

Healthcare System Investment and Cost-Savings of Modern Contraceptive Provision in MACEDONIA

What could be the cost and what are the benefits envisaged?

BACKGROUND

Ensuring access to family planning services is one of the crucial strategies to ensure the health and well-being of women and children, as woman's abilities to limit, plan and manage her pregnancies have direct impact on her health as well as on the outcomes of pregnancies (1).

Family planning could prevent maternal mortality and morbidity, and can reduce newborn, infant and child mortality by allowing women to delay motherhood, space births, avoid unintended and high-risk pregnancies and abortions (2), and reducing the chances for preterm birth. The benefits of family planning reach far beyond the individual level for the women and is a fundamental human right, crucial for empowering women and girls. Women who have control over their fertility have more educational and employment opportunities which enhances their social and economic status and improves the well-being of their families (3).

Ensuring contraceptive accessibility of Macedonian population becomes particularly acute in the light of high infant mortality (11.9 per 1000 live births in 2016), of which high proportion or 84% are associated with low birth weight and pre-term birth, with high adolescent pregnancy rate of 19.5 per 1000 in 2016, and with one of the highest abortion rate in Europe, 11% of women aged 15-49 (4), and at least one induced abortion in their lifetime. Around 10% of all pregnancies in Macedonia are considered high-risk pregnancies (5).

In Macedonia, contraception prevalence rate (CRP) in 2011, among women currently married or in union aged 15 to 49, was reported to be 40,2% (both modern and traditional methods). Less than 13% of women are using modern contraceptive method, out of which only 2% percent use intra-uterine device (IUD) and 1,6% use oral contraception (OC) which is much lower than the average percentage of modern contraception use in EU countries (6). National

1 World Health Organization. WHO | Family planning / contraception: fact sheet No 351. 2015.

Available: <http://www.who.int/mediacentre/factsheets/fs351/en/>

2 DeFranco EA, Seske LM, Greenberg JM, Muglia LJ. Influence of interpregnancy interval on neonatal morbidity. *Am J Obstet Gynecol.* 2015 Mar;212(3):386.e1-9.

3. Sonfield A et al., *The Social and Economic Benefits of Women's Ability to Determine Whether and When to Have Children*, New York: Guttmacher Institute, 2013, www.guttmacher.org/pubs/social-economic-benefits.pdf,

4. Information on mother's and children's health in Macedonia 2014-2016. Institute of Mother and Child Health, Skopje, 2017

5. Institute of Mother and Child Health. Information on mother's and children's health in Macedonia 2014-2016. Skopje, 2017.

6. Ministry of Health, Ministry of Labor and Social Policy, Ministry of Education and Science. Monitoring the situation of children and women: Multi Indicator Cluster Survey (MICS), 2011, page 68

https://www.unicef.org/tfymacedonia/MICS_ENG_FINAL_websize.pdf

data show that the proportion of women who used levonorgestrel+ethinylestradiol tablets 0,15 mg/0,03 mg (in Macedonia sold under the trademark Microgynon) account to approximately 50% of the women who use oral contraception, whereas users of TCU380A (in Macedonia sold under the trademark Nova T) account to approximately 80% of the total users of an intrauterine device (7).

The unmet need for contraception in Macedonia is indicated as 17,2% (MICS 2011), and estimated at 18.2 according to UN Trends in Contraceptive Use Worldwide (2015), while the unmet need in young population (age 20-24 year) is 36,5%, (MICS 2011). One important factor that contributes to the low CPR and high unmet need for contraception is the out of pocket payment that makes young and social assisted groups as most vulnerable to unmet need for contraception.

The aim of the study is to gather economic evidence by comparing investment costs and cost savings resulted though the provision of free or subsidized modern contraception to women in reproductive age (15-49years old) in a 3-year period (2018-2020), from the health system perspective.

METHODOLOGY

Investment costs (costs of commodities, doctors incentives for service provision, distribution costs and costs for promotion campaign) were compared with an estimate of cost savings resulting from averted medically indicated abortions, high-risk pregnancies and related deliveries and low birth weight newborns, and related complications.

Modern contraception methods considered within the scope of the study are the oral contraceptives – levonorgestrel+ethinylestradiol 0,15 mg/0,03 mg (in Macedonia known as brand Mycrogynon) and the intrauterine device TCU380A (in Macedonia known as brand Nova-T).

The target group consists of women of reproductive age, 15-49 years, married or in union.

For the purpose of the study, a set of conservative assumptions related to investment costs and savings were considered. Evidence related to the costs-benefits balance at national level is calculated according to two scenarios:

Scenario 1 (OCs and IUDs are procured through the UNFPA Procurement Services) sets OCs and IUDs provided free to women 15-49 years old and Scenario 2 sets OCs and IUDs are

7 Вокер Г., Јовановски Б., Саздовска С., Павловска В. Извештај за истражувањето на сегментацијата на пазарот на средствата за репродуктивно здравје. September 2013, стр. 14

provided 50% subsidized to women 15-49 years old via the insurance scheme of the Health Insurance Fund (HIF), and 50% out-of-pocket payment.

Scenario 1 assumes that over 3 years implementation, the proportion of women 15-49 years old using OCs will increase from 0,8% (in 2011) up to 9% in 2020, and for IUDs from 1,6% up to 5% in 2020.

Scenario 2 assumes that for over 3 years implementation the proportion of women 15-49 years old using OCs (i.e. levonorgestrel+ethinylestradiol 0,15 mg/0,03 mg respectively) will increase from 0,8% (2011) up to 4,5% in 2020, and for IUDs (TCu380A respectively) from 1,6% up to 3,5% in 2020.

RESULTS

Investments

In the 1st scenario the OCs and IUDs are procured through the UNFPA Procurement Services as in the 2nd scenario the OCs and IUDs are procured at significantly higher local market prices.

The total investment costs for the free provision of OCs and IUDs using UNFPA Procurement System (Scenario 1) is 589.865 USD for the 3-years period (109.601USD in 2018, 197.927 USD in 2019 and 282.336 USD in 2020).

The total investment cost for the 50% subsidized OCs and IUDs (and 50% out-of-pocket payment) via the insurance scheme of the Health Insurance Fund (Scenario 2) is 925,011 USD for 3-years period (176.833 USD in 2018, 314.193 USD in 2019 and 433.985 USD in 2020). The costing analysis has been conducted from the healthcare system/provider's perspective and considers the procurement costs of the OC and the IUD with the highest prevalence in the country (levonorgestrel+ethinylestradiol 0,15 mg/0,03 mg and TCu380A respectively) which are in the same time the products with the smallest prices on the local market. The analysis is based on the following prices: levonorgestrel+ethinylestradiol 0,15 mg/0,03 mg (4 packs/3 each) at 3 USD UNFPA Procurement Service and at 38 USD local market (retail price, distribution costs included) and TCu380A at 0.317 USD UNFPA Procurement Services and at 65 USD local market (retail price, distribution costs included). Costs of distribution are included in the total costs of the intervention for the Scenario 1 and is overall estimated at 15% of the direct costs.

The costs of consultations and medical checks are included in the per capita funding scheme of the Health Insurance Fund and estimated at 1 in every 3 months for OCs (consultation or prescriptions), and 1 (insert/check) per year for IUDs. However, incentives for Ob-Gyn and family doctors have been taken in consideration (5 USD per new patient, in line with the estimated cost of service on primary level).

The costs of the promotion campaigns are estimated at 10.000 USD per year under circumstances that the public TV and radio channels would contribute pro bono.

Cost savings

Cost savings are calculated as resulted from averted (a) medically indicated abortions and complications related,(b) high risk pregnancies, related vaginal deliveries, C-sections, and complications, and (c) low birth weight new-borns and complications related. Looking at the literature review it is assumed that free OCs and IUDs procured through the UNFPA Procurement System, reduce medically indicated abortions with 10%, high risk pregnancies and related vaginal deliveries and C-sections with 10% and low birth weight newborns (<2500g) with 10%. It is assumed that 50% subsidized OCs and IUDs reduce medically indicated abortions with 5%, high risk pregnancies and related vaginal deliveries and C-sections with 5% and low birth weight new-borns (<2500g) with 5% (8, 9).

The total cost savings for the free provision of OCs and IUDs (Scenario 1) is 905.888 USD for the 3-years period (113.088 USD in 2018, 339.578 USD in 2019 and 453.222 USD in 2020 respectively).

The total cost savings for the 50% subsidized (and 50% out-of-pocket payment) OCs and IUDs via the insurance scheme of the Health Insurance Fund (Scenario 2) is 452,944 USD for 3-years period (56.544 USD in 2018, 169.789 USD in 2019 and 226.611 USD in 2020 respectively).

The use of levonorgestrel+ethinylestradiol tablets is assumed to increase faster in case of free provision, to 3% in year 1 (2018), 6% in year 2 (2019), and 9% in year 3 (2020) and slower in case of 50% subsidized provision, to 1,6% in year 1 (2018), 3% in year 2 (2019), and 4,5% in year 3 (2020). Same assumption for the use of TCU380A: to increase faster in case of free provision – to 3% in year 1 (2018), 4% in year 2 (2019) and 5% in year 3 (2020); and slower in the case of 50% subsidized provision – to 2,5% in year 1 (2018), 3% in year 2 (2019) and 3,5% in year 3 (2020). Overall, the results of the intervention are adjusted with -75% for the first year and with -25% as it is assumed that users switch from current out of pocket payment system to free or subsidized oral contraceptives and IUDs progressively.

8. Peipert JF, Madden T, Allsworth, Secura GM. Preventing unintended pregnancies by providing no-cost contraception. *Obstet Gynecol.* 2012 Dec; 120(6): 1291–1297.

9. Cost Savings From the Provision of Specific Methods of Contraception in a Publicly Funded Program - Diana Greene Foster, PhD ,corresponding author Daria P. Rostovtseva, MS, Claire D. Brindis, DrPH, M. Antonia Biggs, PhD, Denis Hulett, BA, and Philip D. Darney, MD. *Am J Public Health.* 2009 March; 99(3): 446–451

CONCLUSIONS

Investment in free provision of OCs and IUDs through the UNFPA procurement system creates positive net budget impact of 316.024 USD (for 3 years period) for the healthcare providers/system.

Investment in subsidized OCs and IUDs procured through the Health Insurance Fund is twice higher than the one when UNFPA procurement system is used, and it doesn't create financial gain for the healthcare providers/system.

REMARKS

This study considered only one group of health benefits, created by increased use of modern contraceptive methods, thus calculating only this part of the savings related thereof. However, the analyzed intervention creates other health benefits as well, which due to methodological constraints were not calculated (reduced number of unintended pregnancies; reduced number of elective abortions; reduced out of pocket payments related, increased access to OCs for treatment of medical conditions, i.e. endometriosis). Moreover, as this study is analysed through health system/provider's perspective, and not the societal/beneficiary (women's) perspective, it did not take into account the reduced costs of antenatal care and deliveries paid out-of-pocket by the women. Furthermore, it did not take into account the societal gains, like increased opportunities for women for education and employment, increased productivity and increased quality of life, reduced poverty by the contribution to the economic growth at family and community level overall (10).

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10. Frost J, Sonfield A, Zolna MR, Finer LB. Return in investment: a fuller assessment of the benefit and costs savings of the publicly funded family planning program. *A Multidisciplinary Journal of Population Health and Health Policies*, 15 October 2014