Stagnant contraceptive sales after the Zika epidemic in Brazil

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ABSTRACT

Objectives: Our aim was to assess national hormonal and non-hormonal contraceptive sales in Brazil after the Zika virus outbreak.

Methods: Pharmaceutical companies based in Brazil provided data on monthly sales from September 2016 to June 2017. Data from both the public and private sectors were obtained about sales of registered, available modern contraceptive methods: combined oral contraceptive pill; progestin-only pill; vaginal and transdermal contraceptives; injectable contraceptives; long-acting reversible contraceptive (LARC) methods, including the copper-releasing intrauterine device, the levonorgestrel-releasing intrauterine system and the etonogestrel-releasing subdermal implant; and emergency contraceptive pills.

Results: Seventy-eight percent of sales comprised pills, patches and vaginal rings (11.1–13.8 million cycles/units per month), followed by emergency contraceptive pills (1.8–2.6 million pills), injectables (1.2–1.4 million ampoules) and LARC methods (6500–17,000 devices).

Conclusions: The data showed much higher sales of short-acting methods compared with more effective LARC methods. The public sector needs to strengthen its focus on ensuring better access to LARC methods through a systematic approach ensuring regular supply, improved professional skills and better demand generation to couples wishing to avoid or delay pregnancy. In Zika virus-affected areas, many women of reproductive age may want to delay or postpone pregnancy by using an effective LARC method. The public sector should review its policies on LARC, as the need for these methods especially in Zika virus endemic areas may increase. A clear emphasis on quality in services, access and use is warranted.

Introduction

After the initial cases of neurological disorders in the babies of mothers affected by Zika virus during pregnancy, the World Health Organisation (WHO) declared a health emergency on 1 February 2016 [1] and several Latin American governments including Brazil declared a national emergency. Women were advised to reconsider plans to become pregnant [2]. The US Centres for Disease Control and Prevention (CDC) [3] recommended that couples discuss pregnancy planning with their health care provider.

There is an association between birth defects in the offspring and Zika virus infection during pregnancy, now termed Zika virus syndrome, albeit the magnitude of the risk remains unclear [4]. The Brazilian Ministry of Health’s advice to postpone pregnancy has its limitations, as almost 74% of the population depend on the national health system for their health care, including the provision of free contraception.

In November 2016, the WHO declared that the Zika virus epidemic was no longer considered an international public health emergency, although the change in designation does not represent a downgrading of the importance of Zika virus [5]. The CDC stressed that despite the ‘technical declaration’ by the WHO, Zika virus infection continues to be a serious threat to pregnant women, babies born to pregnant women with Zika virus and their families [6]. One could argue that the advice given by the WHO gave mixed signals and could be interpreted incorrectly by some governments and donors that the problem has ended and they may pull out efforts and resources.

Public health programmes tend to be more readily available and accessible to people of higher socioeconomic status compared with those of lower status, thus contributing to the cycle of poor health and inequality [7]. In Brazil, some less developed areas of the country are severely affected by Zika virus, and inequality in access to quality health care is a challenge. Access to contraceptive methods before and during the Zika virus epidemic is a proxy indicator of the involvement of government and society to help women to avoid or postpone pregnancy in the face of the Zika virus threat [1]. In order to understand the response to the Brazilian Ministry of Health’s advice to postpone pregnancy, we published an assessment of sales of contraceptives in Brazil from September 2014 to August 2016 [8]. Our assumption in that study was that after the Zika virus emergency public attitudes towards the use of modern methods of contraception would remain static. However, the knowledge of a higher risk of birth defects associated with Zika virus during pregnancy may have affected attitudes and behaviour in the public as well as contraceptive sales. The main objective of this study is to assess contraceptive sales in Brazil after the Zika virus epidemic.
contraceptives would change due to intensive government-
tal efforts to inform, advise and ensure access to quality
family planning services. The objective of this study was,
therefore, to assess the changes between September 2016
and June 2017 in contraceptive sales after the end of the
peak of the Zika virus outbreak in Brazil.

Methods

Study design

We obtained data from all pharmaceutical companies
based in Brazil about sales of contraception in both the
public and private sectors. Information about sales of the
levonorgestrel-releasing intrauterine system (LNG-IUS)
(Mirena; Bayer Oy, Turku, Finland), the etonogestrel subder-
mal implant (Implanon NXT; Merck, Oss, The Netherlands)
and the copper intrauterine device (IUD) (Optima TCu380A;
Injeflex, São Paulo, Brazil) was obtained from the manufac-
turers. The individual sales of each company were aggre-
gated to monthly sales [8]. We aggregated sales of: (1) oral,
vaginal and transdermal contraceptives (i.e., combined oral
contraceptives [COCs], progestin-only pills [POPs], patches
and vaginal rings, in cycles/units of 1 month’s supply); (2)
injectable contraceptives (i.e., depot medroxyprogesterone
acetate and once-a-month injectables, in ampoules,
although the latter are effective for only 1 month); (3) long-
acting reversible contraceptive (LARC) methods (i.e.,
TCu380A IUD, LNG-IUS and etonogestrel implant), in devi-
ces; and (4) emergency contraceptive pills (only levonorges-
trel pills are available in Brazil), in single pills.

Results

The assessed data cover more than 95% of contraceptive
sales at national level; we could not assess condom sales.
Most of the sales included COCs, POPs, patches and vaginal
rings, representing 11.1–13.8 million cycles/units per month
(78%), followed by emergency contraceptive pills (1.8–2.6
million pills), injectables (1.2–1.4 million ampoules) and
LARC methods (6500–17,000 devices) (Figure 1). Peak sales
occurred around March 2017; there was no relationship
with new events of Zika virus in Brazil. Comparison with
the previous report [8] showed a slight rise in sales of
emergency contraceptive pills, a reduction in sales of LARC
methods and injectables, and no significant changes in
sales of COCs, POPs, patches and vaginal rings.

Discussion

Findings and interpretation

This new information showing an increase in sales of emer-
gency contraceptive pills indirectly indicates the difficulties
Brazilian women face in obtaining highly effective contra-
ceptive methods even during the Zika virus outbreak.
Furthermore, LARC sales are still lower than when previ-
ously measured between September 2014 and August 2016
[8], and sales of contraceptives with low typical use effect-
iveness remain high. These findings can certainly impact
potential rates of unplanned pregnancies in Brazil, which
are estimated to account for almost 55% of all pregnancies
[9]. Among the key barriers for Brazilian women to access
and use of LARC are non-availability in the public sector
(except for the copper IUD) and the restricted insurance
coverage for LARC, which disproportionately affects
the poor.

The Brazilian authorities must improve access to effect-
ive LARC though a comprehensive revamping of the service
delivery system for family planning in order to reduce the
high rate of unplanned pregnancies. This report, as well as
the previous one [8], indicates a low use of LARC and high-
lights the gaps and weakness in the service delivery system
that has failed to respond to the needs of the population
in a health emergency. It also negatively reflects on the
efforts of the Brazilian government to issue advice and
reach out to the affected population to ensure access to

![Figure 1. Average monthly sales of different contraceptives in Brazil between August 2016 and June 2017. PPR includes COCs, POPs, transdermal patches and vaginal rings; LARC includes copper IUD, LNG-IUS and implants. EC: emergency contraceptive.](image-url)
high-quality family planning services to help them avoid or postpone pregnancy when necessary. In Brazil, many women of reproductive age in endemic areas are still affected by Zika virus and may want to delay pregnancy in the near future; consequently, it is expected that the need for contraception, especially LARC methods, will probably increase [10].

**Strengths and limitations of the study**

The main strength of our study was that the sales data represented national contraceptive unit sales based on figures provided by the major pharmaceutical companies based in Brazil. The study also had some limitations. Primarily we did not assess the incidence of unplanned pregnancies, to observe whether contraceptive sales before and during the Zika virus epidemic had any influence on the rate. There was also a lack of information regarding the sales of condoms, which can prevent sexually transmitted infections, sexual transmission of Zika virus and pregnancy.

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

The findings of our study could provide baseline information for policy-makers and stakeholders, as many women of reproductive age in Zika-affected areas may want to delay or postpone pregnancy by using an effective LARC method. The public and private sectors should review their insurance coverage policies on LARC methods, as the need for these methods especially in Zika virus endemic areas may increase. A clear emphasis on ensuring quality in contraceptive services, access and use is warranted.

**Unanswered questions and future research**

We observed that although contraceptive sales in Brazil are high, no changes (which were expected after governmental advice to postpone pregnancies after the Zika outbreak) were noted compared with the previous assessment [8]. Consequently, the main unanswered question is to estimate the actual impact of the lack of change on the incidence of unplanned pregnancies in Brazil.

**Conclusions**

Zika virus remains endemic in Brazil, and Brazilian women are still at risk of unplanned pregnancies. The consequences could be devastating for families and individuals. Therefore, the government must take special measures to ensure access to high-quality information, services and contraceptive methods among the affected population.

**Disclosure statement**

The authors report no conflicts of interest.

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