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Effectiveness of a video intervention on fertility knowledge among college students: a  
randomized, pretest-posttest study

Running headline: Fertility knowledge video intervention

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## Abstract

**Objectives:** Recent evidence showed that young adults have low reproductive health and fertility knowledge, and that interventions are needed to increase fertility awareness. The aim of this study was to assess the effectiveness of a brief video in increasing knowledge regarding fertility and infertility in young adults.

**Methods:** A two-arm, parallel-group, randomized controlled trial with a pretest-posttest design was conducted (NCT02607761, ClinicalTrials.gov). The sample was composed of 173 undergraduates answering to a self-report questionnaire. Participants were randomly assigned to be exposed or not to an educational video about reproductive health and infertility (intervention group, n = 89; control group, n = 84).

**Results:** At baseline (T0), participants revealed low knowledge on risk factors and fertility issues, and average knowledge on the definition of infertility. Interaction effects between group and time were found for all variables targeted within the presented video. Participants in the IG significantly increased knowledge on fertility issues, infertility risk factors, and infertility definition. No significant differences in the post-test (T1) were observed in the CG, except for the age of marked decrease in female fertility.

**Conclusions:** A short video intervention is effective in provisionally increasing knowledge on reproductive health and infertility. If future research using longer intervals corroborates our findings, this intervention could be a useful tool in public health prevention campaigns.

## Introduction

Most young adults aim to become parents<sup>1</sup>. However, this life goal might not be available in the future to a significant proportion of them, who will face difficulties in conceiving. In Europe, the average female age of having the first child has been increasing<sup>2</sup>. Female age and the associated decline in ovarian reserve is the main risk factor for both spontaneous and assisted conception<sup>3</sup>. Around 9% of couples face infertility, which is defined as the inability to achieve a pregnancy after one year of regular unprotected sexual intercourse<sup>2</sup>. Several factors have been identified as underlying the increasing childbearing postponement, such as career priorities or seeking economic stability, but also being unaware of the impact of age in fertility<sup>1</sup>. Recent evidence pointed to reduced knowledge on the risks of childbearing postponement and other factors on reproductive health and fertility, such as female and male age<sup>1,4</sup>, excessive or low body weight<sup>1</sup>, and sexually transmitted diseases (STDs)<sup>1</sup>. Moreover, young adults not only do not seem to recognize the effect of age on fecundity, but also have a false belief in the ability of science to solve fertility problems<sup>5</sup>. Additionally, probabilities of pregnancy at ovulation and according to age are overestimated, as well as the effectiveness of fertility treatments in overcoming the effect of age on fertility<sup>1</sup>. These findings suggest that the delay of parenthood might not be entirely conscious.

Considering that most infertility risk factors are modifiable, primary prevention by raising awareness of these risk factors is crucial<sup>3</sup>. According to the Health Belief Model<sup>6</sup>, individuals will take action to adopt healthy behaviors or avoid risk factors to a disease if they feel susceptible to the disease, perceive benefits from changing behaviors and feel self-efficient on changing these behaviors. In order to perceive one's own susceptibility to the disease, knowledge and conscious awareness of one's fertility risks is needed. To date, few studies described the effects of educational interventions for the prevention of infertility. Wojcieszek and Thompson<sup>7</sup> evaluated the efficacy of a short brochure containing

information about fertility and infertility treatments, Daniluk and Koert<sup>8</sup> assessed the effectiveness of written information about infertility on a website, and Stern<sup>9</sup> tested the effectiveness of a personalized appointment and a written brochure.

While these interventions were effective, the efficacy of a video-based intervention has never been evaluated. Video interventions have been effective in modifying other health behaviors such as breast self-examination, prostate cancer screening, and HIV testing (see<sup>10</sup> for a review). Compared to written information, video-based materials are typically more accessible in terms of language and communication and can be more cost-effective<sup>11</sup>. Moreover, educational videos can very quickly reach a massive audience of young adults through social media<sup>12</sup>. This is particularly relevant for higher education students, for whom social media programs can be effective educational tools<sup>13</sup>. A preventive approach on fertility behaviors and consequences targeting undergraduates is important not only because these are the most likely to postpone childbearing, but also because women with fertility problems reported that they would like to have been given information on the risks of delaying childbearing at around 20 years of age<sup>5</sup>.

The present study aimed to assess the effectiveness of a reproductive health and infertility educational video in increasing knowledge with regard to age-related fertility, fertility risk factors and the definition of infertility.

### **Material and methods**

This randomized controlled parallel-group study (clinical trial NCT02607761) took place between October and December 2014. For this two-group, pretest-posttest design study, a sample size of 73 participants per group based on an 85% power to observe a significant difference with  $\alpha=0.05$  was estimated. The study was conducted in accordance with the

Declaration of Helsinki and was approved by the University of Porto Faculty of Psychology and Education Sciences Ethics Committee. Written informed consent was obtained from all participants.

The study population were 174 undergraduate students attending courses of statistics and psychology humanistic models at the University of Porto (Figure 1). The exclusion criterion was having knowledge of a fertility problem (i.e., having being diagnosed or having a risk factor such as endometriosis or varicocele;  $n=1$ ). Participants were told that the investigation was related to college students' expectations and aspirations.

The final sample had 173 participants. Each subject was distributed according to a 1:1 randomization scheme to intervention ( $n=89$ ) or control ( $n=84$ ). At pre-test (T0), both groups were in the same classroom. Students who were assigned to the intervention group (IG) were then conducted to a separate room where they received the intervention, and students assigned to the control group (CG) remained in the room with a researcher present receiving no stimulus. The IG then returned to the initial room and all participants responded to the posttest (T1) after approximately 10 minutes.

An educational video was elaborated to serve as intervention. The video lasts 2 minutes and 34 seconds and includes information on fertility rates and childbearing postponement<sup>14-16</sup>; definition of infertility<sup>17</sup>; conception rates and age-related fertility<sup>4</sup>; fertility treatments and success rates<sup>18</sup>; and female and male fertility risk factors<sup>3,19,20</sup>.

Socio-demographic variables were obtained using a specifically designed questionnaire. After requesting permission to the original authors, self-report measures were submitted to the following steps: (i) translation to Portuguese; (ii) back-translation by an independent bilingual researcher; (iii) pretesting with a group of 6 first-year undergraduate students, and restructuring based on their remarks and comments; and (iv) pilot study with 34 undergraduate students. The final questionnaire included 39 items, divided into the following

sections:

*Socio-demographic characteristics.* Age, gender, academic year, status of romantic relationship, marital status, number of children and desire for parenthood were assessed.

Initials of the first, second and last name and date of birth were used to match the two measurement moments.

*Awareness of fertility issues.* This measure was originally developed by Lampic and collaborators to assess knowledge regarding women's fertility<sup>4</sup>. Due to questions raised by pretest and pilot participants, the item 'At what age are women the most fertile?' was revised to include a lower and upper age limit. Additionally, the item 'Couples that undergo fertility treatment– what is the chance, on average, of getting pregnant?' was replicated to include female age categories 35, 40 and 45. One item was added to the original instrument ('At what age does the success of fertility treatments starts to decrease for women?'). The final instrument had 10 items.

*Fertility risk factors for men and women.* This measure was adapted from Ekelin and collaborators to assess knowledge on fertility risk factors<sup>1</sup>. In this version participants could indicate whether they thought a given factor was a risk for men, women, both, or none. Besides eight original items related to lifestyle, seven risk factors pertaining exclusively to male (e.g., pollution) and female (e.g., being between 35 and 39 years) were added by the authors (see Supplemental file A). Total scores were created separately for men and women [range 0-11]. Answers were classified as correct or incorrect based on published data<sup>1,3</sup>.

*Infertility definition.* This measure was developed by the authors to assess knowledge on the infertility definition (see Supplemental file B). Among a list of five true or false statements, participants had to choose the correct answers. A total score (range 0-5) was calculated based on the sum of correct answers, classified based on published data<sup>17,21</sup>.

***Statistical analysis***

Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS, version 21). To check for response bias due to sociodemographic characteristics, differences between control and intervention groups at baseline were analyzed using independent samples T-tests and  $X^2$  tests. Mixed analyses of variance (ANOVAs) for repeated measures were used to assess the impact of intervention on fertility knowledge. Within-subjects factor was time of assessment (T0 vs T1), and between-subjects was treatment condition (control vs intervention). Significant interaction effects were then explored with paired-sample t-test for each group separately.

## Results

Table 1 depicts the socio-demographic characteristics for the total sample and both the IG and CG. Participants were in their early twenties ( $SD=4.93$ ) and were mainly women (80.9%). The majority were first and second-year undergraduate students. Almost all participants were single, with 49% reporting being in a committed romantic relationship. Only 3% ( $n=5$ ) of participants were parents. The majority (83.2%) of participants reported a desire for future parenthood. A randomization check revealed no significant differences between groups in any of the sociodemographic variables.

Mean values and standard deviations for study variables at T0 are presented in Table 2, as well as values supported by evidence-based data<sup>4,18</sup>. Participants overestimated both female fertile age and the ability of a woman to get pregnant both through spontaneous or assisted conception, with the observed peak of female fertility between 18 and 33 years. On average, subjects reported a slight decrease in female fertility at 36, and a marked decrease at 42. The estimated probability of conception during ovulation was 84%. This percentage was also observed for the likelihood of pregnancy in couples where the female partner is 25-30, decreasing to 66% if she is 35-40 years old. Respondents estimated that fertility treatments

success would start to decrease at 41 for women, and that the success of conception from treatment would be 59% for a 35 year-old women, 46% for a 40 year-old, and 33% for a 45 year-old. Concerning knowledge on fertility risk factors, participants correctly identified more than half of the risk factors both for men and women, with averages of 6.9 and 6.3, respectively. Knowledge regarding the definition of infertility was also above half, with participants correctly identifying an average of 2.7 statements in a total of five.

### ***Intervention effects***

*Fertility issues.* Significant interaction effects (time x group) were found for the items concerning the female fertile peak. Post-hoc tests revealed that while there was a significant increase in the IG knowledge between pre-and post-test [lower range,  $t(87) = -5.80, p < 0.001$ ; upper range,  $t(87) = 7.94; p < 0.001$ ], no significant differences were observed in the CG. Responses concerning decrease in the ability to get pregnant were also found to significantly interact with the condition. While participants in the IG lowered the perceived ages of slight and marked decreases in women's ability to get pregnant [ $t(86) = 6.92, p < 0.001$ ;  $t(88) = 7.35; p < 0.001$ ], no significant differences were observed in the CG. However, the CG also lowered the perceived age of marked decrease [ $t(83) = 2.61; p = 0.011$ ]. An interaction was not verified in conception likelihood during ovulation for a woman  $\leq 25$  years. However, the post-hoc analysis revealed that the IG reported a significant increase in knowledge concerning unprotected intercourse over one year [25-30 years,  $t(86) = 5.18, p < 0.001$ ; 35-40 years,  $t(86) = 5.96, p < 0.001$ ], and no significant differences were observed in the CG. Interaction effects were also observed for female age of decreased treatment success, with a significantly lower age reported from the IG at T1 [ $t(82) = 2.03; p = 0.046$ ]. Items concerning chances of treatment conception were also found to interact significantly with condition, with an increase in knowledge of the IG regarding all ages [35,  $t(83) = 8.18, p < 0.001$ ; 40,  $t(83) = 7.67; p < 0.001$ ; and 45,  $t(83) = 5.58; p < 0.001$ ], and no significant differences in the CG.



*Fertility risk factors.* Significant interaction effects were found for both male and female risk factors. However, while only the IG reported a significant increase in male risks factors knowledge [ $t(87) = -11.33; p < 0.001$ ], both the IG and CG increased female risk factors knowledge, with higher significance in the IG [ $t(86) = -6.59; p < 0.001$ ] than in the CG [ $t(83) = -2.16; p = 0.034$ ].

*Infertility definition.* Responses concerning infertility definition were also found to interact with condition. Significant higher knowledge at post-test was found in the IG [ $t(86) = -9.64; p < 0.001$ ], but not in the CG.

## Discussion

### *Findings and interpretation*

The present study aimed to assess the effectiveness of a video intervention on university students' knowledge on age-related fertility, fertility risk factors and the definition of infertility. Findings showed that despite almost nine in each 10 students expressed the desire to become parents, there is little awareness on fertility and fecundity. In effect, the female fertile peak was perceived as lasting 14 years (between 18 and 32). This represents 10 additional years to the actual four-year range (20-24 years), which demonstrates a great lack of awareness regarding age-related infertility. Undergraduates also overestimated in about 50% the chance of pregnancy of a woman under 26 years at ovulation. This miscalculation might be explained by the earlier sexual education curricula to which these young adults were subjected, focusing on pregnancy prevention and access to contraception<sup>22</sup>, and to the "it only takes one time to get pregnant" message often time conveyed by family planning physicians<sup>23</sup>. Additionally, older female ages regarding both fertility decline and chances of spontaneous or assisted conception were consistently reported. This inadequate perception that fertility treatments could reverse a natural decline can be due to the fact that while there is a high

dissemination of successful stories among the general population<sup>5</sup>, couples seeking treatment often do not disclose their infertility for fear of not receiving social support<sup>24</sup>. Nevertheless, baseline knowledge regarding infertility risk factors was average in this sample. Although some answers could be related with general knowledge from other medical conditions, results also suggest incomplete knowledge in healthy habits and its association with infertility, which is consistent with previous evidence<sup>1</sup>. Moderate knowledge was also shown regarding the definition of infertility, revealing that students are not aware of some of the relevant causes of this disease.

Post-test findings showed that exposing undergraduates to a short educational video is effective in provisionally increasing their knowledge about fertility issues, infertility risk factors and the definition of infertility. Participants in the IG showed a significant improvement of knowledge in all items except for probability of conception by a woman  $\leq 25$  years. While the specific statistics including this age range were not included in the video, the small and not significant decrease reported by the IG reiterates the aforementioned deep-seated belief that conception is very easily achieved.

Only marked decrease in female's fecundity and female infertility risk factors had interaction effects in both the IG and the CG. While these results might be due to chance, it is possible that there was some bias related to repeated reading. For example, the presence of several questions related to women's age may have led CG participants to realize that female age is a risk factor and, in this way, influence responses at T1. Nevertheless, in both items the increase of knowledge in the IG was considerably higher than in the CG.

### ***Strengths and weaknesses of the study***

To the authors' best knowledge, this is the first study assessing the efficacy of a video-based intervention in increasing fertility awareness. One of the strengths of this study is the potential for this tool in reaching a massive population of technology and media users, thus

facilitating young adults' reproductive health empowerment and behavior change.

Additionally, the use of RCT methodology and a sample size that can assure the effectiveness of our intervention<sup>25</sup> are also strong points.

However, the study has also some weaknesses. The most important limitation is the follow-up period. The posttest occurred almost immediately after the pretest, raising the question of whether information was retained or if results can be attributed to short-term memory. Moreover, findings cannot be generalizable to young adults who are not enrolled in college, or to older adults in their late twenties and early thirties with more consolidated parental projects. The video was designed for heterosexual young adults in the sense that it addresses expectations of spontaneous pregnancy. Hence, the lack of generalizability is also applicable to lesbian, gay, bisexual and transgender populations and also people that intend to have children alone. Additionally, our sample was mainly composed by female undergraduate students, which did not allow us to check for gender differences. Given that fertility awareness interventions might be more effective on women<sup>8</sup>, future research with sufficient male participants should assess whether these effects are moderated by gender. Lastly, some bias could have resulted from the possibility that participants within the control group had understood that they were assigned to the control condition given that they received no stimulus.

### ***Differences in results and conclusions***

Our results are consistent with previous studies exploring fertility knowledge in young people<sup>1,4,26,27</sup>. The effectiveness of our intervention regarding knowledge on age-related fertility decline was also verified in previous intervention studies consisting in written information<sup>7,8</sup>, or a combination of oral and written information<sup>9</sup>. Findings regarding knowledge on treatment success rates are also in accordance with previous evidence<sup>7,9</sup>, as well as on the definition on infertility<sup>7</sup>. There is no previous evidence supporting our findings

regarding female fertile age range and chance of pregnancy over the course of 1 year per age intervals. Despite the belief that an audiovisual support will reach a broader audience and potentially engage more young adults to gain insight into fertility awareness, three or more arm trials comparing audiovisual to written information are needed to determine which method increases knowledge more.

### ***Relevance of the findings: implications for clinicians and policy-makers***

In light of the high lack of fertility knowledge shown in this study, public health campaigns and prevention programs are needed to increase public awareness in young adults beyond contraception and STDs. Besides the right to freely and responsibly decide the number, spacing and timing of children, reproductive rights include the right for the individual to have the information and means to do so<sup>28</sup>. Eventually, health literacy on fertility awareness and fecundity can lead to more conscious decision-making concerning infertility risk factors and childbearing postponement. Moreover, this video-based intervention might provide empowerment to young adults for more autonomous and active roles regarding reproductive decision making in gynecological settings, particularly family planning.

### ***Unanswered questions and future research***

Mixed findings have been recently observed in studies with long-term assessments of educational interventions. The scarce evidence available points to maintenance of knowledge two months later<sup>9</sup>, and a partial loss of knowledge after six months<sup>8</sup> (even though there was no control group in this later study). More evidence is needed to address this gap concerning long-term effectiveness. Future research should also gather data with samples diverse in age and education, and other settings beyond universities and contraception counselling (e.g., gynecology appointments). Additionally, it would be valuable to assess actual modification of lifestyle habits and risky behaviors beyond knowledge. So far, there is no indication that increased knowledge will have an effect on delaying pregnancy. These changes can be measured

with the intervention presented in this study, as there is evidence on the effectiveness of educational videos addressing other health fields both in acquisition and maintenance of knowledge in the long-term<sup>29,30</sup>, and in changing negative lifestyle behaviors<sup>31</sup>.

### ***Conclusion***

Young adults have little awareness on fertility and fecundity, which might be prejudicial to later childbearing decisions. A brief, simple and inexpensive educational video increases undergraduates' short-term knowledge in age-related fertility, fertility risk factors and infertility definition. However, follow-up data is needed to ascertain the sustaining effects on knowledge over time, as well as possible effects on behavior. Only then could we state the potential of this tool in reaching a massive population of technology and media users, thus helping to better inform young adults regarding reproductive health. Further studies should test the efficacy of this intervention in long-term follow-ups and test the influence of knowledge in reproductive behaviors and decisions.

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### ***Conflict of interest statement***

The authors declare no conflicts of interest.

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## Legends

**Table 1.** Pretest sociodemographic characteristics of the total sample, intervention and control groups.

	Total sample (173)	Intervention (89)	Control (84)	t-test / $X^2$	P value
<b>Age (Y), mean (SD)</b>	20.18 (4.93)	19.55 (3.63)	20.85 (5.95)	-.172	.088
<b>Gender, n (%)</b>					
Female	140 (80.92)	70 (78.65)	70 (83.33)	0.614	0.433
Male	33 (19.08)	19 (21.35)	14 (16.67)		
<b>Current year in college, n (%)</b>					
First	86 (49.71)	44 (49.44)	42 (50)	4.66*	0.104
Second	78 (45.09)	37 (41.57)	41 (48.81)		
Third	8 (4.62)	7 (7.87)	1 (1.19)		
Missing data	1 (0.58)	1(1.1)	0		
<b>Relationship Status, n (%)</b>					
Single	163 (94.22)	85 (95.51)	78 (92.86)	1.87*	0.325
Married	6 (3.47)	2 (2.25)	4 (4.76)		
Divorced	1 (.58)	1 (1.12)	1 (1.19)		
Missing data	3 (1.73)	2 (2.2)	1 (1.2)		
<b>Romantic relationship, n (%)</b>					
Yes	85 (49.13)	43 (48.31)	42 (50)	0.022	0.882
No	87 (50.29)	45 (50.56)	42 (50)		
Missing data	1 (.58)	1 (1.1)	0		
<b>Children, n (%)</b>					
Yes	5 (2.89)	1 (1.12)	4 (4.76)	1.93*	0.165
No	161 (93.06)	83 (93.26)	78 (92.86)		
Missing data	7 (4.05)	5 (5.6)	2 (2.4)		
<b>Desire for parenthood, n (%)</b>					
Yes	144 (83.24)	74 (83.15)	70 (83.33)	0.105*	0.905
No	2 (1.16)	1 (1.12)	1 (1.19)		
I don't know	21 (12.14)	10 (11.24)	11 (13.1)		
Missing data	6 (3.47)	4 (4.5)	2 (2.4)		

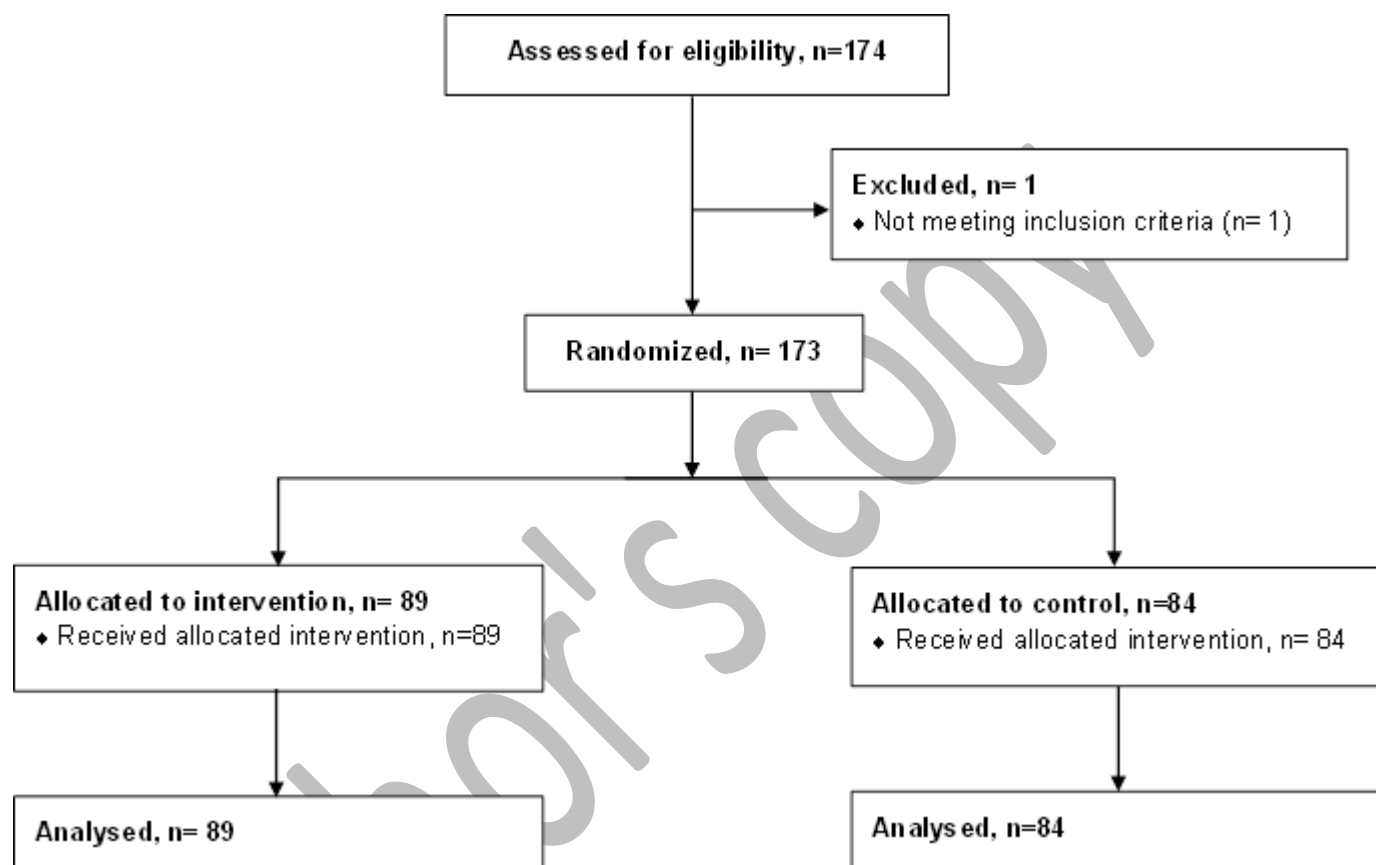
Note: \* $X^2$  calculated with Monte Carlo simulation



**Table 2.** Control and intervention group knowledge in pre and posttest.

Variable, mean (SD)	Correct answer	Total sample T0	Intervention Group (IG)		Control Group (CG)		ANOVA		
			T0	T1	T0	T1	F	p	Eta <sup>2</sup>
Fertility issues									
At what age are women the most fertile? (range below)	20	18.12 (3.00)	18.00 (2.54)	20.13 (3.68)	18.24 (3.42)	18.85 (3.83)	10.01	0.002	0.056
At what age are women the most fertile? (upper range)	24	32.88 (5.37)	32.74 (5.61)	27.80 (3.39)	33.02 (5.15)	33.80 (7.25)	32.89	0.000	0.162
At what age is there a slight decrease in women’s ability to become pregnant?	25-29	35.98 (5.50)	35.02 (5.39)	30.23 (4.47)	36.98 (5.46)	36.46 (4.18)	25.75	0.000	0.132
At what age is there a marked decrease in women’s ability to become pregnant?	35-39	42.03 (5.24)	41.00 (5.65)	36.38 (4.03)	43.12 (4.56)	42.37 (3.93)	30.10	0.000	0.150
A young woman (< 25 years) and a man have intercourse at time of ovulation – how large is the chance that she will become pregnant?	30-39%	83.77 (19.22)	83.06 (21.66)	78.67 (21.84)	84.23 (16.76)	84.29 (17.72)	3.61	0.059	0.021
A women and a men who regularly have unprotected intercourse during a period of 1 year:									
How large is the chance that she will become pregnant if she is 25-30 years old?	70-79%	83.78 (13.68)	81.93 (14.49)	71.98 (19.42)	85.58 (12.72)	85.70 (13.23)	24.27	0.000	0.126
How large is the chance that she will become pregnant if she is 35-40 years old?	50-59%	66.12 (17.30)	62.69 (18.91)	49.78 (20.83)	69.93 (14.58)	70.54 (16.05)	29.15	0.000	0.148
At what age does the success of fertility treatments starts to decrease for women?	35	40.96 (5.17)	40.71 (4.36)	39.55 (4.76)	41.38 (5.83)	42.75 (4.62)	11.34	0.001	0.067
Couples that undergo infertility treatment :									
What is the chance, on average, of getting pregnant if she is 35 years old?	20-31%	58.46 (18.07)	55.48 (19.90)	34.43 (18.70)	61.62 (15.56)	59.39 (17.52)	39.14	0.000	0.193
What is the chance, on average, of getting pregnant if she is 40 years old?	14-24%	46.32 (29.12)	42.29 (18.95)	24.56 (17.79)	50.88 (36.61)	46.34 (19.85)	9.07	0.003	0.052
What is the chance, on average, of getting pregnant if she is 45 years old?	4-14%	32.87 (20.74)	30.95 (20.29)	18.35 (16.32)	35.28 (20.82)	35.85 (21.82)	25.66	0.000	0.135
Fertility risk factors									
Risk Factors for men (range 0-11)		6.30 (1.62)	6.22 (1.50)	8.35 (1.43)	6.39 (1.74)	6.61 (1.82)	73.25	0.000	0.301
Risk Factors for women (range 0-11)		6.86 (1.94)	6.82 (1.72)	8.14 (1.97)	6.93 (2.17)	7.18 (1.91)	21.02	0.000	0.111
Infertility Definition(range 0-5)		2.83 (1.02)	2.70 (0.99)	3.80 (0.87)	2.96 (1.03)	3.43 (1.02)	64.82	0.000	0.277

**Figure 1.** Study flow-chart.



**Supplemental file A: Fertility risk factors for men and women**

**In your opinion, what factors can affect fertility in men and women?**

- Obesity (True for both genders)
- Alcohol (True for both genders)
- Gonorrhea (True for both genders)
- Lack of exercise (False for both genders)
- Pollution (True for men, false for women)
- Smoking (True for both genders)
- Being 35-39 years (True for women, false for men)
- Being 40-45 years (True for both genders)
- Being over 45 years (True for both genders)
- Chlamydia (True for both genders)
- Low weight (True for women, false for men)

Note: It is given one point if the participant marks a true statement and also if a participant does not mark a false statement.

**Supplemental file B: Infertility Definition**

**Identify all statements that you consider correct in relation to infertility:**

- It is a disease of the reproductive system (True)
- It arises due to the postponement of the conception of age (True)
- It is characterized by the inability to conceive after one year of unprotected sexual intercourse. (True)
- It is always caused by a problem related with the woman's reproductive health (False)
- The cause of infertility can remain unknown (True)

Note: It is given one point if the participant marks a true statement and also if a participant does not mark a false statement.