The contraceptive paradox

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www.gynmed.at
Potential conflicts of interest

• Medical director and owner of a clinic specialised in abortion and family planning
  > the pill scare increases my income

• Member of the European Scientific Advisory Board Exelgyn, TEVA, occasional speaker for Bayer, Teva and Exelgyn

My interest

Improving:

- Reproductive health (sex education, contraception, abortion, anonymous delivery)

- Self-Determination of men and women
The Contraceptive Paradox

Today a human dream has come true:

We can effectively separate fertility and sexuality with an unprecedented high number of highly effective contraceptive methods. But abortion rates remain stable or even increase in countries with reliable abortion statistics.

Why?
The contraceptive paradox

France

Contraceptive prevalence

Number of abortions in the lifetime of a woman

www.INED.fr

Contraceptive Paradox, C. Fiala
1. The baseline

2. Effective contraception made it possible: the sexual revolution

3. Romanticisation of fertility: in search of paradise lost and the consequences

4. How to proceed
The result of intercourse in general is the child
35 years fertility in a woman’s life

<table>
<thead>
<tr>
<th>“Natural”</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-15 pregnancies</td>
</tr>
<tr>
<td>8-10 live deliveries</td>
</tr>
<tr>
<td>7-8 surviving children</td>
</tr>
<tr>
<td>Breastfeeding 2 years</td>
</tr>
<tr>
<td>160 ovulations in a lifetime</td>
</tr>
</tbody>
</table>
Fertility in the past

Based on R. Short 1984 and 1997

Contraceptive Paradox, C. Fiala
Natural fertility

The Austrian Imperial Family, Empress Maria Theresia, Palace of Schönbrunn, Vienna, 1754
Natural fertility

The Trapp family with 7 children
Natural fertility

“... in the whole human relation there is no slavery or torture so horrible as coerced, unwilling motherhood ...”

‘Married Love’ Marie Stopes, 1918, page 140

Many children died through an ‘Angel Maker’
"It would be one of the greatest triumphs of humanity ... if the act responsible for procreation could be raised to the level of a voluntary and intentional behaviour in order to separate it from the imperative to satisfy a natural urge”

Siegmund Freud, 1898
1. the baseline

2. Effective contraception made it possible: the sexual revolution

3. Romanticisation of fertility: in search of paradise lost and the consequences

4. How to proceed
A dinner party beginning 1951 in New York is considered as the „birth“ of the Anti-Baby-Pill. Margaret Sanger in her 70s and her incredibly rich friend Katharine McCormick, ask the scientist Gregory Pincus, how much money he would need to develop a method for women based on the findings of numerous scientists from the decades before.
60 years ago hormonal contraception was highly welcomed

"one of the greatest triumphs of humanity"

Siegmund Freud, 1898

We have heard so much about the pill. What do you think?
The long way of developing safe and effective IUDs

- Stem pessaries ≈1900
- Ernst Gräfenberg
- Silk rings ≈1900
- Stainless steel rings 1920
- Jack Lippes
- Plastic devices 1960

Jaime Zipper
Cupper added 1969
Willem van Os
Improved forms >1980
Tapani Luukkainen
Progesterone IUD 1990

Contraceptive Paradox, C. Fiala
Effective contraception: the 2nd most important cultural achievement

Total fertility rate, Central Western Europe

Source: Europe’s demographic future: Facts and figures on challenges and opportunities, European Commission,(2007)

Contraceptive Paradox, C. Fiala
**Effective contraception: the 2\textsuperscript{nd} most important cultural achievement**

<table>
<thead>
<tr>
<th>“Natural”</th>
<th>Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-15 pregnancies</td>
<td>1-2 pregnancies</td>
</tr>
<tr>
<td>8-10 live deliveries</td>
<td>1-2 live deliveries</td>
</tr>
<tr>
<td>7-8 surviving children</td>
<td>all children survive</td>
</tr>
<tr>
<td>Breastfeeding 2 years</td>
<td>Breastfeeding 0-4 months</td>
</tr>
<tr>
<td>160 ovulations in a lifetime</td>
<td>450 ovulations in a lifetime &gt; Effective contraception needed for most</td>
</tr>
</tbody>
</table>

Contraceptive Paradox, C. Fiala
New problem: Highly effective contraception needed for most of the 35 fertile years

Based on R. Short 1984 and 1997

Contraceptive Paradox, C. Fiala
1. the baseline

2. Effective contraception made it possible: the sexual revolution

3. How to explain?

4. How to proceed
• Reduced acceptance of unwanted pregnancies
• Wrong perception of natural fertility
• Sexual education out of touch
• Condoms
The contraceptive paradox

France

Contraceptive prevalence

Number of abortions in the lifetime of a woman

www.ined.fr
Proportion of unplanned pregnancies (per 100 pregnancies) and frequency of recourse to induced abortion (per 100 unplanned pregnancies)

Bajos et al., 2012, Population & Societies, 407
• Reduced acceptance of unwanted pregnancies

• Wrong perception of natural fertility

• Sexual education out of touch

• Condoms
Estimated number of pregnancies
in a woman’s lifetime without contraception

Austrian national contraceptive survey 2018, n= 2 019
Survey among abortion patients Gynmed, 2017-8, n= 300
50 years after the discovery women want to abandon hormonal contraception

"57% of German women think OC is bad for their health in long term use."

Welcome! This is the place to learn NFP!

What is natural family planning (NFP)?

- NFP is a way of following God’s plan for achieving and/or avoiding pregnancy. It consists of ways to achieve or to avoid pregnancy using the physical means that God has built into human nature.
- NFP consists of two distinct forms:
  1. Ecological breastfeeding. This is a form of child care that normally spaces babies about two years apart on the average.
  2. Systematic NFP. This is a system that uses a woman’s signs of fertility to determine the fertile and infertile times of her cycle.
- Couples seeking to avoid pregnancy practice chaste abstinence during the fertile time of her cycle.

You can teach yourself how to practice both forms of NFP by using the short and easy-to-read manual, Natural Family Planning: The Complete Approach.
Romanticisation of fertility: in search of paradise lost

- 100 years after Sigmund Freud described the unimaginable despair caused by natural fertility
- 60 years after the discovery of effective (hormonal) contraception

Most have forgotten what ‘natural fertility’ means and that there is no such thing as “natural contraception”
## Perception of efficacy of the method used

<table>
<thead>
<tr>
<th>Method used</th>
<th>Percentage</th>
<th>Efficacy in real life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical (TL, vasectomy)</td>
<td>97%</td>
<td>very effective</td>
</tr>
<tr>
<td>Cu-IUD</td>
<td>87%</td>
<td>very effective</td>
</tr>
<tr>
<td>Other hormonal LARC methods</td>
<td>81%</td>
<td>very effective</td>
</tr>
<tr>
<td>Pill (COC)</td>
<td>72%</td>
<td>effective</td>
</tr>
<tr>
<td>Condom</td>
<td>67%</td>
<td>medium effective</td>
</tr>
<tr>
<td>Coitus interruptus, self-awareness, counting days</td>
<td>41%</td>
<td>not effective</td>
</tr>
</tbody>
</table>

Percentage of couples having used that contraceptive method during the last 12 months, Austrian contraceptive prevalence survey, 2012, www.verhuetungsreport.at

Contraceptive Paradox, C. Fiala
Reasons for not using any contraception by age

- **No sex**: 18
- **Infertile**: 7
- **Wants a child**: 4
- **In menopause**: 0.5

**High risk group for unwanted pregnancy**

Basis: all participants, n= 1,060

Austrian contraceptive prevalence survey 2012, www.verhuetungsreport.at

Contraceptive Paradox, C. Fiala
## Problems of the debate

1. Comparator is virtual
2. Correlation is taken as proof for causation
3. Other risk factors ignored
4. Very low risk presented out of proportion
5. Consequences of unwanted pregnancies are ignored

Product information updated to help women make informed decisions about their choice of contraception

<table>
<thead>
<tr>
<th>Risk of developing a blood clot (VTE) in a year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>women <strong>not using</strong> a combined hormonal pill/patch/ring and are not pregnant</td>
<td>About 2 out of 10,000 women</td>
</tr>
<tr>
<td>Women using a CHC containing <strong>levonorgestrel</strong>, norethisterone or norgestimate</td>
<td>About 5-7 out of 10,000 women</td>
</tr>
<tr>
<td>Women using a CHC containing <strong>etonogestrel or norelgestromin</strong></td>
<td>About 6-12 out of 10,000 women</td>
</tr>
<tr>
<td>Women using a CHC containing <strong>drospirenone, gestodene or desogestrel</strong></td>
<td>About 9-12 out of 10,000 women</td>
</tr>
</tbody>
</table>
### Goal
- assessed **associations** between HC use and suicide attempt and suicide
- assessed **associations** between the use of HC and the risk of invasive breast cancer
- whether use of HC is positively **associated** with subsequent use of antidepressants and diagnosis of depression

### Conclusions
- these little-recognized potential **side effects** of HC, health professionals and women starting hormonal contraceptives should be informed about them
- Our data showed a **higher risk** of breast cancer with a longer duration of use of combined products ... we found that **risks** among women who used HC for less than 5 years rapidly decreased after discontinuation of hormonal contraception
- Use of HC was **associated** with subsequent antidepressant use and first diagnosis of depression at a psychiatric hospital among women living in Denmark. Adolescents seemed **more vulnerable to this risk** than women 20 to 34 years old.

### Reference
- Association of HC with Suicide attempts and suicides. Skovlund et al. Am J Psychiatry. 2018

"Assuming that the demonstrated associations are causal"
Correlation is not proof of causation

"Assuming that the demonstrated associations are causal"
Number of storks and deliveries in Burgenland, Austria

Would the interpretation be:
Lower birth rate because of lower number of storks?

Source: BirdLife Austria and Statistics Austria
Other risk factors ignored

**Smoking and VTE risk**

Known risk factors for VTE in COC users: body mass index (BMI)

Age and VTE risk

**Known risk factors for VTE in COC users:** duration of use

**Issues with contraception: Contraceptive Paradox**

*Fiala, C.* Dinger ESC Congress 2010
Other risk factors ignored

VTE risk during pregnancy

Very low risk presented out of proportion

**Incidence of VTE per 10,000 Women-Years**

- Non-pregnant women not using any EE-containing COCs
- Women using low-dose EE-containing COCs
- Pregnant women

**Reference(s):** Dinger J et al. Contraception. 2007;75:344-354,
Hormone fear – and the consequences

36% did not use any contraception in the last year
64% did use contraception themselves in the last year

7.5% of all women did not use contraception because of fear of hormones
5.3% of all women used hormone-free contraception, because of fear of hormones
12.8% of all women avoid hormonal contraception

women who avoid hormones, use less effective contraception or no contraception at all

Austrian contraceptive survey, 2015, www.verhuetungsreport.at
Contraceptive Paradox, C. Fiala
## Consequences of the ‘pill scare’ are real

<table>
<thead>
<tr>
<th>Method of contraception</th>
<th>2012</th>
<th>2015</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective hormonal</td>
<td>60%</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>Effective non-hormonal (TL, vasect., Cu-IUD)</td>
<td>8%</td>
<td>7%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: Preliminary results of a new study among women having an abortion, n=300

### Reasons for not using effective contraception

- 40% of women having an abortion think hormones are dangerous
- 64% of women having an abortion avoid hormones
- 39% of women in the general population avoid hormones

## Pearl Index in real life

<table>
<thead>
<tr>
<th>Method</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implant</td>
<td>0.05</td>
</tr>
<tr>
<td>Vasectomy</td>
<td>0.15</td>
</tr>
<tr>
<td>IUS</td>
<td>0.2</td>
</tr>
<tr>
<td>Tubal ligation</td>
<td>0.5</td>
</tr>
<tr>
<td>IUD</td>
<td>0.8</td>
</tr>
<tr>
<td>OC</td>
<td>9</td>
</tr>
<tr>
<td>Depot injection</td>
<td>6</td>
</tr>
<tr>
<td>Patch</td>
<td>9</td>
</tr>
<tr>
<td>Vaginal ring</td>
<td>9</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>12</td>
</tr>
<tr>
<td>Condom</td>
<td>15</td>
</tr>
<tr>
<td>Coitus interruptus</td>
<td>22</td>
</tr>
<tr>
<td>Self-observation (‘natural methods’)</td>
<td>25</td>
</tr>
<tr>
<td>Vaginal ovula</td>
<td>28</td>
</tr>
</tbody>
</table>

**Probability to get pregnant without contraception:** 85-115
Consequences of the pill scare 1.0 (1995)

Annual rate of abortions England and Wales
(per 1,000 women residents aged 15-44) Source: Department of Health

In October 1995, the Committee on Safety of Medicines (CSM) released a ‘Dear Doctor’ letter, warning doctors about an increased risk of venous thromboembolism (VTE) in women taking third-generation combined oral contraceptive (COC) pills.
Consequences of the pill scare 2.0 (2012)

Contraceptive use in France between 2010 and 2013

N. Bajos et al., Population & Sociétés, n° 511, Ined, 2014
Consequences of the pill scare 2.0 France (2012)

Increase in the number of abortions and abortion rate following the 'pill scare'

Institut national d'études démographiques (Ined)

Contraceptive Paradox, C. Fiala
Underlying misunderstanding of the pill scare

Hormones are the language of the body

‘Hormone-free contraception’ is refusing to use the way our organs communicate (lingua franca of the body).

‘Hormone free contraception’ is equivalent to:

- non-verbal communication between people: not very effective with increased risk of misunderstanding (side-effects)

- refusing to use the language spoken in a guest country
• Reduced acceptance of unwanted pregnancies
• Wrong perception of natural fertility
• Sexual education out of touch
• Condoms
Paradigm shift in contraceptive counselling:
A new problem demands a new solution

• The first generations of women after discovery of the Pill had experienced natural fertility. They still had the emotional experience.

• They knew that the desired number of children is the result of a continuous artificial intervention.

• The younger generation can not make that experience anymore.

• It is therefore on us, the adults to pass this perception to the younger generations with adequate pedagogic tools.
Paradigm shift in contraceptive counselling:
A new problem demands a new solution

• Until the year 2000 we needed to explain how to use contraception, women understood why they needed it
• Nowadays we have to explain why they need use effective contraception at every intercourse, women get the information about how to use them from their smart phone

A shift from „how“ use contraception to „why“ to use it.

Contraceptive Paradox, C. Fiala
• Reduced acceptance of unwanted pregnancies
• Wrong perception of natural fertility
• Sexual education out of touch
• Condoms
Condoms lead to 1/3 of all abortions

Contraception prior to an abortion

- No contraception: 37%
- Condom: 35%
- Coitus interr.: 4%
- Sympto-thermal: 2%
- Counting days: 15%
- Other: 3%

Planned method after an abortion

- Pill: 45%
- Condom: 16%
- IUD/IUS: 15%
- Vag. Ring/Patch: 10%
- Other: 4%
- Unclear: 10%

Gynmed Clinic, Vienna 2009
n> 5,000

Contraceptive Paradox, C. Fiala
### Estimated accidental pregnancies resulting from contraceptive failure worldwide

**Table 1.1** Estimated number of women using a contraceptive method and those experiencing an unintended pregnancy during the first year of contraceptive use, by type of contraceptive method, global data, 2007

<table>
<thead>
<tr>
<th>Contraceptive method</th>
<th>Estimated failure rate (typical use), %&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Number of users, thousands&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Number of women with accidental pregnancy (typical use), thousands&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female sterilization</td>
<td>0.5</td>
<td>232 564</td>
<td>1163</td>
</tr>
<tr>
<td>Male sterilization</td>
<td>0.15</td>
<td>32 078</td>
<td>48</td>
</tr>
<tr>
<td>Injectables</td>
<td>0.3</td>
<td>42 389</td>
<td>127</td>
</tr>
<tr>
<td>Intrauterine device (IUD)</td>
<td>0.8</td>
<td>162 680</td>
<td>1301</td>
</tr>
<tr>
<td>Pill</td>
<td>5.0</td>
<td>100 816</td>
<td>5041</td>
</tr>
<tr>
<td>Male condom</td>
<td>14</td>
<td>69 884</td>
<td>9784</td>
</tr>
<tr>
<td>Vaginal barrier</td>
<td>20</td>
<td>2291</td>
<td>458</td>
</tr>
<tr>
<td>Periodic abstinence</td>
<td>25</td>
<td>37 806</td>
<td>9452</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>19</td>
<td>32 078</td>
<td>6095</td>
</tr>
</tbody>
</table>
1. the baseline

2. Effective contraception made it possible: the sexual revolution

3. Romanticisation of fertility: in search of paradise lost and the consequences

4. How to proceed
• ‘Natural contraception‘ is a fundamental contradiction going back to Hermann Knaus who declared having discovered:

„a natural yet arbitrary regulation of fertility“

Knaus Wr. Klin. Wschr. 1960

• Women need to decide:
  – either they control their fertility or
  – their fertility will control their life
To Margaret Sanger, birth control was the first freedom for women. “No woman can call herself free until she can choose consciously whether she will or will not be a mother,” she wrote.

We can make that vision a reality only if we use hormonal contraception up to its full potential:

Children and menstruation by choice not chance
A museum for sex education to change the perception of natural fertility and make people understand the need for effective contraception for most intercourses in 35 years of fertility in a woman’s life.

Museum of Contraception and Abortion – in Vienna and online www.muvs.org
The pill and the moral in Germany

A woman walks by. Will the erotic spirit be changed by the pill?

Der Stern (Magazin) Cover in 1967
No of storks and deliveries in Burgenland, Austria

Would the interpretation be: An increasing number of storks may have the potential side-effect of a higher birth rate?

Source: BirdLife Austria
No of storks and deliveries in Burgenland, Austria

Would the interpretation be:

we need to look at potential confounders?
Would the interpretation be: Metal rings on the legs of storks have the “risk“ or “potential side effect” that they can not do their work?
50 years after the discovery women want to abandon hormonal contraception
The Contraceptive Paradoxon

www.ined.fr

Contraceptive Paradox, C. Fiala