Reproductive health research at WHO

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Department of Reproductive Health and Research
World Health Organization
Geneva, 11 March 2004
“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

7 April 1948
Functions

“In order to achieve its objective, the functions of the Organization shall be:

(a) to act as the directing and co-ordinating authority on international health work;

...

(n) to promote and conduct research in the field of health;

…”

( WHO Constitution, Article 2)
Growth of total world population

Billions

0 1 2 3 4 5 6 7

1600 1700 1800 1900 2000 2100


WHA 18.49
The Programme’s history

“REQUESTS the Director-General to develop further the programme proposed:

(a) in the fields of reference services, studies on medical aspects of sterility and fertility control methods and health aspects of population dynamics; …”

(WHA Resolution 18.49; 1965)
“To coordinate, promote, conduct and evaluate international research in human reproduction”
Factors contributing to fertility decline

- Higher age at marriage
- Reduced breastfeeding
- More use of contraception
- More induced abortion
- All other factors

(Source: World Bank, Population change and economic development, 1984)
How can contraceptive use be increased?

- Development of new and improvement of existing methods
- Improving access to existing methods
Bleeding patterns experienced by Depo-provera users at 1 year of use

Depo-provera

- Regular pattern
- Irregular pattern
- Amenorrhoea

% users

0 20 40 60 80 100

PVL_GE_StudCourse_MAR9/9

DEPARTMENT OF REPRODUCTIVE HEALTH AND RESEARCH

DÉPARTEMENT SANTÉ ET RECHERCHE GÉNÉSIQUES
Once-a-month injectables developed by the Programme

Mesigyna® : 50 mg norethisterone enantate
+ 5 mg estradiol valerate

Cyclofem® : 25 mg medroxyprogesterone acetate
+ 5 mg estradiol cypionate
Bleeding patterns experienced by injectable users at 1 year of use

**Depo-provera**
- Regular pattern
- Irregular pattern
- Amenorrhoea

**Cyclofem**
- Regular pattern
- Irregular pattern
- Amenorrhoea
“Emergency contraceptives are methods which women can use after intercourse to prevent pregnancy.”

(from Consensus Statement on Emergency Contraception, Bellagio, April 1995)
Emergency contraception is indicated to prevent pregnancy after intercourse

- When no contraceptive was used
- When there is a contraceptive failure or misuse, including:
  - condom breakage, slippage or misuse
  - 2 or more consecutive missed oral contraceptive pills
  - late for contraceptive injection
  - failed coitus interruptus, etc.
- In cases of sexual assault
Methods of emergency contraception in early 1990s

- **Ethinylestradiol/levonorgestrel** *(Yuzpe regimen) (1974)*
  - nausea 50%, vomiting 20%
  - efficacy approx. 75%

- **Copper-T intrauterine device** *(1970s)*
  - often unsuitable, requires trained providers
  - painful at insertion, risk of PID
  - efficacy of greater than 95%
## Lower pregnancy rate after levonorgestrel

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of women</th>
<th>Observed pregnancies</th>
<th>Pregnancy rate (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuzpe</td>
<td>979</td>
<td>31</td>
<td>3.2% (2.2, 4.5)</td>
</tr>
<tr>
<td>LNG</td>
<td>976</td>
<td>11</td>
<td>1.1% (0.6, 2.0)</td>
</tr>
</tbody>
</table>

The difference in pregnancy rate was statistically significant.

## Less side-effects after levonorgestrel

<table>
<thead>
<tr>
<th>Side-effect</th>
<th>Yuzpe No. (%) of cases</th>
<th>LNG No. (%) of cases</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>494 (50.5)</td>
<td>226 (23.1)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Vomiting</td>
<td>184 (18.8)</td>
<td>55 (5.6)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Headache</td>
<td>198 (20.2)</td>
<td>164 (16.8)</td>
<td>0.06</td>
</tr>
<tr>
<td>Dizziness</td>
<td>163 (16.7)</td>
<td>109 (11.2)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Fatigue</td>
<td>279 (28.5)</td>
<td>165 (16.9)</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

Availability of levonorgestrel preparations for emergency contraception (as of November 2002)
Mifepristone research

- pregnancy termination (first and second trimester)
- cervical ripening
- menses induction
- ovulation blocking
- luteal contraception
- emergency contraception
Unmet needs in contraceptive hardware

- Methods for dual protection (including improved barrier methods)
- Reversible methods for men
- Postcoital methods for repeated use during the cycle
- Improved (hormonal) methods for women
- Long-acting, non-hormonal methods for women
How can contraceptive use be increased?

- Development of new and improvement of existing methods
- **Improving access to existing methods**
Important new knowledge about safety/efficacy of hormonal fertility-regulating methods

- Oral contraceptives and cancer (benefits and risks)
- Oral contraceptives and cardiovascular disease
- Oral contraceptives and breast cancer
- DMPA and breast cancer
- Safety and efficacy of mifepristone
- Third-generation oral contraceptives and venous thromboembolism
- Long-term safety and efficacy of Norplant®
Cumulative net probabilities (se) of discontinuation and continuation rates per 100 women at 10 years of use*

<table>
<thead>
<tr>
<th></th>
<th>TCu 380A</th>
<th>Multiload 375</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total pregnancy</strong></td>
<td>3.4 (0.5)</td>
<td>5.3 (0.7)</td>
<td>0.029</td>
</tr>
<tr>
<td>- Intrauterine</td>
<td>2.7 (0.5)</td>
<td>5.2 (0.7)</td>
<td>0.002</td>
</tr>
<tr>
<td>- Ectopic</td>
<td>0.8 (0.3)</td>
<td>0.1 (0.1)</td>
<td>0.011</td>
</tr>
<tr>
<td><strong>Expulsions</strong></td>
<td>11.2 (1.0)</td>
<td>14.8 (1.2)</td>
<td>0.023</td>
</tr>
<tr>
<td><strong>Total medical removals</strong></td>
<td>29.2 (1.4)</td>
<td>28.9 (1.5)</td>
<td>0.80</td>
</tr>
<tr>
<td>- Pelvic inflammatory disease</td>
<td>0.4 (0.2)</td>
<td>0.5 (0.2)</td>
<td>0.82</td>
</tr>
<tr>
<td><strong>Continuation rate</strong></td>
<td>40.1 (1.3)</td>
<td>37.4 (1.3)</td>
<td>0.14</td>
</tr>
<tr>
<td><strong>Woman-years</strong></td>
<td>10,164</td>
<td>10,014</td>
<td></td>
</tr>
</tbody>
</table>

* Interim data, cut-off July 2002
PID INCIDENCE RATE
(95% confidence interval)

PID rate (per 1000 years)

Time since insertion

Months (first year)  Year
1 2 3 4 - 6 7 - 12 2 3 4 5 6 7 8+

0 2 4 6 8 10 12
Trends in use of contraception


Developing countries

Developed countries

Emphasis on research capability strengthening

US$ 2  
Research and development

US$ 1  
Research capability strengthening
Countries collaborating with the Department in the year 2002 (n = 110 countries)
Maternal health intervention research during 1995-2003 with leading/active participation of the Programme

<table>
<thead>
<tr>
<th>Countries</th>
<th>Women</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal care</td>
<td>4</td>
<td>24 678</td>
</tr>
<tr>
<td>Postpartum haemorrhage</td>
<td>9</td>
<td>18 530</td>
</tr>
<tr>
<td>Treatment of pre-eclampsia (MAGPIE trial)</td>
<td>31</td>
<td>10 141</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>5</td>
<td>149 276</td>
</tr>
<tr>
<td>The WHO Reproductive Health Library</td>
<td>2</td>
<td>76 053</td>
</tr>
<tr>
<td>Prevention of pre-eclampsia (calcium supplementation)</td>
<td>6</td>
<td>8 338</td>
</tr>
<tr>
<td>Screening and treatment of urinary tract infection</td>
<td>4</td>
<td>18 000</td>
</tr>
<tr>
<td>Prevention of pre-eclampsia (anti-oxidants)</td>
<td>3</td>
<td>4 044</td>
</tr>
<tr>
<td>Prevention of pre-eclampsia (treatment of hypertension)</td>
<td>5</td>
<td>1 600</td>
</tr>
<tr>
<td>Treatment of postpartum haemorrhage</td>
<td>4</td>
<td>1 000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
<td><strong>311 660</strong></td>
</tr>
</tbody>
</table>

* Some countries have been involved in more than one study
Methods for dual protection (STI and pregnancy)

- Microbicides (cellulose sulfate)
  - double-blind, Phase I study (control: K-Y jelly)
  - Kampala, Mumbai, Sagamu

- Male and female condoms
GRIP
Getting research into practice
through the development of evidence-based technical and policy guidance
Universally accepted guidance for family planning

**Medical Eligibility Criteria for Contraceptive Use**

**Selected Practice Recommendations for Contraceptive Use**

Guidance for guides

Guidance for providers and clients

Decision-Making Tool for Family Planning Clients and Providers

Handbook for Family Planning Providers

Process for keeping the guidance up-to-date
Widely acclaimed evidence-based guidance for maternal and newborn health care
Safe Abortion:
Technical and
Policy Guidance
for Health Systems
The WHO Reproductive Health Library

- Biblioteca de Salud Reproductiva de la OMS
- The WHO Reproductive Health Library No. 6

Bar chart showing the growth of Spanish and English materials from 1998 to 2002:

- 1998: 10,000 Spanish, 20,000 English
- 1999: 15,000 Spanish, 25,000 English
- 2000: 20,000 Spanish, 30,000 English
- 2001: 25,000 Spanish, 35,000 English
- 2002: 30,000 Spanish, 40,000 English
The Implementing Best Practices (IBP) Initiative

Implementing Best Practices Consortium

Goal
To work with global, regional and country networks to exchange information and support a systematic process to introduce, adapt and apply best practices to improve access to and quality of reproductive health.
The Strategic Approach: Conceptual framework

Social, Cultural, Political and Resource Contexts

PEOPLE

RH Status, User Perspectives, Gender

SERVICES

Policies, Programmes, Access, Availability, Quality of Care

TECHNOLOGY

Availability, Characteristics

Social, Cultural, Political and Resource Contexts
Using the Strategic Approach for Strengthening Quality of Care in Reproductive Health Services
Durex withdraws condom lubricant

The makers of Durex have ceased production of condoms containing a controversial lubricant amid doubts about its ability to prevent infection.

The lubricant, nonoxynol-9 (N-9), was originally thought to provide a high level of protection against infections such as HIV.

However, recent studies have shown that it may actually increase the risk.

Concerns had been raised by the World Health Organization, UNAIDS and the US Centres for Disease Control.

The UK National AIDS Trust, which has campaigned for the removal of N-9 from condoms, applauded the decision.

Keith Winstein, campaigns manager, said: "This is a very welcome decision."
“HRP is a unique Programme and the international leader in reproductive health research. It needs to be supported further to enable it to continue its role effectively in response to evolving reproductive health problems and practices.”

The Bush administration may withhold funds from a World Health Organization program because it is doing research on the abortion pill mifepristone, also known as RU-486, a spokesman said yesterday...

...“We are looking at that program in terms of whether that is consistent with Kemp-Kasten,” State Department spokesman Richard Boucher said...

(The Washington Post, 8 November 2002)
“...often I get this question whether I will be interested in supporting HRP and also whether I will be interested in supporting the sexual and reproductive health programme. The short answer is a “yes”, because I know that this is a very, very important programme.”

(Extract from intervention by Dr J.W. Lee, Director-General Elect, at HRP’s Policy and Coordination Committee, 1 July 2003)