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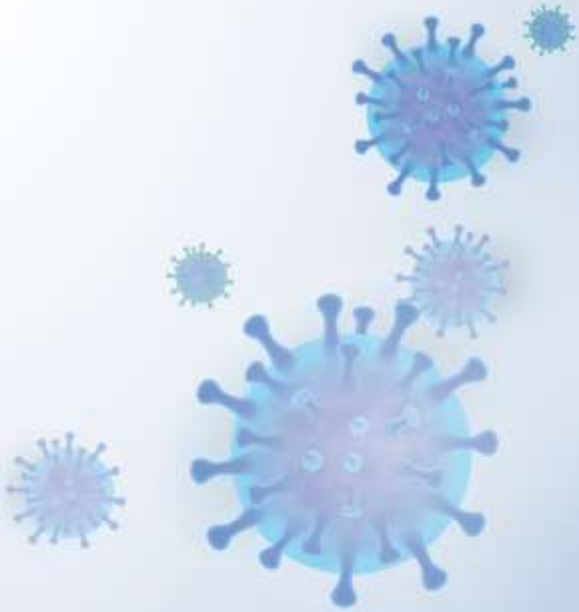
Rapid Assessment of the Impact of Covid-19 on Reproductive Health and Family Planning Services Seeking Behavior



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We hope that this study will raise awareness of reproductive health challenges facing women during the COVID-19 pandemic and will lead to the adoption of policies and programs to ensure sustainable and smooth delivery of different reproductive health services while protecting providers and women against COVID-19 infection.

ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
EDHS	Egypt Demographic and Health Survey
FP	Family Planning
IUD	Intrauterine Device
KIIs	Key Informant Interviews
LARCs	Long-acting reversible contraceptives
LMICs	Low- and Middle-Income Countries
MOHP	Ministry of Health and Population
NGO	Non-Governmental Organization
OCPs	Oral Contraceptive Pills
PHC	Primary Health Care
RH	Reproductive Health
SPSS	Statistical Package for Social Science
UNFPA	The United Nations Population Fund
UNHCR	United Nations High Commission for Refugees
WHO	World Health Organization

EXECUTIVE SUMMARY

The novel coronavirus (SARS-CoV-2) that causes COVID-19 has spread rapidly since its outbreak in late 2019, leading the World Health Organization (WHO) to declare the disease as a global pandemic on March 11, 2020. The COVID-19 pandemic has been already having adverse effects on the supply chain for contraceptive commodities by disrupting the manufacture of key pharmaceutical components of contraceptive methods or the manufacture of the methods themselves (e.g., condoms), and by delaying deliveries of contraceptive commodities. It is estimated that if reproductive health (RH) services were disrupted for up to 12 months in low- and middle-income countries (LMICs), there will be an additional 48,558,000 women with an unmet need for modern contraceptives and 15,401,000 additional unintended pregnancies, resulting from a 10% decline in the use of short- and long-term contraceptives.

In response, the United Nations Population Fund (UNFPA) stated that the pandemic‘s impact on acute care services, in settings with under-resourced health systems, is significant. UNFPA called for the continued prioritization of the essential core health services, such as maternal health services and other RH care services, including family planning (FP), emergency contraception provision, sexually transmitted diseases treatment, and post-abortion care to overcome the anticipated adverse actions of the pandemic on the demand side of RH/FP services, especially in LMICs. Thus, the UNFPA Egypt country office has called for an assessment to identify changes in RH/FP, services seeking behavior by women in the reproductive age during the COVID-19 pandemic as well as an identification of the underlying reasons. Findings can guide policymakers and donors, and can highlight the importance of recognizing RH/FP needs during the pandemic response and recovery periods. Specific objectives include the following:

1. Identify women’s practices related to RH/FP in their communities before the COVID-19 pandemic and assess how these practices changed during the COVID-19 pandemic.
2. Identify women’s accessibility to RH/FP services in their surrounding communities before the COVID-19 pandemic and assess the changes in accessibility during the COVID-19 pandemic.
3. Synthesize feasible recommendations to ensure accessibility of the RH/FP services during the pandemic.

For the purpose of this assessment, interviews with 400 women in reproductive age, including women caring for people infected with COVID-19, refugees, and service providers divided among five governorates, namely, Cairo, Giza, Alexandria, Assiut, and Damietta, were conducted.

The assessment revealed that since the outbreak of COVID-19, fear of infection, and mobility restrictions reduced access to essential RH/FP services. The situation was further complicated by limiting the number of consultations in some health facilities, in addition to the shortage of staff, who either fell ill or were deployed to acute care. This caused a disruption of RH/FP services, particularly during periods of lockdown, which resulted in several unintended pregnancies, as reported by women interviewed in this study.

Before the COVID-19 pandemic, women reported that they faced several barriers in accessing RH/FP services. With the pandemic, these barriers increased, and the provision of many services became more challenging due to disrupted supply of FP methods and fear of accessing FP services because of the possibility of infection. Since the lockdown in mid-March, in-person health care has been limited, and women reported having had to delay or cancel RH/FP care due to fears that doing so may expose them or their family members to COVID-19.

The study recommends scaling up integrated services, facilitating access to immediate postpartum contraception, and enhancing the role of private service providers, mobile units, and pharmacies in the provision of RH/FP services, which women perceive as less risky when it comes to exposure to infection and less troublesome when it comes to geographic accessibility respectively. Harnessing opportunities to integrate and provide RH/FP services and/or counselling while women are already interacting with the health care system during pregnancy, childbirth, and postpartum periods is strategic and lifesaving during the pandemic is also recommended. Additionally, the usage of telemedicine in providing RH services for women of reproductive age in Egypt should be explored and scaled up accordingly.

INTRODUCTION

Egypt has made tremendous progress in RH in the past two decades. In 2019, 10,347,000 women were using modern contraceptive methods, which was estimated to avert 3,949,000 pregnancies, 1,598,000 unsafe abortions and 1,300 maternal deaths. [1]

The novel coronavirus (SARS-CoV-2), that causes COVID-19, has spread rapidly since its outbreak in late 2019, leading the World Health Organization (WHO) to declare the disease a global pandemic on March 11, 2020. Governments around the world have had to quickly adapt and respond to curb the transmission of the virus and to provide care for the many who have been infected.[2]

The first case of COVID-19 was declared in Egypt on February 24, 2020, by the Ministry of Health and Population (MOHP). As of the evening of 22 December 2020, there were 127,061 confirmed cases of COVID-19 and 7,167 deaths in Egypt, as reported by MOHP.[3] Due to the infectivity of COVID-19, mode of its transmission, and its associated morbidity and mortality, countries have adopted physical distancing, lockdowns, and self or government-imposed quarantine as strategies to curtail the continued outbreak of the disease.[4]

Previous public health emergencies have shown that the impact of a pandemic on RH is often unrecognized, as its effects are often not the direct result of the pandemic, but the indirect consequences of strained health care systems, disruptions in care, and redirections of resources.[1] The strain that the outbreak imposes on health systems will undoubtedly impact the RH of individuals living in low- and middle-income countries (LMICs). Additionally, RH will be affected by societal responses to the pandemic, such as local or national lockdowns, that force health services to shut down if they are not deemed essential, as well as the consequences of physical distancing, travel restrictions, and economic slowdowns.[5]

It was anticipated that there would be a major disruption to healthcare services during the peak of the current COVID-19 pandemic, since patients are under lockdown and health workers are at risk of infection. Unfortunately, this anticipation was realized. At the peak of the West African Ebola epidemic, contraception distribution declined by 65% in Liberia and 23% in Sierra Leone.[6] According to an analysis of data from Sierra Leone's Health Management Information System, the reduction in maternal and newborn care, due to disrupted services and fear of seeking treatment during the outbreak, contributed to an estimated 3,600 maternal deaths, neonatal deaths, and stillbirths out of the total reported deaths. This is close to the number of deaths directly caused by the Ebola virus in the country.[7] The lessons from the Ebola outbreak exemplify the harmful impacts that can result from an epidemic in the absence of focused responses from governments to protect the gains made in the RH aspect over the past several decades.[8]

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[1] Family Planning 2020 Report, accessed on November 21, 2020 from http://track20.org/Egypt

[2] World Health Organization, COVID-19: operational guidance for maintaining essential health services during an outbreak, 2020, https://www.who.int/publications-detail/covid-19-operationalguidance- for-maintaining-essential-health-services-during-an outbreak.

[3] https://www.facebook.com/egypt.mohp/ Accessed on December 23, 2020

[4] Musinguzi G and Asamoah BO. The Science of Social Distancing and Total Lock Down: Does it Work? Whom does it Benefit ? Electron J Gen Med. 2020; 17(6).

[5] UNFPA, COVID-19: a gender lens, 2020, https://www.unfpa.org/ resources/covid-19-gender-lens.

[6] Bietsch K, Williamson J, Reeves M. Family planning during and after the West African Ebola Crisis. Stud Fam Plann. 2020;51:71–86.

[7] Sochas L, Channon AA and Nam S, Counting indirect crisis related deaths in the context of a low-resilience health system: the case of maternal and neonatal health during the Ebola epidemic in Sierra Leone, Health Policy and Planning, 2017, 32(Suppl. 3):iii32–iii39, http://dx.doi.org/10.1093/heapol/czx108.

[8] FP2020, Measurement. http://progress.familyplanning2020.org/measurement.

The COVID-19 pandemic is already having adverse effects on the supply chain for contraceptive commodities by disrupting the manufacture of key pharmaceutical components of contraceptive methods or the manufacture of the methods themselves (e.g., condoms), and by delaying deliveries of contraceptive commodities.[9] It is expected that there will be additional impacts on the availability of contraceptives globally, as many of the contraceptives in the world are manufactured in Asia. During the outbreak, many Chinese factories were closed and factory workers asked to stay home or work at reduced hours. Many of these contraceptive suppliers are not back to full capacity, leading to delays in production and shipping schedules. Furthermore, many Asian facilities provide critical raw materials to other manufacturers globally, and hence there may be shortages soon. If manufacturers must deal with new suppliers, in some countries, they will need to re-register products with the concerned regulatory authorities. Such registration may take months or even years. If labor forces are unable to resume workloads at full capacity or if packaging companies cannot supply on time, there will be additional stress on supply chains.[8]

The loss of RH services is considered as a challenge for healthcare providers -for not being able to deliver the services required- that poses risks on women of reproductive age.

It is expected that, during physical distancing, isolation, and working from home, couples could be more prone to increase the time dedicated to sexual intercourse. Parallel to that, lockdowns and other restrictions are hampering access to contraceptive supplies and services. These factors could lead to millions of additional unplanned pregnancies, millions of unsafe abortions, and thousands of resultant deaths worldwide.[10]

A study conducted by the United Nations Population Fund (UNFPA), in collaboration with Avenir Health, Johns Hopkins University in the United States, and Victoria University in Australia, anticipated that if the disruption of the health services and lockdowns continued for six months, around 47 million of these women may not be able to access modern contraceptives, which would result in around seven million unplanned pregnancies.[11] Riley and colleagues estimate that if RH services were disrupted for up to 12 months in low and middle-income countries, there will be an additional 48,558,000 women with an unmet need for modern contraceptives and 15,401,000 additional unintended pregnancies, resulting from a 10% decline in the use of short- and long-term contraceptives. Similarly, there will be an additional 1,745,000 women experiencing major obstetric complications without care, additional 28,000 maternal deaths, 2,591,000 additional newborns experiencing major complications and 168,000 additional newborn deaths arising from a 10% decline in service coverage of essential pregnancy-related and newborn care.[12]

A national internet-based survey, among 2,009 women aged 18–49 in the United States, revealed that one to three women (33%) reported that because of the pandemic, they had to delay or cancel visiting a health care provider for RH care, or had trouble getting their FP method. This was observed more among lower-income women than higher-income ones (36% vs. 31%). Twenty-three percent of women reported thinking more about using a long-acting reversible contraceptive method (an IUD, implant, injectable, or shot) because of the

[9] Purdy C, Opinion: How will COVID-19 affect global access to contraceptives—and what can we do about it? Devex, Mar. 11, 2020, Available at: https://www.devex.com/news/sponsored/opinion-how-will-covid-19-affect-global-access-to-contraceptives-and-what-can-we-do-aboutit-96745. accessed November 2020

[10] Short M, Bitzer J, Rowlands S. Testing times. Eur J Contracept Reprod Health Care. 2020;25 NO. 3, 167–168.

[11] Millions more cases of violence, child marriage, female genital mutilation, unintended pregnancy expected due to the COVID-19 pandemic." United Nations Population Fund. April 28, 2020. https://www.unfpa.org/news/millions-more-cases-violence-child-marriage-female-genital-mutilation-unintended-pregnancies.

[12] Riley T, Sully E, Ahmed Z and Biddlecom A. Estimates of the Potential Impact of the COVID-19 Pandemic on Sexual and Reproductive Health in Low-and Middle-Income Countries. Int Perspect Sex Reprod Health. 2020; 46:73–76.

pandemic.[13] During the COVID-19 pandemic, if a woman is well adapted to her current FP method, she should keep using it. It is possible to start a new method, though it may be difficult to access all the contraceptive methods, due to restrictions on movement, lack of supply, and increased demands on health providers and services.[14] On the other hand, since there is no clear recommendation to delay attempts to become pregnant during the COVID-19 pandemic, the decision must be individualized.[15]

UNFPA stated that the pandemic's impact on acute care services in settings with under-resourced health systems, is likely to be significant. UNFPA called for the continued prioritization of essential core health services like maternal health services, and other RH care services, including FP, emergency contraception, sexually-transmitted diseases treatment, and post-abortion care.[16] UNFPA supports the idea that modern contraceptives and supplies are important to women's health, empowerment, and to the exercise of RH rights, mainly among migrants and refugees, as these groups can be disproportionately affected by the pandemic.[17]

[13] Lindberg LD et al., Early Impacts of the COVID-19 Pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences, New York: Guttmacher Institute, 2020, https://www.guttmacher.org/report/early-impacts-covid-19-pandemic-findings-2020-guttmacher-survey-reproductive-health.

[14] World Health Organization. Contraception/Family planning and COVID-19 [Internet]. 2020 [cited 2020 May 1]. Available from: https://www.who.int/news-room/q-a-detail/contraception-familyplanning- and-covid-19

[15] The American College of Obstetricians and Gynecologists (ACOG). COVID-19 FAQs for Obstetrician–Gynecologists, Gynecology 2020. Available from: https://www.acog.org/clinical-information/physician-faqs/COVID-19-faqs-for-obgyns-gynecology

[16] UNFPA. COVID-19 Technical Brief for Maternity Services [Internet]. 2020. Available from: https://www.unfpa.org/resources/covid-19-technical-brief-maternity-services.

[17] United Nations Population Fund. Sexual and reproductive health and rights: modern contraceptives and other medical supply needs, including for COVID-19 prevention, protection and response. 2020. Available from: https://www.unfpa.org/sites/default/files/resource-pdf/COVID-19_Preparedness_and_ Response_- UNFPA_Interim_Technical_Briefs_Contraceptices_and_Medical_Supplies_23_March.pdf

GOAL AND OBJECTIVES OF THE STUDY

The purpose of the assessment is to identify changes in RH/FP health-seeking behavior by women of reproductive age during the COVID-19 pandemic and the underlying reasons. Findings can guide policymakers and donors, and can also highlight the importance of recognizing RH/FP needs during the response and recovery periods of the pandemic.

Specific objectives include the following:

- Identify women's practices related to RH/FP in their communities before the COVID-19 pandemic and assess how these practices changed during the COVID-19 pandemic.
- Identify women's access to RH/FP services in their surrounding communities before the COVID-19 pandemic and assess the changes in accessibility during the COVID-19 pandemic.
- Synthesize feasible recommendations to ensure accessibility of the RH/FP services during the pandemic.

METHODOLOGY

To enable a better understanding of the impact of COVID-19 on the RH/FP services seeking behaviors in Egypt, a rapid assessment survey was conducted. The assessment adopted qualitative methodology, using key informant interviews (KIIs) to gather in-depth information on how COVID-19 has influenced women's RH/FP seeking behaviors. The assessment targeted 400 women in the reproductive age, including women caring for people infected with COVID-19, and refugees, divided equally among five governorates, namely, Cairo, Giza, Alexandria, Assiut and Damietta. The selection of the governorates was based on diversity in geographical location, COVID-19 infection rate and birth rate. Alexandria and Damietta have a relatively low COVID-19 infection rate and an average birth rate. Conversely, Cairo and Giza have high COVID-19 infection rate and an average birth rate. Assiut has a medium COVID-19 infection rate with a high birth rate.

For the targeted sample of women of reproductive age, the study used the same age-group classification (15-19 [18%], 20-24 [16%], 25-29 [20%], 30-34 [15%], 35-39 [12%], 40-44 [10%], 45-49 [9%]) and percent distribution of targeted number in each age group as used in the 2014 Egyptian Demographic and Health Survey (EDHS). Within the targeted number in each age group, the study team focused on including different socioeconomic standards aiming to increase the diversity of targeted women and enrich the findings with perspectives of women with diverse backgrounds. The assessment also included women who have been looking after people with COVID-19 in addition to refugees in governorates under the study.

The selection of respondents was done through purposive sampling according to pre-set criteria (age groups listed above, marital status, different socioeconomic classes (educational status-job), residence (urban, informal settings and rural). Gaining access to targeted women was done in collaboration with NGOs active in targeted areas with whom the selection criteria were shared. To ensure data validity, a quick screening was also conducted at the beginning of each interview to determine whether the participant is eligible to participate in the assessment. If the participant is eligible, the researcher will continue with the interview, if the participant is not eligible, the researcher will thank the interviewee and request an alternative participant to be invited by the partner NGO.

Additionally, KIIs were also conducted with RH/FP service providers including 4 nurses, 7 physicians and 2 pharmacists from Assiut, Damietta, Giza and Cairo. Selection of participants was based on a list of contacts provided by CDS and willingness of service providers to participate in the KIIs.

ETHICAL CONSIDERATIONS

Study procedures and interview guides were reviewed. Informed consent was sought from the participants before conducting the interviews. After briefing the potential participants on the study, they were informed that their participation is voluntary, and if they do not accept to participate, their refusal will not have any negative influence on them. Participants were informed that they can skip any interview question and could end the interview at any time without any negative consequences. Then they were asked if they had any questions, and if they agreed to participate, they were asked to provide their informed consent (verbal or written whatever is feasible). The study did not collect any identifying information to maintain respondents' confidentiality. Audio recordings and transcripts were saved without identifiers on the study coordinator's computer, whose password is protected. Regular monitoring visits were conducted by CDS staff to ensure full compliance with ethical principles and protection of research participants and confidentiality of data.

DATA MANAGEMENT

Demographic and RH profile data of the participants were analyzed using the statistical package for social science (SPSS) 25 and presented as tables (Annex 1). Qualitative data were transcribed, and transcripts were analyzed manually using descriptive thematic analysis.

RESULTS

1. EFFECTS OF COVID-19 ON EVERYDAY LIFE

> *"Our apartment is very small and I'm trying to stay away from my children as much as possible. My husband's work is negatively impacted, he goes to work only two days a week, and he can't find any other job. Our income is severely affected by COVID."*
>
> A married woman, 43 years old, from Alexandria

> *"I'm Worried about my children. When I go out to bring food or anything, I leave them at home, I always wear gloves and I disinfect the door handle when I am back. I stopped all visits."*
>
> A married woman, 24 years old, from Cairo

A. KNOWLEDGE:

All interviewed women have heard about COVID-19, modes of its transmission and its preventive measures. Many of them stated that they are complying with different protective measures such as cleaning the house, using alcohol, physical distancing and washing their clothes once back home, while few interviewees reported complying with wearing a facemask. All women of different social classes stated television, radio and their social networks as the main sources of COVID information during the lockdown. Accordingly, no major differences were noted between different governorates or residence (urban/rural). However, differences were noted between women of different educational backgrounds, where more educated women had more accurate information regarding the modes of transmission and preventive measures. The socioeconomic status also influenced the sources of information, as social media platforms were stated by those who had a smartphone and/or an internet connection only. Some interviewees especially in Cairo and Giza noted that people are now focusing more on cleaning their households which they perceived as a positive change influenced by COVID-19.

B. ECONOMIC AND SOCIAL IMPACT:

The main impact of the pandemic reflected by interviewed women, especially among lower and lower middle classes (classified according to place of residence, education and occupation), was the loss of jobs and drop of income as most of the interviewees and/or their husbands worked in the informal sector and were dependent on daily payments. Interviewees from Assiut focused mainly on the social changes (decreased number of visits among family members and having to abide by wearing masks and social distancing during these visits) which could be attributed to the prevailing conservative culture and family ties in Assiut (Upper Egypt Governorate) compared to other governorates. "Loss of income had a negative influence on family stability and even led to divorce" as noted by one woman.

> *"Our income status is tight, my husband isn't currently working, and we moved to his mother's house. This changed my life upside down,*

I'm not comfortable, and neither is he. We ended up getting a divorce."

A married woman, 35 years old, from Assiut

"Yes, there is a change. My husband works as a driver, work became less, and most people lost their jobs. Now it is getting better, because people are learning to live with the changes."

A married woman, 32 years old, from Cairo

As for the care for people infected by COVID, women referred to parents, friends and relatives who got infected and either died or were cured. In all the listed cases, none of the interviewed women were the sole caregiver and the case was isolated at his/her own home and visited by a private provider or quarantined at a fever hospital.

Some interviewees have lost a family member or a friend due to COVID-19 infection. This experience was shared by some interviewees in all governorates. One experienced loss of a close friend due to COVID-19 whom she offered to take care of but the late friend refused for fear of transmitting infection to her.

"My mother died because of Corona in May. She was one of the first known cases. She was fine. She would go out and sit with her friends and family, and used to go out to get her pension. Suddenly, she got tired, had a fever, felt fatigue and she couldn't breathe. We went to a clinic. The doctor said that was COVID-19. He suggested we stay at home and not go to the hospital. We got her an oxygen tank, but her case kept deteriorating until she died."

A married woman, 46 years old, from Giza

C. GENERAL HEALTH SEEKING BEHAVIOR

COVID-19 had its toll on health seeking behavior of women. Fear of infection influenced this in a negative way. Participating women were asked about seeking health services during the pandemic, be it for emergency or routine care, and how they managed that need. Women were anxious about getting infected when accessing health service delivery points, with all its negative consequences on the family and care of kids in addition to the possibility of transmitting the infection to their loved ones, especially their kids.

"I'm afraid that my kids will get sick. I wear gloves, disinfect the door and mostly stay at home."

A married woman, 24 years old, from Cairo

Some women preferred to endure painful medical conditions, resort to traditional medicine, and seek the advice of their close networks, rather than seeking medical care despite suffering from serious health conditions such as bleeding that required medical interventions, for the fear of getting infected and transmitting the infection to their families. These women outweighed their anxiety that they themselves got infected and transmitted the infection to their kids and loved ones more than their anxiety regarding their own health status.

"I was very ill one time. I had a lot of bleeding. I was supposed to go to the health unit and follow up but I didn't go because I was afraid I would get infected. I said I would wait it out. When my

neighbor knew, she came to visit me. She told me she had a similar condition and the doctor gave her some sort of a pill. I got it and I was fine in 4 days."

A married woman, 45 years old, from urban Damietta

Women's anxiety was also demonstrated in the response of a few women who stated non- compliance to the immunization schedule of their children for the fear of being infected during their visit to health facilities. Some women who were pregnant during the lockdown also stated that they skipped the antenatal care (ANC) visits and counted on the advice of their close network. Those who had serious complaints preferred accessing private facilities believing that they would be less risky with strict infection control measures in place as will be demonstrated in detail in the next sections. Some women mentioned that their kids got ill during the pandemic and they had to seek medical care if the kids did not improve on home remedies. Those who could afford private facilities fees accessed private facilities while others accessed nearby public facilities.

"I haven't visited a health facility so far because of COVID-19. I haven't given my 9 months old daughter the vaccinations for the 4-months period."

A married woman, 32 years old, from Cairo

Some interviewees mentioned that they or their relatives were infected with COVID-19. The same fear of accessing health facilities was noted when women were asked about family members being infected with COVID-19, where the majority of cases were managed by home remedies at first, then resorting to home visits by private providers or accessing private facilities and if no improvement was observed, they would then access fever hospitals. Complete self-isolation of mothers who had suspected COVID-19 was not feasible as noted by some women in various governorates as they had to care for their kids and conduct the house chores.

"My mother was sick, we thought she had just a common cold, but she developed a fever and she was very sick. She couldn't breathe, and she didn't eat or drink. We went to a doctor, followed up with him and got her an oxygen tank and thank God she got better."

A married woman, 30 years old, from Giza

"The doctor told me to stay away from my daughter. I couldn't because I had to take care of her. I took care of her while wearing the facemask. The doctor also gave me antibiotics."

A married woman, 27 years old, from rural Assiut

2. FAMILY PLANNING COUNSELING AND SERVICES

"I used to live in a community where you cannot ask about or use FP methods. I went with my mother to the doctor for her medical examination. I went to the doctor and told her I want to do something that my husband will not know about to make sure I don't get pregnant again because of the circumstances. I told her I wanted tubes' ligation. She told me that this procedure must be approved by the husband. I can't use an IUD or pills. He would find out. I failed to get a method."

A married woman, 32 years old, from Cairo

Interviewed women were asked to reflect on their experience related to FP counseling and services before the COVID-19 pandemic. Most of the interviewees who use pills or injections stated that they used to purchase the FP method from the pharmacy. They added that they preferred the pharmacy because they don't have to wait for a long time to receive the services they need compared to the public health facilities and because the cost of service/method is affordable compared to the private service providers. The choice of the method (pills or injections) was based mostly on the advice of a close friend/neighbor or the pharmacists. Some of the women who counted on the pharmacies for obtaining their FP methods noted that they used several FP methods and method shift was decided either because of the side effects of the method used or the occurrence of pregnancy. None of them mentioned being counseled on the proper use and anticipated side effects but rather counting on the word of mouth of their networks.

> *"I usually ask many people because I changed the FP method many times. I first ask my acquaintances then go to the doctor."*
>
> A married woman, 30 years old, from Alexandria

However, these women stated that when they face major complications related to the use of the methods they obtained from the pharmacy (e.g. prolonged or irregular bleeding), they access public or private FP facilities (depending on their preference). Otherwise, they trusted the pharmacists in guiding them to good quality FP methods. One woman even compared the cost of obtaining oral contraceptive pills (OCPs) at the public facility for which transportation is needed and the nearby pharmacy.

> *"I use a method from the pharmacy. Once, I took the one-month injection, then I was afraid of missing one injection so I took the three months injection. I took the injections two times and the third time it was expired. I had a bleeding. I went to the doctor and she said that it was because of this injection. She gave me treatment and contraceptive pills. I took it then I went to the pharmacy and found another good kind of pills for 27 EGP I calculated it. It cost me 20 EGP to go back and forth to the clinic and 1 pound for the pills, I might as well add 6 EGP and get the good pills from the pharmacist near me."*
>
> A married woman, 23 years old, from Cairo

Women who obtained the OCPs or injections from the public facilities expressed their satisfaction regarding delivered services and affordable price but few noted that they had to buy the FP method from the pharmacy being not available at the facility.

> *"I took pills prescribed by the physician (private), but it cost a lot, so I went to the healthcare unit and they gave me the pills."*
>
> A married woman, 36 years old, from Giza

> *"I obtained the one-month injection from the pharmacy because my body didn't like the IUD. They (the health unit) only have the 3 months pills and the IUD."*
>
> A married woman, 23 years old, from Cairo

Some women who accessed the public facilities reflected their dissatisfaction with the long waiting time and the short time allocated for counseling. However, some were resilient enough to identify the providers they were satisfied with and access the facilities according to their schedule given the affordable price of the services compared to private facilities.

"I wait for Mondays to go to the physician I prefer."

A married woman, 45 years old, from urban Damietta

"I take the injection once every three months. I have been going to the primary health unit for 13 years. Whoever upsets me, I just remember them and avoid going to them again."

A married woman, 33 years old, from Alexandria

Women who accessed private clinics attributed that preference to the quality of services, shorter waiting time and longer time allocated by the physician to listen to their complaints.

"I go regularly to check whether I continue using the IUD or not. Once, the flow of my period was very heavy and painful, so the physician told me to try and take it easy during menstruation days. This physician is a private physician who I feel comfortable with. She follows up during my delivery and pregnancy and she can answer all my questions via phone. I had a bad experience with the health unit before because I was scared, and they didn't deal nicely with me. I will never go there again."

A married woman, 42 years old, from Giza

It is worth noting that few women clarified that they refrained from using IUDs as they were informed by their social networks that it will be their responsibility to ensure that the IUD is still in place. Given the other prevalent myths related to IUDs (perforating the uterus, migrating to other organs), these women choose to obtain pills or injections from the pharmacies.

"They told me that the problem with the IUD is that it is your responsibility to maintain it. The injections you can take and stop at any time. The doctor told me it is best to take the IUD but it is my responsibility."

A married woman, 30 years old, from Alexandria

During the COVID -19: Despite being anxious and afraid, across all the interviewed women have not changed their FP services seeking- behavior. Women continued to obtain pills and injections from the pharmacies the most. Choice of the method obtained from the pharmacy was based on the advice of a close social network mostly and the pharmacist. However, FP methods sometimes were not available at the pharmacies. Some of the interviewees had to change their preferred method and some discontinued the use of their preferred FP method after failing to obtain it and had unplanned pregnancies.

"I used to take the one-month injection and it was fine. After a while it wasn't in the market and a while after, I got pregnant."

A married woman, 37 years old, from Giza

Apart from the one-month injections, interviewees who obtained their FP methods from public facilities did not complain about shortage in other methods. Those who were faced with the shortage of the one-month injections at the public facilities responded to that shortage in different ways. Some discontinued using the methods while others resorted either to using the method available at the facility at that time or obtained the method they preferred from pharmacies. Women who accessed the public health facilities during the pandemic reported other reasons for method discontinuation that may have exposed them to the risk of unplanned pregnancy. Some stated that they stopped accessing the facilities for fear of being infected. Few interviewees noted that the health service provider was not in the health unit at the time

of the interviewee's visit which interrupted their plans of having a FP method. One woman noted that work was interrupted due to a shortage of infection control measures at the facility.

> *"I don't use anything because I don't want to go to a physician and interact with anyone."*
>
> A married woman 26 years old, from rural Damietta

> *"Before Corona, there was a doctor. Now, we barely see them. I just go and take my pills. I wanted to change the pills and take the implant but I didn't find the doctor."*
>
> A married woman, 43 years old, from rural Assiut

> *"I went to (name) General Hospital to see the FP doctor to take the three months injection on time. I was very comfortable with her, but when I went there the last time, there were no masks and she told me when we get masks, we will work...they probably had a case of Corona. I didn't go again, nor visited anyone else."*
>
> A married woman, 27 years old, from Cairo

The geographical proximity of the mobile units was noted by some women in favor of accessing the needed FP services while avoiding the risk of infection in public transportation. Women noted the number of mobile units increased but they are no longer abiding by the pre COVID-19 schedule which caused some confusion to beneficiaries.

> *"I would wear the facemask and go to a public hospital because it is so pricy to pay for a (private) physician, whose fee is around EGP120, and then s(he) would tell me to buy pills or insert an IUD for another EGP600 which is too much for me."*
>
> A married woman, 29 years old, from urban Damietta

> *"After Corona, they are paying more attention and they provide equipped cars (mobile clinics) in villages to women who can't go to a health unit."*
>
> A married woman, 33 years old, from rural Assiut

Most of the interviewed women who accessed FP services during the pandemic noted the extra infection control measures that they observed at both public and private facilities which comforted their fears regarding risks of infection. Some women who accessed public facilities stated that the service providers were anxious and afraid to get infected and hence they shortened the time available for doctor-client interaction. Other women pointed out that although the number of physicians decreased, the decrease in the number of clients resulted in a balance that eventually did not negatively influence service delivery.

> *"There is a system. We must wear facemasks and stand in a line. In the beginning, people were crowded and pushing each other but now none of that is happening. There is a turn and no crowds are allowed."*
>
> A married woman, 22 years old, from Cairo

> *"I needed to replace my IUD with a new one. The doctor was very anxious and was yelling. She told me why are you coming here since you reside in another district? I told her that the hospital in my town only accepts Corona cases and there are no other places to go to. She told me you don't have to*

have it done today. I told her I can't come again. She told me that I came in late. I told her I have been waiting for my turn for the past half an hour."

A married woman, 40 years old, from urban Damietta

Interviewed women who did not access FP services during the pandemic were asked what they would do if they needed these services. Almost all stated that they would access the facilities they are used to but it would be better to limit the visits to cases of emergency (e.g. uncontrolled bleeding) to avoid infection. Some interviewed women stated that the choice of the health facility would be determined mainly by the financial status of the household which was mostly in favor of public facilities. On the other hand, some women who normally access public facilities said that despite the financial cost, they will access private clinics because infection control measures are stricter in private facilities compared to public ones in addition to avoiding crowded places and long waiting times. One woman noted that she would prefer to change the FP method she is used to rather than accessing crowded clinics and being exposed to infection.

"If I needed anything I would have gone to the public health unit."

A married woman, 34 years old, from Alexandria

"If I needed it I would have gone to a private clinic to avoid possible infection in public places."

A married woman, 30 years old, from rural Assiut

"I would have replaced the method I used. I probably would have used pills because they are much easier to obtain without having to go to the clinic."

A married woman, 29 years old, from urban Assiut

In addition to the financial status and infection control measures, the geographical proximity of the facility was one of the main factors that would govern the choice of the facility in case FP services were needed during the pandemic. Women preferred facilities that are close to their workplace or residence to avoid the use of public transportation and exposure to the risk of infection.

Other factors that affected seeking FP services were the children's influence, fear of their infection or trying to mitigate the effect of the lockdown. One woman noted that she stopped using pills because her daughter felt very bored during the lockdown and asked her for a sibling to play with.

"I didn't go. I have kids who have chest problems."

A married woman, 34 years old, from Alexandria

"I removed the method because my child wanted a baby to play with because she hated being locked in the house."

A married woman, 26 years old, from urban Damietta

3. ANTENATAL CARE SERVICES:

"I was pregnant and wasn't able to get out, and because of my old age the doctor told me I had to always wear a mask and to use disinfectants. She advised me that if I had any cold symptoms I had to quarantine myself to protect my children who have low immunity. It was not a planned pregnancy, but it happened."

A married woman, 43 years old, from Alexandria

Interviewed women were asked to reflect on their ANC experience before the COVID-19 pandemic. Women stated that they usually use the pregnancy test available in pharmacies in case of the delayed menstrual cycle. Then, they have their pregnancy confirmed through laboratory investigations or seeking ultrasound service at specialized clinics. Some interviewees complied with the schedule of their ANC visits to their health service provider. Other women have had one ANC visit to do an ultrasound then resort to her social network for advice related to nutrition and lifestyle.

In accordance with what was highlighted in the 2014 EDHS, the majority of women in the study continued to prefer accessing ANC services at private facilities for the perceived better quality of care, and convenience. Some interviewees added that they would go to a private clinic, despite the cost, for services that are sometimes not available at public facilities such as ultrasound services.

> *"Yes, I was following up in a private clinic because I lost a baby twice when I was following up in a public clinic. The first time, the fetus' heartbeat stopped and the second time, the fetus didn't grow. This private doctor really benefited me because he took care of the baby and I didn't lose it this time. Whatever makes me pay 80 EGP for ultrasound in the public hospital, I can just add 70 EGP to them and go get an examination in a clinic."*
>
> A married woman, 24 years old, from Cairo

Other women stated that they preferred private facilities as ANC schedules at public facilities, being limited to certain days and morning time, did not fit with their daily routines and tasks. Some interviewees expressed their willingness to go through financial challenges to access ANC at private facilities because they were dissatisfied with the level of attention provided by the health providers in public facilities.

> *"In private clinics, I pay a lot but there is attention. In the hospital, there are lots of patients, so there is little attention. In the clinic, they give more attention, patience, and kindness. The way of dealing matters if you want to make someone understand something. Yelling and being in a hurry is not good."*
>
> A married woman, 24 years old, from Cairo

Women who access ANC at public facilities were satisfied with the offered services at affordable prices and they mentioned that they receive the iron and calcium pills for free from the public facilities. However, they would still access the private facilities for the ultrasound.

> *"It is cheaper in the public health unit but there are no radiology tests. So, I go to a private clinic where the radiology (Ultrasound) is for 25 EGP"*
>
> A married woman, 42 years old, from Alexandria

During COVID-19, many women who regularly accessed public facilities opted for seeking ANC from private facilities for a better quality of care and sometimes because of the geographic proximity, thus avoiding the risk of infection in public transportation. They also attributed their preference to accessing private facilities during the pandemic because they were sure that service providers would be in place in addition to avoiding crowded places and waiting for a long time in public facilities.

> *"A private doctor is better for infection control. My sister wanted to follow up (her pregnancy) in a public unit. Nurses yelled at her and told her to go*

and they would call her back. She had her daughter, who is 6 months old now and so far, no one has called her."

A married woman, 32 years old, from rural Damietta

"Near here, there is a physician who I follow up with because he is closer than the hospital. He gives you his phone no. To follow up with him on WhatsApp at any time."

A married woman, 23 years old, from Cairo

Some interviewees continued accessing public facilities for ANC for the affordable cost of provided services. On the other hand, some women shifted from private to public facilities, given the drop of income they experienced during COVID pandemic, and those accessed different public facilities until they felt satisfied with their choice of a particular public facility. Some of those women stated not perceiving any difference between public and private facilities offering ANC services. Others were dissatisfied due to disruption of ANC services following the conversion of some public hospitals to quarantine hospitals.

"I follow up with one of the physicians in the one-day hospital. She really cares. She does a sonogram and checks on you. If there is something, she tells you to do a laboratory test. The hospital is clean, and they always disinfect the place. They also deal nicely with you. In other places, it is costly. I am 100% satisfied with the service."

A married woman, 23 years old, from Cairo

One interviewee stated that she went to the public facility seeking ANC but the health provider was absent so she sought a private clinic. Interviewed women who accessed ANC services during the pandemic noted the infection control measures and the smooth flow of work compared to the pre COVID-19 era at public facilities.

"Before Corona, they would let you wait and it was very crowded. They wouldn't be doing anything. They would just tell you that they are "taking a break". Now, they let me in fast and the place is cleaner than before."

A married woman, 39 years old, from Alexandria

Only a few women mentioned that during the pandemic they did not seek ANC services while pregnant because they were afraid of getting infected with COVID-19. One of them mentioned that the reason was that she heard that "a pregnant woman has no immunity". Another woman mentioned that she got infected with COVID-19 while pregnant and reflected on her experience during pregnancy and delivery while being infected and managed at public facilities. Although her COVID infection was perfectly managed in the fever hospital, she delivered in a private hospital because of the perception that it would be safer for the newborn.

"I lost my sense of smell and taste. I was in my 6th month. I got worried so I went to the pharmacy to check. The pharmacist told me this is a suspected case. I went to the fever hospital. They did a swab and I stayed there for a day. I was positive. I stayed 14 days in the hospital then 14 days in isolation at home. I delivered in a private hospital."

A married woman, 22 years old, from Alexandria

Women who did not access ANC services during the pandemic were asked about the facilities they would access if such services were needed. Some women reinforced accessing private

facilities for the perceived stricter infection control measures. Others stated public facilities for the affordable services apart from the ultrasound available in private facilities.

> *"I would have gone to my physician because of safety and disinfection. It is best to go with your own money, unlike going for free services or a public hospital."*
>
> A married woman, 27 years old, from urban Damietta

> *"I would have gone to the public health unit since it is closest to me. I can take the vaccination during pregnancy (Tetanus vaccine), have my weight and blood pressure measured. All of these things are present in the health unit. I would just have to go to a private clinic for the ultrasound."*
>
> A married woman, 30 years old, from rural Assiut

4. DELIVERY SERVICES

> *"I was positive. I stayed 14 days in the hospital then 14 days in isolation at home. I delivered in a private hospital. There was a quarantine in that hospital as well. I was fine and the service was fine. I just hated staying away from my children but they dealt with me well. I followed up with a physician in the fever hospital and also with the hospital where I delivered my baby. They checked on the baby as well and he was fine."*
>
> A married woman, 22 years old, from Alexandria

Interviewed women were asked to reflect on their delivery experience before the COVID-19 pandemic. Women stated that selection of the delivery facility was based on four main factors: the cost of service, the cleanliness, the level of trust with the service provider and their own previous experiences or that of their social networks with the latest being the most important. Interviewed women mostly preferred private facilities because of the perception that they offer better care and good quality services compared to public hospitals. Although some women were dissatisfied with the cost of delivery in private facilities, yet they were willing to incur this cost to avoid potential hazards of infection in public hospitals.

Women who preferred public hospitals had positive experiences in these hospitals and felt satisfied with the services and the level of attention they received. Only a few women reflected on their painful experiences of normal delivery in public hospitals and the limited attention of providers and some of them shifted to private facilities where they delivered via cesarean section. However, when probed these women could not confirm whether the painful experience was attributed to the normal labor pains compared to the less painful cesarean section delivery or to the level of care they received in the hospital itself.

> *"I was going to deliver by a C-section ….. I had a very bad experience when I delivered a baby normally before so I was not going to repeat that."*
>
> A married woman, 42 years old, from Alexandria

During-COVID-19: The choice of where to deliver was affected by fear of COVID-19 infection. Women sought delivery services from the private facilities where they delivered before or were recommended by their social networks. Some women who previously delivered in public hospitals also shifted to private facilities for fear of infection or having COVID cases isolated at the public hospitals. Some women who preferred public hospitals noted that they resorted to private facilities thinking that public hospitals would be closed during COVID-19 or used for quarantine of cases.

"He (the private doctor) performed the delivery but afterwards he didn't follow up. The nursing staff checked up on me. This is unlike the one-day hospital, where there aren't that many cases and the doctor responds when I am in pain. I just couldn't go because I heard that the one-day hospital has Corona cases in the ICU."

A married woman, 23 years old, from Cairo

"I delivered in a private hospital. There was disinfection of all patients and they were clean and respectful. I was worried that the nurse would infect the baby if she carried him but I wasn't worried about the place. I was worried about public hospitals and centers. If my son gets ill nowadays, I will not go to a public hospital because you may catch the virus. This is why I chose to deliver in a private hospital since they didn't have any Corona cases."

A married woman, 19 years ago, from Alexandria

Women noted that infection control measures were very strict and sustained regardless of the type of facility. They commented on health providers wearing facemasks, the level of cleanliness of the facility, and how often it is sterilized. However, those who delivered at public facilities stated that service providers were worried and very anxious for fear of infection and that influenced the level of attention they received.

"The way of dealing was good but you could sense that they were worried. They asked why a woman would get pregnant when Corona is everywhere. They took extra precautionary measures. They were more attentive and caring before Corona. They were so afraid."

A married woman, 32 years old, from Alexandria

Women who did not deliver during the pandemic were asked what facilities they would access if they needed that service. Most women stated private facilities to avoid the risk of infection at public hospitals and the possibility of the presence of quarantined cases.

"I will go to a doctor in a private clinic because hospitals are contaminated, and they say that they have a quarantine."

A married woman, 37 years old, from Giza

One woman referred to the possibility of home delivery by a private provider if the service is needed during the pandemic to avoid the risk of infection when accessing any health facility. She added that in case a caesarian section is required, she will resort to a private facility recommended by her social network.

"I will seek a private doctor if I am having a normal delivery and will ask her to come to my home. I will provide her with all the measures I can provide to protect myself and my baby. It is enough for me to know that I am in a clean, safe place. If I am having a caesarian section, I will go to a private clinic or a private hospital that I trust. I will go with my husband and check everything. I will take my family's recommendations if they have tried a place and think it is a good place."

A married woman, 40 years old, from Giza

5. POSTPARTUM FAMILY PLANNING SERVICES

> *"My mother told me to go use a FP method because I shouldn't have another pregnancy while the child is young."*
>
> A married woman, 27 years old, from urban Damietta

Interviewed women were asked to reflect on their experience with postpartum FP services before the COVID-19 pandemic. Some women used FP methods shortly after their delivery while others opted for not using FP methods that fast, and preferred to obtain a method later when they needed it. Unlike other governorates, interviewed women in Damietta were encouraged by their mothers and their mothers-in-law to seek FP services to preserve their health. One woman even noted that she wanted to focus on her child and continue her education which was not the case in other governorates. On the other hand, some of the interviewed women residing in rural areas did not use FP methods during the postpartum period but rather counted on traditional FP methods (abstinence and breastfeeding).

> *"My mother-in-law suggested I use a method because I just had a baby and I had a caesarian section."*
>
> A married woman, 26 years old, from rural Damietta

> *"A private doctor told me that I need to use a FP method to take a break because I was pregnant with twins. I refused because we live in a rural area."*
>
> A married woman, 28 years old, from rural Assiut

Women who used immediate postpartum FP methods usually opt for IUDs. Those who chose not to use the IUD attributed that to the side effects they experienced during earlier use of IUD such as excessive bleeding and anemia, which unfortunately were not adequately addressed by the service providers.

> *"The moment I finished the 40 days postpartum, I went to (name) primary care unit. The doctor didn't want to give me the injections saying I was too young. She said I should either take the IUD or OCPs. I told her I would be more comfortable with injections because IUD makes me have heavy periods and it was the reason I had anemia first hand."*
>
> A married woman, 24 years old, from Cairo

Women who obtained the postpartum FP method from a public facility were satisfied with the delivered services in terms of the friendliness of the staff, the quality of the service, and the availability of the FP methods. The choice of the facility, especially if it is a public facility, was mostly based on recommendations of the social networks.

> *"I went to a public hospital and I had the IUD inserted. She (the doctor) told me to come and follow up every month. I honestly only went once. She is friendly, gives you enough time and listens to you. She also gives the right method. The nursing staff is also good. The nurse writes your name and calls for you when it is your turn. I paid 5 EGP there. I was very happy with the service."*
>
> A married woman, 24 years old, from Cairo

Most of the interviewed women accessed private facilities for the perceived better quality of care. However, some women who had their ANC and delivery at private facilities still chose

public facilities to receive postpartum FP services for the low cost at the public facility and the good quality of this service.

> *"My private physician told me to come after the first 40 days to put an IUD, but I didn't go because it would have cost me EGP 600 which is too much. I went to the PHC unit instead, and I got the IUD there and it was good."*
>
> A married woman, 22 years old, from rural Damietta

During COVID-19: No major changes happened concerning postpartum FP seeking behavior apart from the disturbed supply of FP methods to pharmacies. Some women experienced difficulties in obtaining FP methods and many switched between the three-month injections, the one-month injection, and the OCPs based on the availability of the methods. Some women pointed out the importance of postpartum FP regardless of the type of facility accessed to avoid unintended pregnancies. Women who accessed the service during the COVID-19 pandemic noted the improvement in public facilities.

> *"I told the health worker that I got pregnant while using the OCPs. She told me to take the 3-month injection because it suits me more, and she explained to me how it worked. They deal well and they explain to you what they are doing. They also give you the freedom of choice. After Corona, the crowds got less, and you have to wear a facemask."*
>
> A married woman, 38 years old, from Giza

> *"Before Corona, things were so unorganized. Anyone comes in, anyone goes out. After Corona, people are more organized and abide by facemasks and sanitizers."*
>
> A married woman, 40 years old, from rural Assiut

Although the interviewed women understood how the COVID-19 pandemic is stressing the healthcare providers, some noted that providers at public facilities should improve the way they communicate with clients especially those who cannot afford prices at private facilities as the consequence will be unwanted pregnancies.

> *"Corona will continue with us, if the woman doesn't find a service, it is easier for the woman to just give birth. I stayed at home, had my period, slept with my husband, and got pregnant after nine months. I delivered a weak baby."*
>
> A married woman, 40 years old, from Giza

Interviewed women who did not require postpartum care services during the pandemic were asked where they would go if needed, many mentioned they would access the facility they are used to, which reflects a higher degree of trust and satisfaction from the service provided in these facilities.

> *"I would go to the health center in (name) because they care about the clients. I would disinfect myself and take precautions and I wouldn't be afraid of Corona."*
>
> A married woman, 23 years old, from Cairo

However, few women believed that it would be better to avoid health facilities unless it is an emergency case and suggested resorting to traditional methods to avoid the added risk of contracting infection at the health facility. One of the women who delivered during the lockdown had IUD insertion immediately after delivery so as not to access any service delivery

point for fear of infection. Another one had a tubal ligation after delivery at the age of 32 because she had three children and had many economic challenges that worsened during the pandemic.

> *"After delivery, I had the IUD inserted in the operating room. I was worried I would have to go back. I then settled at home."*
>
> A married women, 19 years old, from Alexandria

6. COMPARISON OF FINDINGS ACROSS THE STUDY GOVERNORATES AND PARTICIPANTS

A. GEOGRAPHICAL DIFFERENCES AND THEIR INFLUENCE ON RH SEEKING BEHAVIOR DURING COVID-19 AMONG GOVERNORATES INCLUDED IN THIS STUDY

In governorates, whose economic activities depended on trading, like Damietta, COVID-19 had a direct impact on the drop of income and loss of jobs for many families. This in return affected their ability to seek and receive health services, generally, and FP health services in specific. The relation between economic activity in a certain governorate and women's seeking behavior for reproductive and FP health services should be further examined under the global economic crisis associated with COVID-19.

Many women depend on their family members to receive health advice. In Damietta, interviewees reported that mothers and other family members encouraged newly pregnant women to seek medical advice from service providers. Conversely, in Cairo and Alexandria, due to the high prevalence of the infection, newly pregnant women preferred not to go to service providers either based on the advice of their family members, or because they had to stay to take care of infected people in their household.

In Cairo, Giza and Alexandria, it was noted that the geographical location and socioeconomic status affected RH and FP health seeking services even before COVID. The geographical availability of the services in these governorates is reflected on the increased demand in these areas, where women were encouraged to visit service providers, both public and private, to seek the services. However, the economic downturn that most of the interviewees suffered from during COVID-19 had a negative impact on the health seeking behaviors in general, and especially RH and FP. Although the services were available and the interviewees previously used the services, the demand decreased because of financial constraints and fear of infection.

Moreover, the decentralization of services in urban governorates may have led to a diversification in methods of service reception. Some interviewees in these governorates stated that they could access the needed advice through various virtual methods (e.g. directly contacting service providers through texting), which improved the accessibility to the services during the pandemic; however, this did not have direct effect on increasing the utilization of the services.

Once more, the socio-economic model of how COVID-19 has had an impact on the intra and interpersonal behaviors for women seeking RH and FP services needs to be examined in different cultural sets (i.e. Urban, Rural, Tribal).

B. AGE GROUP DIFFERENCES AND THEIR INFLUENCE ON RH SEEKING BEHAVIOR DURING COVID-19

Age correlated with women's previous experiences in receiving RH services and FP from public and private points of service. The older women were more likely to have sought RH services at a given point in time before COVID-19. This experience was a critical factor in influencing their health seeking behaviors during COVID-19.

Women who were familiar with the services because they have received such services before, tended to capitalize on their previous knowledge. Thus, they self-medicated, meaning, they opted to purchase FP products (especially OCPs) from pharmacies directly. This behavior may be attributed to the fear of interviewed women from contracting infection during their visit to the point of service, whether public or private. Older age groups of women would reuse the same prescription if needed or receive advice from a peer who had a similar complaint and did seek service provision. This resulted in a lower demand of the service in the older age groups (30 years and above), and self-use of FP methods.

Younger women, however, tended to be more anxious and more in need of services that required a medical setting (i.e. clinic); thus, they preferred seeking advice from health service providers. They did note that they could see COVID-19 precautions in the points of services they went to, whether public or private.

7. INTERVIEWEES' RECOMMENDATIONS

When asked about their suggestions to ensure sustained smooth delivery of RH/FP services during the pandemic, most interviewed women suggested increasing geographic coverage of service delivery points to decrease overcrowding and the possibility of infection. Better equipping of the public health facilities and increasing the numbers of service providers in each unit were among the recommendations that came up in the interviews. Some women suggested accessing the health facility that is less crowded even if further away from the place of residence, be it public or private depending on preference and in case of urgent need. They also suggested home visits for the provision of RH services to avoid going to the clinic and hence reduce the risk of infection. Other suggestions include phone consultations with service providers. Some recommended improving the quality of care in public hospitals and stricter measures for the protection of pregnant women.

> *"Restrict your visits to the doctor for necessary things. If you need something that is not urgent, wait until it is safe to go."*
>
> A married woman, 29 years old, from urban Assiut

> *"Equipping hospitals and units with efficient physicians so that women feel more comfortable and go to the public hospitals. Many can't go to the private sector but don't feel the public hospitals are suitable. For Corona, there should be separate entrances for people with Corona and pregnant women because pregnant women have low immunity."*
>
> A married woman, 39 years old, from urban Damietta

Some of the interviewed women accessed mobile health units and expressed their satisfaction with the delivered services. Hence, they suggested frequent use of these mobile units with prior notification of their destination and schedule to be able to arrange for accessing the services offered. They also suggested cooperation with local NGOs to help the mobile units in reaching

women and to grant the health teams access to certain communities, because they are trusted by these communities.

> *"I suggest a mobile clinic to come twice or three times a week in convenient locations like NGOs where women usually go and trust. The NGOs can provide places in the street in front of the woman's house instead of going to the health unit to remove or use a FP method. This way, a lady would never have to take transportation or stand in line. The NGOs can also inform the women that the mobile clinics will come three times a month, once a week and coordinate women visits and in between the visits the place is disinfected."*
>
> A married woman, 42 years old, from Giza

Some women expressed that remotely provided services may be of value provided that the service provider asks relevant questions and be attentive. They added that this will be more beneficial if it is associated with scheduled referral to a health facility to avoid overcrowding in the facility. Some stated that providing services remotely can be of value in providing counseling services but of limited or almost no value in providing other services like delivery.

> *"There should be a follow-up with a physician over the phone. There should be specified follow-up days and, on those days, ensure the number of patients is low and increase the number of physicians and nurses."*
>
> A married woman, 33 years old, from rural Assiut

Some interviewed women recommended awareness raising using videos on Facebook, WhatsApp voice notes and text messages, and specified radio and television as the preferred means of communication. Others suggested using offline SMSs and voice messages for those who do not have smartphones. Some underscored the importance of having messages with pictures and voice notes for illiterates. Some women noted that they received the COVID-19 health messages sent by the MOHP. They added that if the same approach can be done with RH/FP messages, they will be interested to learn about the influence of COVID-19 on pregnancy in addition to the instructions and preventive measures that pregnant women need to abide by, and what to do if they get infected.

Some interviewed women expressed the need for voice messages and phone calls not only text messages for those who cannot read. Some women pointed out the importance of home visits and awareness-raising sessions for illiterate people for whom the visits will be more effective than the messages. Other women noted that television is a better channel to reach many people.

> *"Make these messages SMSs because many people don't have smartphones."*
>
> A married woman, 19 years old, from Alexandria

> *"There are many people who can't read, so maybe it is best to have someone go to them and tell them that in a seminar because this way they can understand what they are told."*
>
> A married woman, 30 years old, from Alexandria

It is worth noting that one woman recommended not using IUD due to a higher risk of infection during the pandemic which may highlight the need for correction of some misconceptions related to FP that may spread during the pandemic.

"The IUD will not function because of Corona and infection. They have to recommend other methods."

A married woman, 24 years old, from Alexandria

Additionally, women requested more information about FP methods, common side effects associated with FP methods, when to seek a health service and where to go to receive services in case of side effects in addition to how much each service would cost, and list of alternatives. They also wanted to know about the nearest service delivery points, services available at these points, the cost and schedule of these services.

"I want to know if OCPs are good for people at what age. I am young and the three-month injection should be taken when I am older and don't want to have more babies. I didn't know that before I tried them. I also want to know updates about Corona."

A married woman, 23 years old, from Cairo

"Any information that benefits me. If I have just had a baby, I need information on how to take care of a child and how to take care of my health. If I need a FP method, when to use it. If I am pregnant, I need information instead of asking my mother, sister or my neighbors. Physicians know more, me and my child had health problems because of people's wrong advice."

A married woman, 45 years old, from urban Damietta

8. REFUGEES FROM SYRIA AND OTHER AFRICAN COUNTRIES

A. EFFECTS OF COVID-19 ON EVERYDAY LIFE

Refugees both Syrian and from other African countries in Cairo and Giza have all heard about COVID-19, modes of transmission and measures for prevention. Many of them reported using alcohol as a hand sterilizer and to a lesser extent complying with physical distancing and wearing a facemask. Their main sources of knowledge were news on television and their social networks. Social media platforms were mentioned by those who owned a smartphone and/or an internet connection. Few stated receiving COVID-19 awareness sessions from the NGOs they are affiliated to. Regarding COVID-19 impact on their lives, the main impact they mentioned was the discontinuation of their children's education and relative loss of jobs and consequently income were the main impacts that happened during lockdown. One participant suspected that her husband had COVID-19 and they did a confirmatory PCR test to ensure that suspicion. The participant disclosed that the test was negative.

"My husband's work has been very slow. So, I had to let the bills pile, gas, water, electricity, everything. Two days ago, they wanted to cut off my electricity connection because it was a hefty bill, around 3000 EGP So, I had to borrow money to pay them because the collector stopped at the house and said either you pay now, or I cut the electricity off now. I paid him. I still must pay the water and the electricity bills."

A Syrian Refugee, 34 years old, from Giza

On the other hand, refugees from other African Countries declared that the loss of jobs and consequently income was the main impact they suffered from the pandemic. Most of these refugees work in the informal sector (mainly sales and house cleaning) with

daily payments. Other refugees added that the main impact was an increase in the anxiety levels and frustration with their children after closure of schools. One refugee suspected that her daughter had COVID-19 but she did not pursue laboratory confirmation or health care and alternatively, she used natural remedies while at home (lemon, ginger, etc.).

When refugees were asked about seeking healthcare services during COVID-19, many Syrians stated that they accessed either a private clinic or the nearby health unit for convenience reasons (i.e. close to home, familiarity with the place) and to avoid crowded places (e.g. hospitals). Refugees from other African countries also preferred private clinics for the same reasons; however, they also resorted to pharmacies as well. Some shared that despite needing medical attention, they opted for not going to any health facility in fear of being infected with COVID-19 and because they were always in the household to take care of their family members. No one expressed any perceived change in the surrounding health services before and during the COVID-19 pandemic.

B. FAMILY PLANNING COUNSELLING AND SERVICES

Before the COVID-19-pandemic, many of the Syrian interviewees either did not use any FP method or relied on traditional FP methods (i.e. withdrawal method). As for Refugees from other African countries, many of them stated that they did not pursue FP counseling as they were using methods that they were satisfied with while in their countries. Hence, they continued purchasing these methods from the pharmacy. Generally, refugees from Syria and from other African countries preferred the pharmacy because they don't have to wait for a long time, they receive the services they need without delay and there is no long interaction with the pharmacist. When asked about reasons for not using free/ subsidized methods distributed by the public facilities, participants expressed that despite the presence of these services, they preferred the convenience and the geographical proximity of location of the pharmacy especially since they did not perceive an alarming change in the quality of service provided by the pharmacists.

> *"I needed healthcare but I didn't go because I have a baby and my other children so I can't leave them."*
>
> A Syrian Refugee, 29 years old, Giza

Refugees from other African countries added that the problem facing them is the financial ability to cover the costs for the chosen FP method which led to discontinuation in some cases.

As reported by some refugees, particularly those from African countries, COVID-19 had a direct effect on fertility desires and preferences. Despite the fact that some of the interviewees had to discontinue using their preferred FP method for financial reasons, they opted for not having a child during this period of uncertainty to avoid any direct contact with health facilities and the higher risk of infection with COVID-19 and the loss of income.

C. ANTENATAL CARE AND DELIVERY SERVICES

As to ANC services, some Syrian refugees stated that before the COVID-19, they followed up with a nearby private health center. They continued to follow up with the health center when needed because the center is near, has many physicians and prices are affordable. Many preferred not to access public facilities due to fear of infection,

perceived low level of infection control measures, overcrowding and long waiting hours.

> *"Here, (name) health center delivers all medical care services and there are physicians in all specialties. We wouldn't go to a public hospital because it is crowded, and we can be infected. There is also very little attention given to cleanliness and there is no order."*
>
> A Syrian Refugee, 42 years old, from Giza

On the other hand, many Refugees from other African countries stated that before the COVID-19, they used to visit the physician for a follow up once or twice during their pregnancies. They attributed these below standard number of visits to the cost of transportation, the cost of the services and absence of health threats. Additionally, an interviewee noted that women of the African refugee communities prefer to maintain the confidentiality of their pregnancies for cultural reasons. Alternatively, they resort to confiding in their family members (mothers, sisters) who have had a similar experience to obtain the information/care they need. The points of health services for pregnant refugees from other African countries are private/ charity-based health services contracted by the UNHCR. Many refugee women expressed their preference of these contracted facilities because they have developed trust in these facilities and the health workers in these facilities are accustomed to their presence. Unfortunately, these charity-based organizations were closed during the lockdown. Hence, those who were pregnant during COVID-19 went to the UNHCR partner hospitals for follow-up in case of perceived threat during pregnancy and to deliver.

D. POSTPARTUM FP SERVICES

Before the COVID-19 pandemic, Syrian interviewees perceived postpartum services as services strictly related to neonatal care. Women who did seek postpartum services, sought information, medical counseling and examination for their newborns. Not many women sought FP services beyond the traditional methods they have used before. During the COVID-19 pandemic, women expressed their fear of providing their children with vaccines because this would put their children at risk of being infected with COVID-19. Others said they would opt for a private clinic to receive the needed vaccines and care.

> *"I would go to the same obstetrician I follow up with who knows my case. If I am not comfortable with her, I would change the physician just like what I did with my first born. I wasn't okay and I left her."*
>
> A Syrian refugee, 25 years old, from Giza

Many Refugees from other African countries had previously received postpartum care services in their respective countries and complied with the same information they received at that time in successive pregnancies. However, many interviewed mothers added that they have not complied with vaccinating their children because they did not have the time to do so or did not know where to go to receive the vaccination services. As to postpartum FP, some interviewees added that obtaining the FP methods they are used to from the pharmacies was difficult during the pandemic and attributed that to the disturbance of the supply chain during the COVID -19 pandemic in addition to the financial challenges after losing their jobs. When probed about reasons for not accessing public facilities to obtain the FP methods, many women explained that they preferred going to pharmacies to save cost of transportation and absence of waiting

time. One woman shared her experience that she once went to a public health facility and found out that the service provider she was looking for was absent. Some interviewees opted for changing the method used or stopping method use while focusing on natural FP methods (e.g. abstinence).

E. INTERVIEWEES' RECOMMENDATIONS

When asked about suggestions to ensure smooth delivery of services during the COVID-19 pandemic, similar to other participants, refugee women requested information on children vaccinations and nutrition, list of available services in their surroundings, the cost and working hours of public services to avoid unnecessary trips to the PHC facilities. Participants were aware of the different components of reproductive health that they requested elaborated info about. They highlighted that this information can be shared via text messages, WhatsApp messages, social media posts and voice notes.

Women from other African countries agreed on the feasibility of the message and the possibility of message translation (Arabic, English, Eritrean) to be easily understood. Furthermore, using voice notes and visual messages for those who can't read was also highlighted.

> *"I wouldn't come back if they told me to come on another day because it is a long trip with a cost. It's a loss to go and waste all this time over nothing so I just depend on myself to get the health service I want."*
>
> A South Sudanese refugee, 30 years old, from Giza

9. REFLECTIONS OF SERVICE PROVIDERS

The study included interviewing 13 health service providers from Cairo (2 physicians), Giza (1 physician), Damietta (2 physicians, 1 pharmacist, and 2 nurses) and Assiut (2 physicians, 1 pharmacist, and 2 nurses) including private sector physicians, pharmacists and nurses. Interviews were conducted via telephone to limit the possibility of infection with the observed increase in COVID-19 positive cases.

The interview started by identifying the aim of the interview. The participants were then asked about the changes they saw in their clients, most specifically, women seeking FP, antenatal and post-natal care services in the respective governorate. The interviews were concluded by the service providers providing their recommendations in regards the induction of M-Health in Egypt for FP and RH services.

For the FP-oriented services, service providers stated that they did not notice much change in the behavior of women in terms of seeking FP services and counselling. Women prefer to receive short-term FP related services from pharmacies. However, pharmacists did not notice an increased usage of FP methods during COVID-19.

Regarding ANC services, service providers highlighted that the number of women visiting the clinics have declined and that many women resort to telephone counselling with the service provider except in cases of emergency that require urgent medical intervention.

There has not been a noticeable decrease in seeking delivery services. During COVID-19, many hospitals were used as isolation hospitals, thus there was a relative decrease in the number of facilities providing delivery services for women. They added that women expressed their inconvenience as they had to change hospitals they are familiar with, in addition to their anxiety and fear of being infected with COVID-19 during their delivery.

No changes were observed between women's postpartum health seeking behaviors before and during COVID-19 which was low. The main influence of COVID-19 on RH services seeking behavior of women that they observed was that women opted for phone counselling services instead of physical visits to private facilities.

CONCLUSION

Globally, the COVID-19 pandemic has affected both the supply and demand-side access to FP and impacted other reproductive health services such as counselling, contraceptives supply, and maternal health services. It is anticipated that the disrupted delivery of these RH/FP services during the lockdowns could result in unintended pregnancies with a potential of increased maternal morbidity and mortality18. Before the COVID-19 pandemic, women faced several barriers in accessing RH/FP services. With the pandemic, these barriers increased and the provision of many services became more challenging. This increase is attributed to straining of healthcare systems, resources redirected away from RH/FP services in favor of other COVID-related responses and practices enacted in response to the COVID-19 pandemic (as physical distancing and limiting care to essential procedures) in addition to fear of accessing RH/FP services because of the possibility of infection.

The current study reaffirmed the global observations. Since the lockdown in mid-March, in-person health care has been limited, and women reported having had to delay or cancel RH/FP care due to fears that doing so may expose them or a family member to COVID-19 infection. Women's health-seeking behavior changed as they mostly avoided health facilities or sought advice from their social networks because of fear of acquiring the infection. Many women revealed that they perceived private facilities as less risky when it comes to the possibility of exposure to the infection, being more attentive to infection control procedures, and less crowded. They also perceived the pharmacies and mobile units as geographically more accessible hence limiting the time and possibility of exposure to infection.

Many women seeking RH/FP services were hindered by income loss during the pandemic as many workplaces closed and many workers in the informal sector lost their jobs. Women had reasonable fears of taking public transportation amid the pandemic which was a major obstacle to seeking RH/FP services at faraway clinics for people without an accessible means of transportation. Women already face barriers to seeking RH/FP care if they cannot find or afford childcare services which was worsened during the pandemic by school and daycare closures that eliminated childcare options. Additionally, many women may not feel comfortable bringing a child to a health facility and risk exposure to the virus. COVID-19 fear of infection and mobility restrictions reduced access to essential RH/FP services. The situation was further complicated by facilities limiting the number of consultations in addition to the shortage of staff who either fell ill or were deployed to acute care. Women who must spend time in hospital wards for risky pregnancy, delivery, or recovering after caesarian section are often reliant on relatives for food and care, making infection control measures difficult and intensifying the risks of COVID-19 spread. All the aforementioned disruptions resulted in barriers to obtaining desired contraceptives and pregnancies among women who wanted to avoid them.

People need to be able to access contraceptive information and services during the pandemic being one of the most cost-effective interventions to reduce maternal mortality through preventing unintended pregnancies and avoidable pressures on the health system. Adjustments to the way services are provided while maintaining the quality of and access to services and continuing safe contraceptive service provision taking into consideration local context and policies and stage of the pandemic are inevitable. To minimize in-person encounters during the COVID-19 pandemic, some interviewed women recommended the use of messages both

[18] Kumar, M., Daly, M., De Plecker, E., Jamet, C., McRae, M., Markham, A., & Batista, C. (2020). Now is the time: a call for increased access to contraception and safe abortion care during the COVID-19 pandemic. *BMJ global health*, *5*(7), e003175. https://doi.org/10.1136/bmjgh-2020-003175

offline and online to improve awareness of different RH/FP topics as some of them received the MOHP messages focusing on COVID-19. Additionally, they recommended increasing the number of service delivery points and providers in addition to assigning specific days for different RH/FP services and allowing phone consultations for non-emergency services to limit overcrowding. They also highlighted the importance of abiding by all preventive measures.

RECOMMENDATIONS

The study recommends the following to ensure smooth and sustainable accessibility of RH/FP services during the pandemic:

- Scaling up integrated service delivery to address the FP needs of pregnant women and those in their postpartum period while they are already interacting with the health care system, is strategic, lifesaving, and decreases the burdens on health systems burdens.
- Postpartum FP offers a unique opportunity to make the most of facility and pharmacy visits and interactions with outreach workers. Initiate or continue counseling and access to immediate postpartum contraception before hospital discharge, particularly as access to postpartum visits becomes limited.
- Private sector facilities represent a good opportunity for counseling women about FP and healthy timing and spacing of pregnancy. The current study revealed that women perceive private facilities as safer when it comes to the risk of infection. Given that the 2014 EDHS also revealed that the majority of women prefer accessing private facilities for ANC and delivery regardless of their socioeconomic status. Hence, efforts should be made to orient private providers towards FP counseling, postpartum FP, healthy timing and spacing of pregnancy, and how to target pregnant women with these messages. Additionally, open channels between the private providers (who unfortunately lack an umbrella entity) and the National FP program should be considered for an updated FP info and sharing their achievements and challenges.
- Promoting public facilities as centers of excellence using trusted and influential figures to reassure communities that public facilities are abiding by the universal infection control measures and that services offered are up to the quality standards. This involves orienting providers towards being “attentive” to the clients and training nurses on how to receive the clients and to patiently provide them with sufficient counselling and information. Additionally, there is a need to address the issue of availability of ultrasound services in the public sector that was mentioned by many women as a reason for accessing the private facilities for ANC.
- Pharmacies represent the least risky place for women where they contract COVID-19 infection for being less crowded, close by and no waiting hours. The role of the pharmacies is critical in providing education about emergency contraception, effective condom use during the peaks of the pandemic, and pills, particularly when doctor-client interaction is not available. Orientation sessions can be organized in collaboration with the pharmaceutical syndicate with support from pharmaceuticals that produce FP methods to raise the awareness of pharmacists towards FP. Furthermore, simple and attractive posters and flyers focusing on different FP methods in a simple and attractive way can be developed and distributed to pharmacists. Concurrently, timely means of reporting and addressing the shortage of FP methods dispensed at the pharmacies need to be developed and operationalized together with figuring alternatives that women can be advised of.
- Mobile units represent a feasible and effective alternative for women who fear accessing health facilities during the pandemic for the provision of RH/FP services. The exact schedule and locations of mobile units should be advertised beforehand.
- Explore the feasibility of distribution of condoms and resupply of pills via the MOHP outreach workers (raedat rifyat) during their routine household visits. This can ensure

sustainable supply with the potential for reinforcing RH/FP and COVID-19 prevention messages.

- Telemedicine, where feasible, has the potential to complement existing healthcare and service delivery channels for RH as the COVID-19 outbreak rages. Efforts should be made to provide the essential infrastructure and required trainings of service providers to be able to provide teleconsultations; to counsel new clients requesting contraception, screen for medical eligibility, manage and treat contraceptive side effects if possible and inform clients who desire long-acting reversible contraceptives (LARCs) of service locations where LARCs are being provided.
- The use of various online/offline communication methods that do not require in-person contact (SMS, WhatsApp, or telephone calls). The Internet might not be accessible to all women either for technical infrastructure reasons or inability to afford the cost of the service and/or smartphone. Messages should be tailored to fit illiterate people and should also focus on childcare and nutrition as requested by many women.
- Counsel clients on emergency contraception and correct consistent condom use in case disruptions occur in the supply of other contraceptive commodities. Counseling can be done in person during the visits or through calls. A free hotline for the provision of FP counseling should be considered.
- Continue to offer insertion of LARCs, such as IUD and implants, to new users where possible with adequate safety preparations for the procedure. Provide LARCs immediately postpartum for clients who desire a LARC and are eligible. Limit direct contact with current LARCs' users to situations where removal cannot be delayed or when side effects require a physical/pelvic exam or other tests.
- Infection prevention must be a priority in all health facilities and infection control measures must be available and used efficiently and effectively. Health workers should feel safe and should be able to keep their clients safe in the health setting.
- Ensure that clients are wearing their masks and abiding by the physical distancing precautions. Hence, arrange to avoid having too many clients in the waiting area through several measures including scheduling clients individually and having clients wait outside.
- Awareness-raising campaigns to address the myths related to not using the IUD during the pandemic and neglecting ANC routine visits due to the disturbed immunity of pregnant women. Messages need to provide information to women on the immunity level of the pregnant women, provision of services through digital solution, phone services, etc.
- Local Campaigns needs to be planned to advise women of availability of services, offer them choices, educate them, comfort them, as well as advise that precautionary measures are taken during COVID 19 in this specific governorate and district
- Tailored messages addressing the fear of women are to be developed and promoted through means the women use to seek information: this could be through social networks, local media networks, social media, etc.

ANNEX 1: PROFILE OF INTERVIEWED WOMEN

A. PROFILE OF INTERVIEWED WOMEN IN CAIRO[19]

Age Group	Number (Syrians)	Percent
15 – 19	3 (0)	4%
20-24	12 (3)	15.4%
25-29	15 (6)	19.2%
30-34	12 (4)	15.4%
35-39	17 (3)	22%
40-44	10 (2)	13%
45-49	9 (2)	11%
Nationality	Number	Percent
Egyptians	78	80
Syrians	20	20
Educational Status	Number	Percent
Illiterate	15 (2)	19%
Completed Primary Education	17 (3)	22%
Completed Preparatory Education	17 (4)	22%
Completed Secondary /Post-secondary Non-University Education	25 (9)	32%
Completed University Education	4 (2)	5%
Completed Post-Graduate Education	0	0%
Job	Number	Percent
Housewives	65 (11)	83%
Daily worker	2 (2)	2.5%
Has a Desk Job	6 (0)	7%
Has a Sales Job	3 (2)	5%
Has a Handcrafts Job	2 (5)	2.5%
Has an Agricultural Job	0	0%
Reproductive Profile		
FP method usage/ pregnancy	Number	Percentage
Using FP Methods and Not Pregnant	47 (12)	60%
Not Using FP Methods and Not Pregnant	30 (7)	38.6%
Not Using FP Methods and are pregnant	1 (1)	1.4%
Types of FP Methods Used by Women in Cairo		
Method	Number	Percentage
Traditional (including safe period and withdrawal method)	3 (3)	6.8%
IUDs	18 (2)	38%
OCPs	19 (11)	41%
Injections	4 (2)	8.5%
Subdermal Capsules	1 (0)	2%
Condoms	2 (2)	4%
Service Providers		
Physicians	2	

[19] 20 participants were Syrian Refugees in Egypt

Pharmacists	0	
Nurses	0	

B. PROFILE OF INTERVIEWED WOMEN IN GIZA[20]

Age Group	Number (Other African countries	Percent
15 - 19	4 (0)	5%
20-24	10 (6)	12%
25-29	15 (5)	18%
30-34	19 (5)	24%
35-39	14 (3)	17%
40-44	10 (1)	12%
45-49	10 (0)	12%
Nationality	**Number**	**Percent**
Egyptians	82	80%
Nationals of other African countries	20	20%
Educational Status	**Number**	**Percent**
Illiterate	22 (5)	27%
Completed Primary Education	9 (7)	11%
Completed Preparatory Education	11 (5)	13%
Completed Secondary /Post-secondary Non-University Education	25 (3)	30%
Completed University Education	13 (0)	17%
Completed Post-Graduate Education	2 (0)	2%
Job	**Number**	**Percent**
Housewives	58 (6)	71%
Daily worker	7 (7)	8%
Has a Desk Job	8 (0)	10%
Has a Sales Job	0 (3)	0%
Has a Handcrafts Job	5 (0)	6%
Has an Agricultural Job	0 (0)	0%
Others	4 (4)	5%
Reproductive Profile		
FP method usage/ pregnancy	Number	Percentage
Using FP Methods and Not Pregnant	52 (12)	64%
Not Using FP Methods and Not Pregnant	26 (6)	31%
Not Using FP Methods and are pregnant	4 (2)	5%
Types of FP Methods Used by Women in Giza		

[20] 20 of participants were African refugees (From Sudan, Eritrea)

Method	Number	Percentage
Traditional (including safe period and withdrawal method)	5 (4)	9.5%
IUDs	26 (5)	51%
OCPs	8 (7)	15%
Injections	11(3)	21%
Subdermal Capsules	2 (0)	4%
Condoms	0 (1)	0%
Surgical	1 (0)	0.5%
Service Providers		
Physicians	1	
Pharmacists	0	
Nurses	0	

C. PROFILE OF INTERVIEWED WOMEN IN ALEXANDRIA

Age Group	Number	Percent
15 - 19	4	5%
20-24	10	12.5%
25-29	20	25%
30-34	14	17.5%
35-39	12	15%
40-44	10	12.5%
45-49	10	12.5%
Educational Status	Number	Percent
Illiterate	16	19.5%
Completed Primary Education	23	29%
Completed Preparatory Education	17	20.7%
Completed Secondary /Post-secondary Non-University Education	22	28%
Completed University Education	2	2.5%
Completed Post-Graduate Education	0	0%
Job	Number	Percent
Housewives	51	63.4%
Daily worker	10	12.5%
Has a Desk Job	0	0%
Has a Sales Job	14	18%
Has a Handcrafts Job	5	6.6%
Has an Agricultural Job	0	0%
Others	0	0%
Reproductive Profile		
FP method usage/ pregnancy	Number	Percentage
Using FP Methods and Not Pregnant	62	77%
Not Using FP Methods and Not Pregnant	14	18%
Not Using FP Methods and are pregnant	4	5%
Types of FP Methods Used by Women in Alexandria		
Method	Number	Percentage

Traditional (including safe period and withdrawal method)	0	0%
IUDs	36	58.1%
OCPs	6	10%
Injections	15	24.2%
Subdermal Capsules	4	5%
Condoms	0	0%
Surgical	1	2%

D. PROFILE OF INTERVIEWED WOMEN IN ASSIUT

Age Group	Number	Percent
15 - 19	4	5%
20-24	10	12.5%
25-29	18	22.5%
30-34	14	17.5%
35-39	14	17.5%
40-44	10	12.5%
45-49	10	12.5%
Educational Status	**Number**	**Percent**
Illiterate	21	26.25%
Completed Primary Education	8	10%
Completed Preparatory Education	12	15%
Completed Secondary /Post-secondary Non-University Education	25	31.25%
Completed University Education	7	8.75%
Completed Post-Graduate Education	7	8.75%
Job	**Number**	**Percent**
Housewives	65	81.25%
Daily worker	7	9%
Has a Desk Job	0	0%
Has a Sales Job	6	6.75%
Has a Handcrafts Job	2	3%
Has an Agricultural Job	0	0%
Others	0	0%
Reproductive Profile		
FP method usage/ pregnancy	Number	Percentage
Using FP Methods and Not Pregnant	44	55%
Not Using FP Methods and Not Pregnant	23	28.75%
Not Using FP Methods and are pregnant	13	16.25%
Types of FP Methods Used by Women in Assiut		
Method	**Number**	**Percentage**
Traditional (including safe period and withdrawal method)	0	0%
IUDs	18	40.9%
OCPs	17	38.6%
Injections	4	9.1%

Subdermal Capsules	5	11.4%
Condoms	0	0%
Surgical	0	0%
Service Providers		
Physicians	2	
Pharmacists	1	
Nurses	2	

E. PROFILE OF INTERVIEWED WOMEN IN DAMIETTA

Age Group	Number	Percent
15 - 19	3	3.75%
20-24	10	12.5%
25-29	23	28.75%
30-34	14	17.5%
35-39	12	15%
40-44	10	12.5%
45-49	8	10%
Educational Status	**Number**	**Percent**
Illiterate	5	6.25%
Completed Primary Education	10	12.5%
Completed Preparatory Education	12	15%
Completed Secondary /Post-secondary Non-University Education	34	42.5%
Completed University Education	16	20%
Completed Post-Graduate Education	3	3.75%
Job	**Number**	**Percent**
Housewives	69	86.25%
Daily worker	1	1.25%
Has a Desk Job	5	6.25%
Has a Sales Job	4	5%
Has a Handcrafts Job	1	1.25%
Has an Agricultural Job	0	0%
Others	0	0%
Reproductive Profile		
FP method usage/ pregnancy	Number	Percentage
Using FP Methods and Not Pregnant	59	73.75%
Not Using FP Methods and Not Pregnant	17	21.25%
Not Using FP Methods and are pregnant	4	5%
Types of FP Methods Used by Women in Damietta		
Method	**Number**	**Percentage**
Traditional (including safe period and withdrawal method)	1	1.7%
IUDs	37	62.7%
OCPs	18	30.5%
Injections	1	1.7%

Subdermal Capsules	2	3.4%
Condoms	0	0%
Surgical	0	0%
Service Providers		
Physicians	2	
Pharmacists	1	
Nurses	2	

ANNEX 2: DEMOGRAPHICS OF INTERVIEWED WOMEN

A. CAIRO DEMOGRAPHIC SUMMARY:

- Number of interviewed women in total was 78 women.
- 100% of the interviewed women identified themselves as living in urban areas while none identified themselves as living in informal areas (slums) or rural areas.
- Participants were selected to represent all groups of reproductive age starting from 15 years old to 49 years of age, according to the 2014 EDHS classification of age. Highest representation was in women ranging in age between 35 and 39 years old, with a total of 17 women.
- Educational background: 19% of interviewed women did not receive any formal education. 22% finished the primary stage of education. 22% received middle school (preparatory) education. 29% of the participant women finished their high school (secondary) education. 3% of participants have obtained a higher education (post-secondary education) and another 5% have obtained their university bachelor's degree.
- The majority of the participants, 83%, did not hold a job at the time of the interviews, while the rest (17%) ranged in the type of work between daily work (e.g. factory workers), desk and administrative jobs, and sales. None of the participants worked in agriculture or desk jobs.
- Marital status: 100% of the interviewed women were married at the time of the interview. 8% have been married less than a year ago at the time of the interview. 7% of the participants were married from 1 to 4 years. 35% were married for a duration of 5 to 9 years. While 50% were married for 10+ years.
- 99% of the participants had children at the time of the interview. The total birth rate of the selected sample was 2.6 births for the selected sample, with the maximum of 5 children for a family and a minimum of zero children for a family. The range of ages of the youngest children varies between the lowest of 4 months old to the highest of 21 years old.
- 60% of the interviewed women were using a method of FP at the time of the interview, while 40% did not use a method at the time of interview. Upon inquiring on the method used. The methods were either hormonal, topical (male condoms) or traditional (mainly withdrawal method and safe period ~ 6.5%). The methods ranged between IUDs (38%), three-month hormonal injections (8.5%), subdermal capsules (2%), male condoms (4%) and OCPs (41%). 1.3% of the total participants were pregnant at the time of the interview.

B. GIZA DEMOGRAPHIC SUMMARY:

- Number of interviewed women in total was 82 women.
- 100% of the interviewed women identified themselves as living in urban areas while none identified themselves as living in unorganized areas (slums) or rural areas.
- Participants were selected to represent all groups of reproductive age starting from 15 years old to 49 years of age, according to the 2014 EDHS classification of age. More than half of representation of interviewees was in women ranging in age between 30 and 45 years old, with a total of 43 women.

- Educational background: 27% of interviewed women did not receive any formal education. 11% finished the primary stage of education. 13% received middle school education. 23% of the participant women finished their high school education (secondary education). Only 7% of participants have obtained a higher education (post-secondary education) and another 17% have obtained their university bachelor's degree. Only one of the interviewed participants (2%) obtained a postgraduate degree.
- More than half of the participants, 71%, did not hold a job at the time of the interviews, while the rest ranged in the type of work between daily work (e.g. factory workers), desk and administrative jobs, volunteering and handcrafts. None worked in sales and service provision. None of the participants worked in agriculture or desk jobs.
- Marital status: 100% of the interviewed women were married at the time of the interview. 2% have been married less than a year ago at the time of the interview. 19.5% of the participants were married from 1 to 4 years. 31% were married for a duration of 5 to 9 years. While 47.5% were married for 10+ years.
- 100% of the participants had children at the time of the interview. The total birth rate of the selected sample was 3.3 births for the selected sample, with the maximum of 7 children for a family and a minimum of one child for a family. The range of ages of the youngest children varies between the lowest of 3 months old to the highest of 17 years old.
- 63.8% of the interviewed women were using a method of FP at the time of the interview, while 36.2% did not use a method at the time of interview. Upon inquiring on the method used. The methods were either hormonal, surgical or traditional (mainly withdrawal method and safe period ~ 9.5%). No topical FP methods were used (e.g. male condoms). The methods ranged between IUDs (50.7%), three-month hormonal injections (21%), subdermal capsules (3.8%), and OCPs (15%). One participant had a surgical ligation of her fallopian tubes for other medical purposes. 6.25% of the total participants were pregnant at the time of the interview.

C. ALEXANDRIA DEMOGRAPHIC SUMMARY:

- Number of interviewed women in total was 82 women. Two of whom were above the targeted age of study (50 years old).
- 50% of the interviewed women identified themselves as living in urban areas while the other half identified themselves as living in unorganized areas (slums).
- Participants were selected to represent all groups of reproductive age starting from 15 years old to 49 years of age, according to the 2014 DHS classification of age. Largest representation of interviewees was in women ranging in age between 25 and 29 years old, with a total of 20 women.
- Educational background: 19.5% of interviewed women did not receive any formal education. 26.8% finished the primary stage of education. 20.7% received middle school education. 25.6% of the participant women finished their high school education (secondary education). Only 2.4% of participants have obtained a higher education (post-secondary education) and another 2.4% have obtained their university bachelor's degree. None of the interviewed participants obtained a postgraduate degree.
- More than half of the participants, 63.4%, did not hold a job at the time of the interviews, while the rest ranged in the type of work between sales, handcrafts and service provision. None of the participants worked in agriculture or desk jobs.

- Marital status: 100% of the interviewed women were married at the time of the interview. 2.4% have been married less than a year ago at the time of the interview. 11% of the participants were married from 1 to 4 years. 24.4% were married for a duration of 5 to 9 years. While 62.2% were married for 10+ years.
- 92.7% of the participants had children at the time of the interview. The total birth rate of the selected sample was 2.5 births for the selected sample, with the maximum of 5 children for a family and a minimum of one child for a family. Six participants reported not having children at the time of the interview. The median age of the children was 5 years old with the range of ages of the youngest children varying between the lowest of 1 week old to the highest of 21 years old.
- 77% of the interviewed women were using a method of FP at the time of the interview, while 23% did not use a method at the time of interview. Upon inquiring on the method used. The methods were either hormonal or surgical. No topical FP methods were used (e.g. male condoms). The methods ranged between IUDs (58.1%), three-month hormonal injections (24.2%), subdermal capsules (4.8%), and OCPs (9.7%). One participant had a surgical ligation of her fallopian tubes for other medical purposes. 4 interviewed women were not using any FP method at the time because they were pregnant, while the rest were not pregnant nor using FP methods.

D. ASSIUT DEMOGRAPHIC SUMMARY:

- Number of interviewed women in total was 80 women.
- 62% of the interviewed women identified themselves as living in rural areas while the rest identified themselves as living in urban areas. Zero interviewees identified themselves as living in unorganized areas.
- Participants were selected to represent all groups of reproductive age starting from 15 years old to 49 years of age, according to the 2014 DHS classification of age. Largest representation of interviewees was in women ranging in age between 25 and 29 years old, with a total of 18 women.
- Educational background: 26.25% of interviewed women did not receive any formal education. 10% finished the primary stage of education. 15% received middle school (preparatory) education. 26.25% of the participant women finished their high school education (secondary education). Only 5% of participants have obtained a higher education (post-secondary education) and another 8.75% have obtained their university bachelor's degree. Another 8.75% of the interviewed participants obtained a postgraduate degree.
- More than half of the participants, 81.25 %, did not hold a job at the time of the interviews, while the rest ranged in the type of work between sales, highly skilled handcrafts and other jobs. None of the participants worked in agriculture, administrative jobs or desk jobs.
- Marital status: 100% of the interviewed women were married at the time of the interview. None of whom have been married less than a year ago at the time of the interview. 25% of the participants were married from 1 to 4 years. 23.75% were married for a duration of 5 to 9 years. While 22.5% and 28.75% were married for 10-14 years and over 15 years respectively.

- 98.75% of the participants had children at the time of the interview. The total birth rate of the selected sample was 1.8 births for the selected sample. One participant reported not having children at the time of the interview.
- 55% of the interviewed women were using a method of FP at the time of the interview, while 45% did not use a method at the time of interview. Upon inquiring on the method used. The methods were hormonal. No topical FP methods were used (e.g. male condoms). The methods ranged between IUDs (40.9 %), three-month hormonal injections (9.1%), subdermal capsules (11.4 %), and OCPs (38.6%). 13 interviewed women were not using a FP method at the time because they were pregnant, while the rest were not pregnant nor using FP methods.

E. DAMIETTA DEMOGRAPHIC SUMMARY:

- Number of interviewed women in total was 80 women.
- 28.75% of the interviewed women identified themselves as living in rural areas while the rest as living in urban areas. 0% identified themselves as living in unorganized areas.
- Participants were selected to represent all groups of reproductive age starting from 15 years old to 49 years of age, according to the 2014 DHS classification of age. Largest representation of interviewees was in women ranging in age between 25 and 29 years old, with a total of 23 women.
- Educational background: only 6.25% of interviewed women did not receive any formal education. 12.5% finished the primary stage of education. 15% received middle school education. 32.5% of the participant women finished their high school education (secondary education). 10% of participants have obtained a higher education (post-secondary education) and another 20% have obtained their university bachelor's degree. 3.75% of the interviewed participants obtained a postgraduate degree.
- More than half of the participants, 86.25%, did not hold a job at the time of the interviews, while the rest ranged in the type of work between daily workers, administrative officers, and sales. None of the participants worked in agriculture or desk jobs.
- Marital status: 100% of the interviewed women were married at the time of the interview. 1.25% have been married less than a year from the time of the interview. 27.5% of the participants were married from 1 to 4 years. 26.25% were married for a duration of 5 to 9 years. While 23.75% were married for 10-14 years and 21.25% were married for more than 15 years at the time of the interview.
- 90% of the participants had children at the time of the interview. The total birth rate of the selected sample was 2.1 births for the selected sample, with the maximum of 5 children for a family and a minimum of one child for a family. Six participants reported not having children at the time of the interview. The median age of the children was 4.9 years old with the range of ages of the youngest children varying between the lowest of 1 week old to the highest of 17 years old.
- 73.75% of the interviewed women were using a method of FP at the time of the interview, while 26.25% did not use a method at the time of interview. Upon inquiring on the method used. The methods were either hormonal or natural. No topical FP methods were used (e.g. male condoms). The methods ranged between IUDs (62.7%), three-month hormonal injections (1.69%), subdermal capsules (3.4%) and OCPs

(30.5%). One participant depended on natural methods of FP. 4 interviewed women were not using any FP method at the time because they were pregnant, while only one participant was not pregnant nor using modern FP methods.

ANNEX 3: TELEMEDICINE: A WINDOW OF OPPORTUNITY

WHO defines telemedicine as "the delivery of health care services by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities".[21]

Telemedicine provides an opportunity to access certain healthcare services that would otherwise be disrupted by the pandemic and holds the potential to expand access to counselling and lifesaving consultation services even beyond the pandemic response. However, telemedicine has been neglected for various reasons including initial investment costs, on-going cost of internet access, and physical presentation in health facilities, which is often preferred for the delivery of care. Telemedicine will remove the need for physical appearance in the health facilities for some ailments such as consultations for oral and barrier contraceptives, STI care and treatment, routine and low risk pregnancy care and counselling services thereby eliminating the risks of nosocomial transmission of COVID-19 virus to otherwise uninfected clients as well as increased protection for the health workers.[22]

WHO recommends developing innovative strategies including use of mobile phones and digital technologies to ensure eligible people can access information and contraception during this period.[23] Counseling new users about contraception, screening for medical eligibility criteria and managing some contraceptive side effects can be done through various communication methods that do not require in-person contact (SMS, WhatsApp, video calls, or telephone calls).[24] However, it will not be provided for issues such as childbirth and other invasive or life-threatening conditions.

Additionally, telemedicine will allow to depend on fewer health workers to provide services across large geographic areas, thereby increasing access to those that may lose physical access to service because their neighborhood health facilities have been designated to isolate and manage COVID-19 infected clients, those unable to reach the health facilities as a result of lockdowns, or for other personal reasons which may include the fear of getting infected by COVID-19 in the health facilities. However, there are significant barriers to optimal implementation of telemedicine including protocols to ensure that the quality of care offered through remote services is optimal and the issue of cost and access to internet services and specialized equipment. Many potential providers may not have ready access to specialized telemedicine equipment and internet services and this need to be addressed, possibly through government subsidies or grants from international and multilateral organizations.[25]

[21] World Health Organization. Telemedicine: opportunities and developments in member states. Report on the second global survey on eHealth. World Health Organization; 2010.

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