction. This difference could be attributable to the different view about sexuality between AMC users and NFP users. Different studies have associated coital frequency and sexual satisfaction (Call, Sprecher, and Schwartz 1995; Haavio-Mannila and Kontula 1997; Cheung et al. 2008). However, the relationship between these variables is complex. A greater number of sexual encounters can promote greater sexual satisfaction, and increased sexual satisfaction may encourage more openness to new sexual encounters or receptivity to sexual advances, resulting in an increase in frequency. Notwithstanding, sexual satisfaction in couples using NFP may

depend less on sexual frequency and may be influenced by abstinence. That is, in these couples, the knowledge that a period of abstinence is approaching or ending may increase the sexual tension and erotic desire, generating contexts in which both partners may get arranged and prepared for the sexual encounter, which also may increase their level of satisfaction. From a behavioral standpoint, delayed gratification increases desire, and satisfaction with deferred sexual activity may be increased. Interestingly, this finding is quite similar to the study of Oddens (1999). The NFP-surveyed population reported lower intercourse frequency but more sexual pleasure in comparison to oral contraceptive and IUD users.

The findings of this study cannot be extrapolated to the general population because couples included in both groups were highly selected with exclusion for presence of psychological distress or mental disease. In order to isolate the variable in question, we accepted a low external validity in favor of high internal validity. This is a limitation of the present study. Further research is needed to see whether our findings are concordant to the general population. Likewise, the results of this study suggest the necessity of incorporating in a systematic way, diagnostic tools and early intervention on relationship functionality, in all NFP centers. Among healthy couples, without symptoms of psychological distress, NFP users showed better relationship functionality when compared with similar couples using AMC.

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References

Araya, R., R. Wynn, and G. Lewis. 1992. "Comparison of Two Self Administered Psychiatric Questionnaires (GHQ-12 and SRQ-20) in Primary Care in Chile."

- Social Psychiatry and Psychiatric Epidemiology* 27: 168–73.
- Billings, E., J. Billings, and M. Caterinich. 1989. *Natural Family Planning: The Ovulation Method*. Collegeville, PA: Liturgical Press.
- Borkman, T., and M. Shivanandan. 1984. "The Impact of Natural Family Planning on Selected Aspects of the Couples' Relationship." *International Review of Natural Family Planning* 8:58–66.
- Call, V., S. Sprecher, and P. Schwartz. 1995. "The Incidence and Frequency of Marital Sex in a National Sample." *Journal of Marriage and the Family* 57:639–52.
- Cheung, M.W., P.W. Wong, K.Y. Liu, P.S. Yip, S.Y. Fan, and T.H. Lam. 2008. "A Study of Sexual Satisfaction and Frequency of Sex among Hong Kong Chinese Couples." *The Journal of Sex Research* 45:129–39.
- Crane, D., S. Allgood, and J. Larson. 1990. "Assessing Marital Quality with Distressed and Nondistressed Couples." *Journal of Marriage and Family* 52:87–93.
- Crowley, P., and P. Crowley. 1966. *Report to the Papal Birth Control Commission*. South Bend. New York: University of Notre Dame.
- Edgar, M., and D. Daughtry. 2005. *Marital Satisfaction and Family Planning Practices (abstract)*. Washington, DC: American Psychological Association Conference.
- Fehring, R. J. 2015. "The Influence of Contraception, Abortion, and Natural Family Planning on Divorce Rates as Found in the 2006–2010 National Survey of Family Growth." *The Linacre Quarterly* 82:273–82.
- Fehring, R. J., and W. Kurz. 2000. "Anthropological Differences between Contraception and Natural Family Planning." *Life and Learning* 10:237–64.
- Fehring, R. J., and D. Lawrence. 1994. "Spiritual Well-being, Self-esteem, and Intimacy among Couples Using Natural Family Planning." *The Linacre Quarterly* 61:18–29.
- Gordon, K., D. Baucom, L. Rankin, and C. Burnett. 1999. "The Interaction between Marital Standards and Communication Patterns: How Does It Contribute to Marital Adjustment?" *Journal of Marital Family Therapy* 25: 211–23.
- Gottman, J. 1990. "How Marriages Change." In *Depression and Aggression in Family Interaction*, edited by Gerald R. Patterson. Hillsdale, NJ: Erlbaum. 75–101.
- Graham, J., Y. Liu, and J. Jeziorski. 2006. "The Dyadic Adjustment Scale: A Reliability Generalization Meta-analysis." *Journal of Marriage and the Family* 68:701–17.
- Haavio-Mannila, E., and O. Kontula. 1997. "Correlates of Increased Sexual Satisfaction." *Archives of Sexual Behaviour* 26:399–419.
- Hefernan, V. 1977. "Attitudes of Some Couples Using Natural Family Planning." *Communio: International Catholic Review* 4:94–96.
- Hilgers, T., D. Daily, S. Hilgers, and A. Prebil. 1982. *The Ovulation Method of Natural Family Planning*. Omaha, NE: Creighton University Natural Family Planning Education and Research Center.
- Hollingshead, A.B. 1975. *Four Factor Index of Social Position*. New Haven, CT: Yale University Department of Sociology.

- Marshall, J., and B. Rowe. 1970. "Psychological Aspects of the Basal Body Temperature Method of Regulating Births." *Fertility and Sterility* 21:14–19.
- McCusker, M. 1977. "Natural Family Planning and the Marital Relationship: The Catholic University of America Study." *International Review of Natural Family Planning* 1:331–40.
- Ministerio de Salud de Chile, Instituto Nacional de Estadísticas de Chile. 2000. *Uso de Métodos de Planificación Familiar Primera Encuesta Nacional de Vida y Salud: Presencia de Enfermedades Crónicas, Agudas, Accidentes, Discapacidad y Dolor Crónico en los Chilenos*. http://historico.inec.cl/canales/chile_estadistico/calidad_de_vida_y_salud/calidadvida/infplanfam.pdf
- Monteiro-Pascoal, P., I. De Santa Bárbara-Narciso, and N. Monteiro-Pereira. 2014. "What Is Sexual Satisfaction? Thematic Analysis of Lay People's Definitions." *Journal of Sex Research* 51:22–30.
- Oddens, B.J. 1999. "Women's Satisfaction with Birth Control: A Population Survey of Physical and Psychological Effects of Oral Contraceptives, Intrauterine Devices, Condoms, Natural Family Planning, and Sterilization among 1466 Women." *Contraception* 59:277–86.
- Rosenthal, R., and R. Rosnow. 1991. *Essentials of Behavioral Research: Methods and Data Analysis*. 2nd ed. New York: McGraw-Hill.
- Sholevar, G. 2003. *Textbook of Family and Couples Therapy*. Washington, DC: American Psychiatric.
- Spanier, G. 1976. "Measuring Dyadic Adjustment: New Scales for Assessing the Quality of Marriage and Similar Dyads." *Journal of Marriage and the Family* 38:15–25.
- Spanier, G. 1989. *Dyadic Adjustment Scale manual*. North Tonawanda, NY: Multi-Health Systems.
- Tapia, L., and Poulsen. 2009. *Adaptación y Validación en Chile de Tres Escalas de Ajuste Marital*. Series Investigación Clínica en Terapia de Parejas N 1° Santiago-Chile: Universidad del Desarrollo.
- Tapia, L., and G. Poulsen. 2009. *Adaptación y Validación en Chile de Tres Escalas de Ajuste Marital*, Vol. 1.
- Tapia, L., G. Poulsen, I. Armijo, X. Pereira, and P. Sotomayor. 2009. "Resolución de entrapas en parejas en conflicto: aproximaciones desde las parejas y los terapeutas." *Revista Argentina de Clínica Psicológica* 8:101–14.
- Tortorici, J. 1979. "Conception Regulation, Self-Esteem, and Marital Satisfaction among Catholic Couples." *International Review of Natural Family Planning* 3:191–205.
- Touliatos, J., B. Perlmutter, and M. Straus. 1990. *Handbook of Family Measurement Techniques*. Newbury Park, CA: Sage.
- Ubillos, S., D. Paez, and J.L. González. 2000. "Culture and Sexual Behavior." *Psicothema* 12:70–82.
- United Nations, Department of Economic Social Affairs PD. 2009. *World Contraceptive Use: United Nations*. <http://www.un.org/esa/population/publications/contraceptive2009/contraceptive2009.htm>. Accessed March 8, 2018.
- Van der Wijden, C., J. Kleijnen, and T. Van den Berk. 2003. "Lactational Amenorrhea for Family Planning." *The Cochrane Database Systematic Reviews* 2003 (4): CD001329.
- Vande Vusse, L., L. Hanson, R.J. Fehring, A. Newman, and J. Fox. 2003. "Couples' Views of the Effects of Natural Family Planning on Marital Dynamics." *Journal of nursing scholarship: an official publication of Sigma Theta Tau International Honor Society of Nursing/Sigma Theta Tau* 35:171–76.
- Wellings, K., M. Collumbien, E. Slaymaker, S. Singh, Z. Hodges, D. Patel, and N. Bajos. 2006. "Sexual Behaviour in Context: A Global Perspective." *Lancet* 368:1706–28.
- Young, M., G. Denny, R. Luquis, and T. Young. 1998. "Correlates of Sexual Satisfaction in Marriage." *The Canadian Journal of Human Sexuality* 7:115.

Biographical Notes

Sergio Barroilhet, MD, PhD, is an assistant professor of psychiatry in the Department of Psychiatry and Mental Health at Universidad de Chile and professor of psychiatry at Tufts University. He is the head of the Consultation and Liaison Psychiatry Unit of the Clinical Hospital of the Universidad de Chile. He is a clinical psychiatrist and specialist in family therapy. He is also founder and chairman of the Board of the Cuida-Futuro Foundation, which is dedicated to prevention in mental health.

Camila Señoret, PsyD, is a clinical psychologist and clinical supervisor and works as a strategic coach. With experience in teaching and research, she has dedicated more than ten years to psychotherapy and individual and group change interventions in different contexts.

Ximena Mallea, RN, is a midwife. She has been involved in natural family planning for over twenty years as an instructor and as part of the academic body of the Natural Family Planning (NFP) postgraduate program at Universidad de los Andes.

Rosemarie Fritsch, MD, is an associate professor of psychiatry in the Department of Psychiatry and Mental Health at Universidad de Chile and in the Department of Psychiatry at Universidad de los Andes. She is a senior researcher in psychiatric epidemiology and social psychiatry.

Paul Vöhringer, MD, MSc, MPH, is an associate professor of psychiatry at the University of Chile; research assistant professor at Tufts Medical School, Tufts University; and executive director of International Mood Network (IMN). He has developed his research in the mood disorders field, nosology, heterogeneity of depressive episodes, and treatment response.

José-Antonio Arraztoa, MD, MSc, FACOG, is a professor in the Department of Obstetrics and Gynecology at Universidad de los Andes and director of the Clinical Service of Obstetrics and Gynecology at Clinic Universidad de los Andes. He has worked for over twenty years in natural family planning, leading the institutional NFP program (PROCEF).