



**Evaluation of the Effect of PSI's
Information Intervention in
Factories in Bucharest**

F i r s t R e p o r t

**Romania
2004**

PSI's Core Values

Bottom Line Health Impact * Private Sector Speed and Efficiency * Decentralization, Innovation,
and Entrepreneurship * Long-term Commitment to the People We Serve

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Intervention in Factories in Bucharest**

Population Services International - Romania

Brief Report

Summary of Main Results

Aims of the Evaluation Study

The primary goal of this evaluation study was to analyze the effect of the “Between Us Women” educational program, implemented by Population Services International (PSI), in a number of selected factories in Bucharest, Romania. The interventions provided information about modern contraceptives or family planning methods to women of reproductive age through interpersonal sessions. Factories were selected for having a predominantly female workforce.

The specific aims of this research were twofold. First, we were interested in analyzing major determinants of use of contraceptive methods in terms of opportunity, ability and motivational factors using PSI’s framework PERForM (see appendix 1). Second, the study assessed the impact of PSI intervention in increasing: a) knowledge of modern contraceptives and sources of information about contraceptives; b) knowledge of where to obtain modern methods of contraception; c) use of modern contraceptives and use of family doctors to obtain family planning services.

The evaluation of the program was based on a **before and after design**. This approach allows evaluators to compare data collected after the intervention to data collected before the intervention. Such methodology is also called pre-test/post-test design. The first part of the report focuses on the analysis of relevant predictors of use of pregnancy prevention methods using the baseline data. The second part concentrates on the impact evaluation of PSI intervention.

Statistical Analyses

Statistical analyses were conducted with SPSS. In order to study major determinants of use of contraceptive methods, chi-square tests were used. McNemar test for paired samples was applied to assess differences in terms of use of contraceptive methods between baseline and follow up samples.

Determinants of Use of Contraceptive Methods by Opportunity, Ability and Motivational Factors

Analysis of major determinants of use of contraceptive methods included only the baseline sample (n=285). However, a number of participants refused to provide information regarding the use of contraceptive methods (n=17). Overall a proportion of **62.5%** (n=178) participants reported having **used contraceptive methods** in the last 30 days (table 1).

When considering opportunity factors, both the **availability** and the **source of information about contraceptive methods** were important predictors of use of contraceptive methods. Respondents who used contraceptive methods were more likely having received information about contraceptive methods from a health provider compared to those who did not use such methods (86.8% vs 58.8%; $p<.001$). The source of information about pregnancy prevention methods was not statistically significantly associated with use of these methods. However, women who reported having used contraceptive methods in the last month were more likely having received information about these methods from their gynecologists compared to those women who did not use pregnancy prevention measures (69.5% vs 50.9%).

When considering ability factors, one item was found to be a relevant predictor of use of contraceptive methods: **awareness how to use emergency contraception pills**. Women who used pregnancy prevention methods were more likely to be aware of how to use emergency contraception pills compared to those women who did not use any contraceptive methods (57.4% vs 32.5%; $p<.001$). Surprisingly, we did not find relevant differences among users and non-users of contraceptive methods in terms of knowledge (when a woman starts taking the pill -- oral contraceptive -- on what day of her menstrual cycle should she begin?). However, the question may have created some problems of interpretability and accuracy.

Although not statistically significant, one motivational factor was associated with use of contraceptive methods: **planning to have a child in the future**. Those women who used pregnancy prevention methods in the last month were more likely to plan to have children in the future compared to those who did not use such methods (66.7% vs 55.6%). Planning to have a child and of use of contraceptive methods may reflect a general characteristics of those groups of women to have control over their sexual lives and lives. Women who plan to have children in the future and use contraceptive methods have higher control over their sexual lives and lives in general compared to women that make no plans to have a child and do not use pregnancy prevention methods. This is an important factor since the level of fatalism was found to be a relevant risk factor for unwanted pregnancies and complications during pregnancy and delivery.

Those who reported having used contraceptive methods in the last month were also more likely having had a **mini-abortion, induced abortion or did anything to terminate pregnancy** (77.6% vs 53.9%; $p<.001$).

Some population characteristics were statistically significantly associated with use of contraceptive methods: **presence of children** ($p<.001$) and **number of children** ($p<.01$). Users were more likely to have a child compared to non users (78.7% vs 61.5%), but at the same time they were less likely to have higher numbers of children (3 or 4) compared to non users. Some additional population characteristics, although not statistically significant, were associated with use of contraceptive methods: **age, educational level** and **marital status** ($p<.001$). Women who used contraceptive methods were more likely to be 26-35 years old compared to those who did not use pregnancy prevention methods. When considering other age groups, those women who used pregnancy prevention methods were less likely to be 18-25 compared to non users. Users of contraceptive methods were less likely to have lower education (primary or uncompleted primary) compared to those who did not use such methods (15.3% vs 23.8%). Users of pregnancy prevention methods were more likely to be married compared to non users (75.3% vs 62.5%).

Table 1. Use of Contraceptive Methods by Opportunity, Ability and Motivational Factors and Population Characteristics (Baseline and Follow-Up Surveys)

	Total [^] (N=285)		Sig.
	Users N= 178 (62.5%)	Non-Users N=107 (37.5%)	
Opportunity Factors			
<i>Availability</i>			
Ever got an information about pregnancy prevention from a health provider	86.8	58.8	***
<i>Source of information about contraceptive methods</i>			
Family doctor	15.6	26.4	NS
Family planning clinic	9.4	13.2	
Gynecologist	69.5	50.9	
Nurse / midwife	5.5	9.4	
Ability Factors			
<i>Knowledge</i>			
When a woman starts taking the oral pill			NS
Any time between 1-5 days of the menstrual cycle	61.4	74.2	
Any time she is not pregnant	25.7	19.4	
Anytime	12.9	6.5	
Awareness how to use emergency contraception pill	57.4	32.5	***
Motivational Factors			
<i>Perceived Threat</i>			
Health risk associated with induced abortion	97.1	97.8	NS
<i>Intention</i>			
Plans to have children (of those who have children)	66.7	55.6	NS
Plans to have children (of those who did not have children)	75.0	80.0	NS
Pregnancy prevention related behavior			
Had a mini-abortion, induced abortion, did anything to terminate pregnancy	77.6	53.9	***
Population characteristics			
<i>Age</i>			
18-25	11.2	15.9	NS
26-35	41.6	33.6	
36-45	34.8	30.8	
46-54	12.4	19.6	
<i>Educational level</i>			
Primary or uncompleted primary	15.3	23.8	NS
Vocational school	31.6	28.7	
Incomplete secondary	17.5	18.8	
Completed secondary	35.0	27.7	
<i>Marital Status</i>			
Currently married	75.3	62.5	NS
Unregistered marriage	8.4	12.5	
Single, never married	9.0	16.3	
Divorced/Separated/Widowed	7.3	8.7	
<i>Presence of a regular sexual partner (of those who unmarried)</i>			
Presence of children	52.0	50.0	NS
<i>Presence of children</i>			
Number of children	78.7	61.5	**
1	47.7	48.2	*
2	44.5	30.4	
3	7.0	17.9	
4	0.8	3.6	

* statistically significant at the p<.05 level.

** statistically significant at the p<.01 level.

*** statistically significant at the p<.001 level.

NS non statistically significant

Note: 17 women refused to answer questions about contraceptive methods

The Effectiveness of the Intervention

The major aims of the evaluation were to analyze the effectiveness of PSI interventions in increasing the level of knowledge and use of contraceptive methods among the target population of women (table 2).

The intervention was successful in increasing the **proportion of women who used contraceptive methods** in the last month (from 62.5% to 70.1%). Although the percentage difference between baseline and follow up data on this behavior was not statistically significant, in practice such increase is very important. When considering the type of methods, results indicate that the success of the intervention was mostly due to the increase in the use of pills compared to other methods ($p < .01$). The **use of pills increased remarkably**, from 27.3% at the baseline to 42.8% at the follow up. Another important result is that the intervention **decreased the proportion of women who used the safe period method** as a contraceptive measure (from 42.0% to 30.6%; $p < .05$).

Results also indicate that the intervention was very effective in increasing the proportion of **women that ever got an information about pregnancy prevention methods** (from 76.7% at the baseline to 92.1% at the follow up; $p < .001$), but ineffective in increasing the **use of family doctors as a source of information regarding contraceptive methods**. In fact, the proportion of women that reported their family doctor as a source of information about these methods remained stable between the baseline and follow up data collection points. The program increased the proportion of women who **use family planning clinics** as a primary source of information on pregnancy prevention (10.1% at baseline to 24.6% at the follow up), although such difference is not statistically significant.

The intervention was also very effective in changing participants' **knowledge about the use of contraceptive methods** ($p < .001$) and **awareness how to use emergency contraception pills** ($p < .001$). The proportion of women who knew that a woman should start to take a pill (oral contraceptives) "anytime, if the woman is certain she is not pregnant" increased from 23.9 at the baseline to 45.9% at follow up. Awareness how to use emergency contraception pills increased from 48.8% at the baseline to 62.3% at the follow up.

Conclusions

This report provides important information regarding major determinants of use of contraceptive methods and the effectiveness of pregnancy prevention programs. First, this research shows that women that are more **knowledgeable** (ability factor) and **aware how to use modern contraceptive methods** (opportunity factor) are also **more likely to use them**. They also seem more likely to plan to have children in the future. These results seem to suggest that **women that are have access to family planning information and services** are more autonomous and have **higher control over their sexual life** and they are more capable to decide when and how to have a child compared to women that see pregnancy and having a child as factors outside their control. Results also indicate that programs on knowledge of modern contraceptive are useful to increase the use of such methods. The **PSI intervention proved to be very effective in increasing knowledge and awareness of modern contraceptive methods** among women in selected factories. These results are very encouraging because there is evidence that lack of knowledge and control over the use of contraceptive methods among women are serious risk factors for unwanted pregnancies and health-related complications. Although the evaluation design did not allow us to make inferences about health outcomes, it is plausible to assume that PSI intervention did reduce the proportion of unwanted pregnancies and their health-related risks among women in Bucharest.

Results of this evaluation should be interpreted with caution. A major limitation of this research is the use of the before and after design or the lack of a control group. Before and after designs can be sources of bias since they do not take into account external factors (not related with the intervention) that influence the outcomes of interest (e.g. knowledge and use of modern contraceptive methods). However, we can assume such biases are small, since there are no reasons to believe that women in Bucharest may have been exposed to such detailed information about contraceptive methods from other sources.

Table 2. Use of Contraceptive Methods from baseline to 3-month follow-up among fertile female factory workers in Bucharest

	Survey Wave		Sig.
	Baseline, % (N = 302)	3-Months Follow-Up, % (N = 318)	
Current use of contraceptive methods			
Current use (in the last 30 days)	62.5	70.1	NS
Type of contraceptive method			
Pills	27.3	42.8	**
IUD	8.7	2.9	NS
Spermicide	4.0	5.8	NS
Safe period method	42.0	30.6	*
Withdrawal	18.0	17.9	NS
Had a mini-abortion, induced abortion, did anything to terminate pregnancy	67.8	70.0	NS
Opportunity Factors			
<i>Availability</i>			
Ever got an information about pregnancy prevention from a health provider	76.7	92.1	***
Source of information about contraceptive methods			
Family planning clinic	10.1	24.6	NS
Family doctor	19.2	19.3	NS
Gynecologist	60.6	45.4	*
Nurse/wives	6.6	7.2	NS
Place to get pregnancy prevention method			
FP clinic	8.3	8.6	NS
Pharmacy	83.8	88.6	NS
SECS	8.3	2.9	NS
Ability Factors			
<i>Knowledge</i>			
When a woman starts taking the oral pill			
Any time between 1-5 days of the menstrual cycle	64.9	48.9	NS
Any time she is not pregnant	23.9	45.9	***
Anytime	11.2	5.2	NS
Awareness how to use emergency contraception pills	48.8	62.3	***
Motivational Factors			
<i>Perceived Threat</i>			
Health risk associated with induced abortion	97.5	100.0	NS
<i>Intentions</i>			
Plans to use a contraceptive method in future (of those who don't use a contraceptive method)	32.5	45.5	NS
Plans to have children (of those who have children)	63.5	49.7	NS
Plans to have children (of those who did not have children)	77.8	76.9	NS

Note(i) : sample size varies across indicators because of skip patterns; only significant determinants from segmentation analysis have been included.

Note(ii): All variables were treated as dichotomous and McNemar test was applied to detect statistically significant differences among baseline and follow-up data. Mc Nemart test was applied to those subjects having baseline and follow up measures only. Table 2 however refers to crude percentage.

* statistically significant at the $p < .05$ level

** statistically significant at the $p < .01$ level.

*** statistically significant at the $p < .001$ level.

NS non statistically significant

Appendix 1. Definition of Opportunity, Ability and Motivational Factors of the PERForM framework

The theoretical framework used to guide this monitoring and evaluation study is PSI's PERForM (Performance Framework for Social Marketing) (Chapman and Patel, 2004). The PERForM framework has been developed through the review of the most important theories of behavior change in the literature including the Andersen's model of utilization of health services (Andersen, 1995), the health belief model (Rosenstock, 1974), the theory of reasoned action (Fishben and Ajzen, 1975), the social learning theory (Bandura, 1977), and the concept of locus of control (Rotter, 1966). The framework analyzes the major determinants of health behaviors by categorizing them in terms of opportunity, ability and motivational factors. According to PERForM, these three summary constructs proximally explain a person's use of preventive/curative health products and services and/or risk-reducing behavior (MacInnis, Moorman, & Jaworski, 1991; Moorman & Matulich, 1993; Rothschild, 1999; Hallahan, 2000; Wiggins, 2004; Binney, Hall, & Shaw, 2004).

Opportunity refers to institutional or structural factors that influence an individual's chance to perform a promoted behavior. They include availability, brand appeal, brand attributes, quality of care, and social norm. Availability is the extent to which the promoted product or service is found in a pre-defined given area. Brand appeal is the extent to which the characteristics of the prompted product or service's branding (i.e., name, term, sign, design, layout, slogan, etc.) distinguishes the product or service from its competitors (McDowell & Sutherland, 2000). Brand attributes is the extent to which the physical components of a brand are practical to use. Quality of care is the extent to which the promoted service is of high value. Social norm is the behavioral standards which exist in the community for an individual to follow.

Ability is an individual's skills or proficiencies needed to perform a promoted behavior. Ability factors refer to knowledge, self efficacy, and social support. Knowledge is true facts accumulated through learning about objects, actions, and events (Clarke, 1992). Self-efficacy is the belief that an individual is able to perform a promoted behavior effectively or successfully (Bandura, 1977). Social support is the assistance that an individual gives/receives. Emotional support is activities that an individual does to make others feel loved and cared. Instrumental support is tangible help that an individual receives/provides. Informational support is help that an individual gets/offers through information (Seeman & Berkman, 1988).

Motivation is an individual's arousal or desire to perform a promoted behavior. Motivational factors include attitude, belief, intention, locus of control, outcome expectation, subjective norm, threat (risk), and willingness to pay. Attitude is an evaluation or assessment of an object (Eagly & Chaiken, 1993). Belief is a perception about an object, which may or may not be true. Intention is an individual's plan to perform the promoted behavior (Fishbein & Ajzen, 1975). Locus of control is the external or internal site of control in an individual's life. An external locus of control suggests that an individual's health is under the control of powerful others or is determined by fate, luck, or chance. An internal locus of control suggests that an individual's health is directly controlled by him/herself (Rotter, 1966). Outcome expectation is the belief that an object or action is effective in fulfilling its purpose (Bandura, 1977). Subjective norm is perceived pressures to comply with what an individual believes others in the social group believe about the promoted behavior (Fishbein & Ajzen, 1975). Threat (risk) is a perceived dangerous or harmful event that exists in an individual's surroundings. Threat (risk) is comprised of two perceived dimensions: severity and susceptibility. Willingness to pay is an individual's intention to pay for a promoted product or service.