The Impact of the COVID–19 Pandemic on Fertility Centers in the Philippines

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Objective: The aim of the study was to determine the impact of the COVID – 19 pandemic on fertility centers in the Philippines as reflected in the change in caseload for the different types of fertility procedures and modifications in the physical set up of laboratories, staff and patient screening.
Methods: A descriptive cross-sectional study using a questionnaire was administered to all Philippine Society for Reproductive Medicine (PSRM) accredited fertility centers on November 2020. The study underwent ethics and technical review approval. The medical director or manager of the centers was requested to answer the questionnaire. All data were collated, summarized and analyzed.
Results: All seven PSRM accredited fertility centers participated in the study. There was an overall decrease in fertility procedures performed in all the centers with most of the centers reporting a less than 50% decrease in oocyte pick up, less than 75% decrease in frozen embryo transfer and around 50 – 75% decrease in intrauterine insemination cases. All fertility centers implemented social distancing, triaging of patients by symptoms, use of personal protective equipment for doctors and staff, placing alcohol dispensers at the reception area and limiting the number of people allowed inside the center. Clinical visits were now scheduled and revisions in informed consent were done.
Conclusion: The majority of local fertility centers experienced a significant decline in fertility procedures. Modifications to the conduct of their clinic for safety of their staff and patients were compliant with local and international guidelines.

Key words: COVID–19, fertility care, fertility centers, guidelines, safety

Introduction

Last December 2019, the novel coronavirus infection that arose in Wuhan, China quickly expanded to become one of the most significant public health threats in recent times. This newly emergent coronavirus initially referred to as 2019-nCov and subsequently termed SARS-CoV-2. The disease it causes has been termed COVID-19. As of June 15, 2020, there were 175,987,176 confirmed cases of COVID-19 globally, including 3,811,561 deaths.[1] In the Philippines, there were 1,322,053 confirmed cases of COVID-19 with 22,845 deaths.[2]

On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a pandemic and called on governments to take urgent and aggressive action to change the course of the outbreak. Within the context of reproductive

medicine and fertility, assisted reproductive technology centers, clinicians and patients are also struggling due to this unprecedented viral pandemic. In order to avoid contributing additional pressure to an already burdened healthcare system, several international and local societies have recommended that fertility treatments, regarded as an elective procedure, be temporarily stopped.[3,4,5,6]

On March 17, 2020, the American Society of Reproductive Medicine (ASRM) announced their recommendation to immediately suspend all in-person fertility treatments indefinitely due to the COVID-19 pandemic.[3,4] These recommendations included delaying the start of new treatment cycles but also, in many cases, abandoning treatment cycles that had already begun. The European Society of Human Reproduction and Embryology (ESHRE) also released its guidelines on April 2, 2020.[5] ESHRE advised that assisted reproduction treatments should not be started to support the necessary reallocation of healthcare resources and to support the recommendations of social distancing, as well as to avoid complications from assisted reproductive treatment and pregnancy and potential SARS-CoV-2 related complications. However, cases of urgent fertility preservation in oncology patients, the cryopreservation of gametes, embryos or tissue should still be considered.

In the Philippines, the Philippine Society for Reproductive Medicine (PSRM) released a statement on March 28, 2020 in order to guide practitioners and patients.[6] They advised that all In Vitro Fertilization (IVF) and fertility centers should suspend all procedures, including ovulation induction/ovarian stimulation, oocyte retrievals, fresh and frozen embryo transfers, surgical sperm retrievals, and artificial insemination cycles. No new treatment cycles must be started, even emergency fertility preservation procedures. Patients wherein treatment may have been started are advised to consider oocyte or embryo cryopreservation with a plan for frozen embryo transfer at a much later time. PSRM also advised reproductive medicine practitioners to refrain from conducting outpatient clinics, and instead, perform video or telephone consultations, whenever possible.

By June 1, 2020, majority of the cities in the Philippines have been placed on general community quarantine, after almost three months of lockdown. With the easing of restrictions, many practitioners started to resume face to face clinics and fertility centers reopened, each implementing their own safety protocols and guidelines since there was no concrete recommendation regarding COVID–19 prevention at that time. Some centers in Spain and Italy have also resumed operations with a significant decrease in their caseload and some administrative changes such as "freeze – all" strategy and two work shifts for the staff.[7]

The global expansion of this pandemic makes it very difficult to assess the impact that COVID-19 may have on fertility issues. Parameters regarding restarting of fertility procedures vary among different societies.[11,12] Most centers have adopted practices based on expert opinions and since there is no single effective intervention at the moment, combined measures are used. The fertility centers had to modify the conduct of their clinic to ensure the safety of patients and staff, reduce non-essential contacts and prevent possible maternal and fetal complications in future pregnancies. The goal of this study is to summarize the effects of the COVID–19 pandemic on the caseload, administrative and laboratory practices and safety measures employed by the fertility centers in the Philippines. It is also important to collate a national database of the consequences of the pandemic in different medical fields, with this paper primarily focusing on the effect on fertility centers.

Methods

This study is a descriptive cross sectional study design. After approval of the hospital review board (SL-20334 / RPC-276-10-20), an endorsement from the Board of Directors of PSRM was secured and a list of accredited fertility centers were requested from the Society. An informed consent and questionnaire containing 20 questions in 5 categories (demographics, procedures, administrative changes, staff protocols and patient protocols/ screening) were sent through electronic mail to the PSRM ART regulatory board - accredited fertility centers. Either the medical director or manager of these centers answered the questionnaire (Appendix A) through a google survey. Anonymity was observed and data gathered were entered in an Excel form.

All fertility centers accredited by the PSRM ART Regulatory Board were invited to participate and any center that refuses to participate in the study was excluded.

Demographic characteristics of fertility centers were tabulated such as the number of years in operation, geographic location and number of procedures performed annually prior to COVID-19. Changes in caseload for oocyte pick-up, frozen embryo transfer and intrauterine insemination, as well as modifications for safety protocols in the clinics and laboratories of fertility centers were documented. These included changes in the physical set up of laboratories, staff and patient screening. The proportion of fertility centers that accommodated and/or cancelled cycles for COVID-19 positive patients, and center personnel who acquired COVID – 19 were recorded.

All information were entered into an electronic spreadsheet file. Data analysis was performed using measures of central tendency, such as mean and mode, as well as frequencies and proportions for descriptive data.

Results

A total of seven PSRM accredited fertility centers responded to the online questionnaire sent last November 2020. All respondents were the centers' medical directors. Fifty seven percent (n=4) of the fertility centers were based in Metro Manila, with one each in Region 3, Region 7 and Region 11. The Centers had varied length of operation, with the longest having been in operation for more than 20 years and two operating for less than 5 years (Figure 1). Majority of the centers (57.1%) have less than 250 IVF cycles per year, two centers with 250 – 500 IVF cycles in a year and one with more than 1000 cycles per year (Figure 2). In terms of affiliated fertility specialists, 4 centers (57.1%) have less than 5, 2 have 5 - 10 affiliated specialists and only one has 10 – 15.

All of the centers reported a sharp decline in the number of fertility procedures during the COVID pandemic. Four of the seven fertility centers (57.1%) reported a decrease by less than 50% for oocyte pick up cases while one reported it to be unchanged to <10% decrease (Figure 3). There was a larger decrease in volume for frozen embryo transfers across all centers with 71.4% (n=5) reporting a decrease by at least 50% (Figure 4). For intrauterine insemination, 71.45 (n=5) reported a decrease by at least less than 50% (Figure 5).

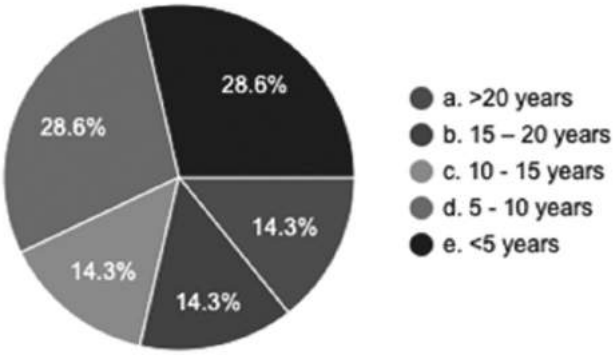

Figure 1. Length of operation of the fertility centers.

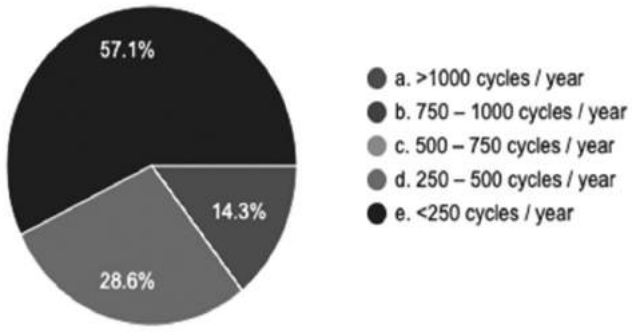

Figure 2. Number of cycles performed in the fertility center per year.

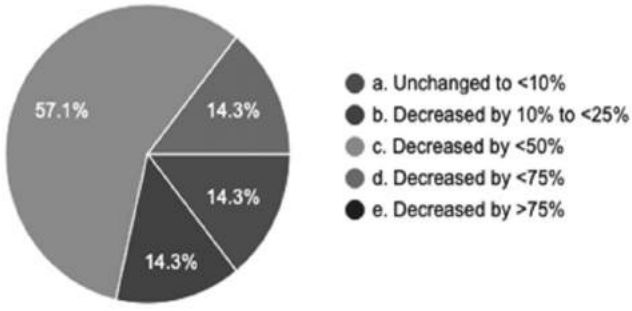

Figure 3. Patient volume change for oocyte pick up prior to COVID -19.

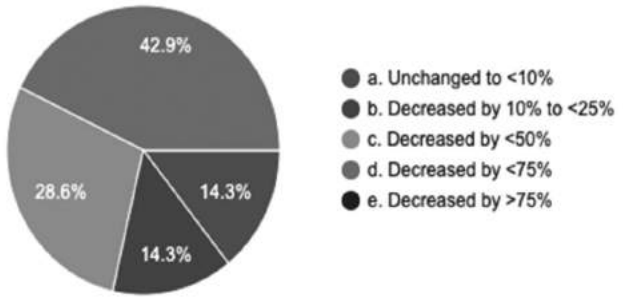

Figure 4. Patient volume change for frozen embryo transfer prior to COVID -19.

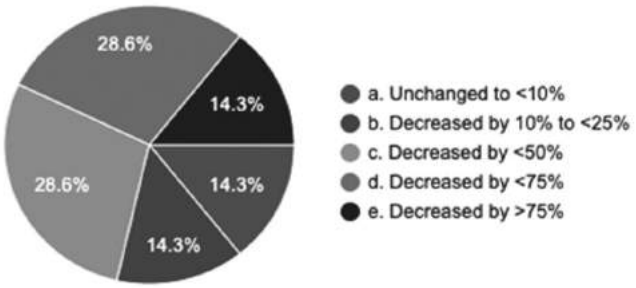

Figure 5. Patient volume change for intrauterine insemination prior to COVID -19.

All fertility centers were aware of the ESHRE, ASRM, and PSRM guidelines. In regards to the measures to decrease viral transmission in the centers, all facilities generally implemented the recommended measures in the clinical and laboratory areas. For the clinical measures (Figure 6), all of the centers (n=7) implemented social distancing, triaging of patients by symptoms, personal protective equipment for doctors and staff, placing alcohols at the reception, limiting the number of people allowed in the center and scheduled appointments. Eight five percent of the centers (n=6) provided telemedicine, prohibited the husband during embryo transfer, placement of acrylic barriers and increasing the time interval between cases to allow for disinfection. Seventy one percent (n=5) stopped offering water in the reception area and set a limit to the maximum number of cases per day.

For the laboratory measures (Figure 7), all fertility centers changed the staffing schedule, supplied personal protective gear and implemented strict entry of authorized staff. Two centers (28.6%) changed their choice of disinfectants, and one center (14.3%) performed regular RT – PCR swabbing for SARS-COV-2. All of the centers made revision to their informed consent forms for procedures. These included statements on embryo transfer, testing for the presence of COVID infection, and the uncertainty of the effect of the virus during pregnancy (Figure 8).

In terms of screening of staff, two of the centers (28.6%) performed irregular RT-PCR swab, another two centers (28.6%) used signs and symptoms or exposure to COVID patients, one center did periodic mandatory RT PCR swab, other screened with rapid antibody tests, and one used both rapid antibody test with history and PE. With regards to COVID – 19 infection acquired by staff, 28.6% of

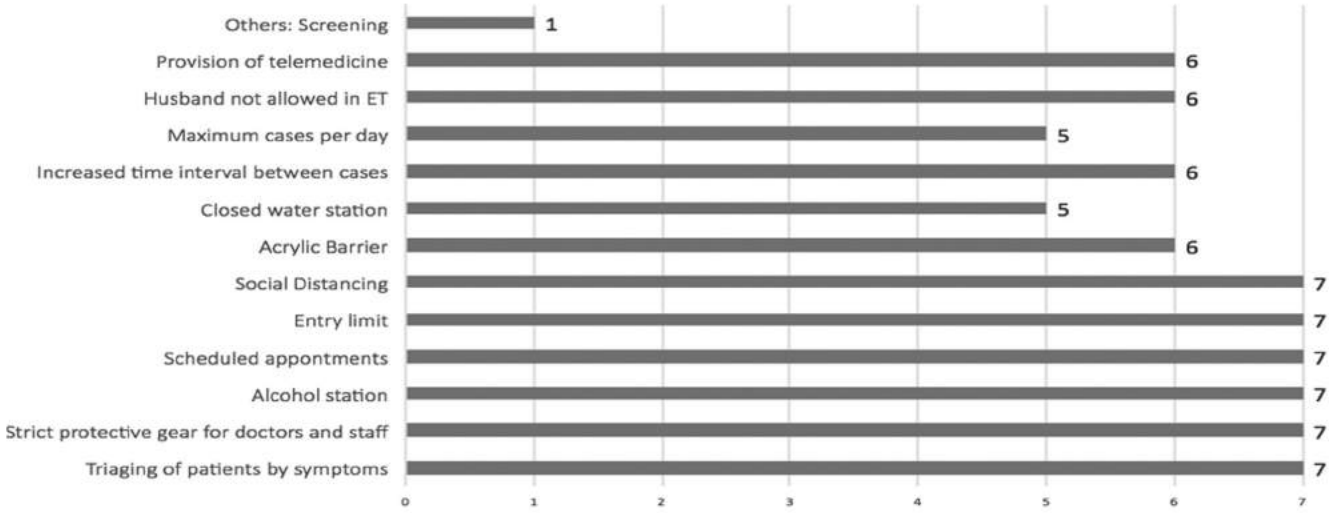

Figure 6. Clinical measures implemented by the fertility centers during COVID - 19 pandemic.

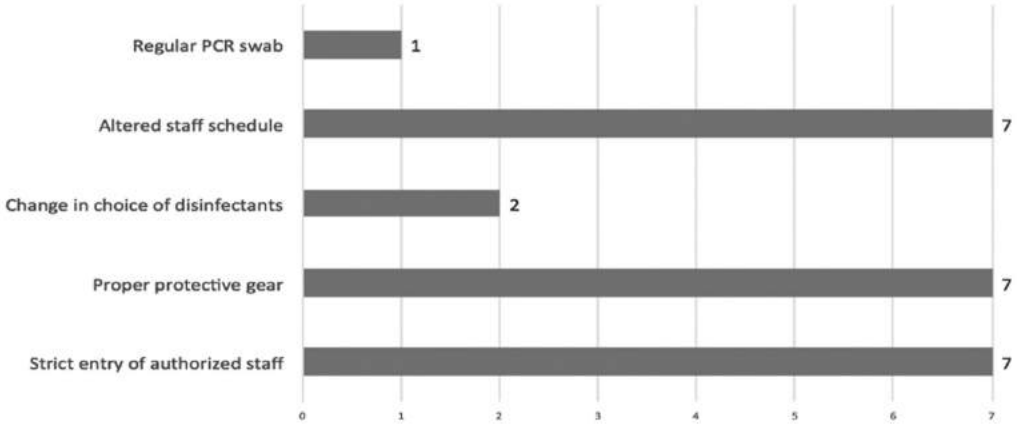

Figure 7. Laboratory measures implemented by the fertility centers during COVID - 19 pandemic.

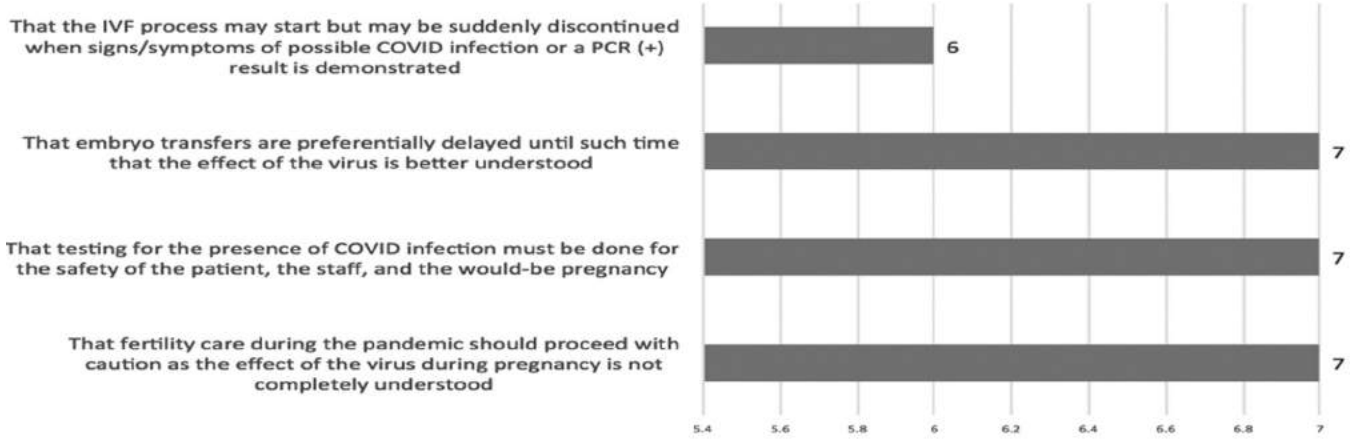

Figure 8. Consent form inclusions of the fertility centers during the COVID – 19 pandemic.

the centers (n=2) reported members of their staff having tested positive for COVID 19.

For screening for patients, 85.7% (n=6) were based on mandatory RT PCR swab test, 57.1% (n=4) based on signs and symptoms (Figure 9). In terms of timing of the screening of the wife / female, there were centers that performed screening on day 2 or on the start of the stimulation (n=2), some screen on day 8 – 10 of the stimulation (n=2), some screen prior to the start of stimulation (n=1), another screened both at the start and during the trigger (n=1), while one center did not perform any testing. For the husband, majority of the centers (42.9%, n=3) screened during day 8-10 of the wife's stimulation cycle, while some screened anytime and collected sperm for freezing as soon as with negative result (n=2) (Figure 11).

All centers did not allow procedures to proceed in COVID 19 positive patients. However one center performed a procedure to a patient who was reported to be positive afterwards. Two centers had to cancel a cycle because of a positive RT PCR swab result of their patient.

Discussion

The novel coronavirus infection has caused the temporary cancellation of fertility procedures in the country in response to the the international and

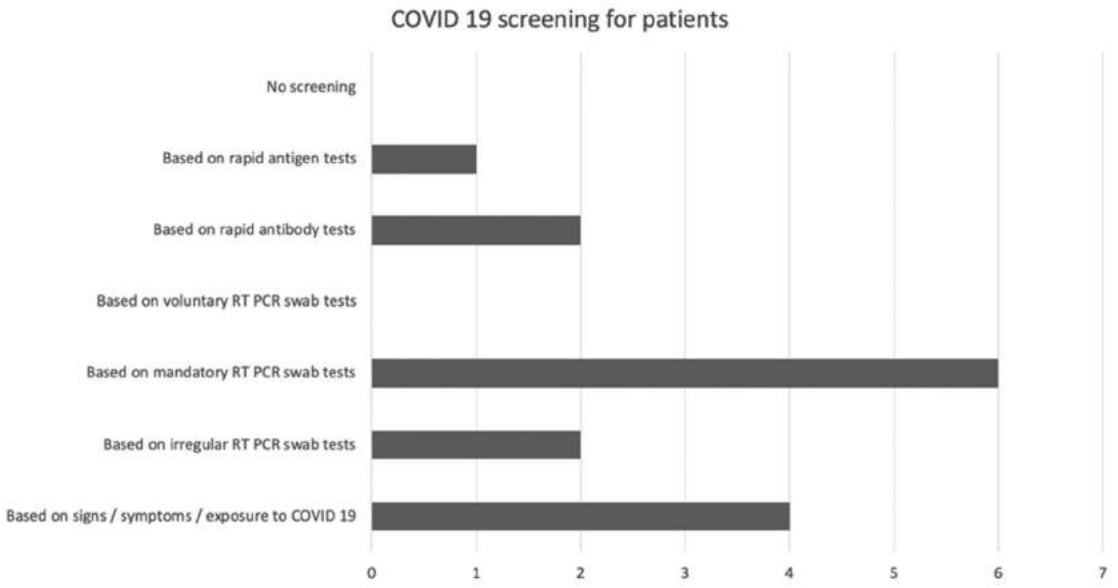

Figure 9. COVID – 19 screening for patients.

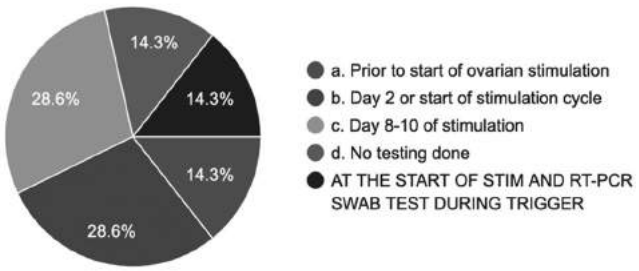

Figure 10. When is the female tested?

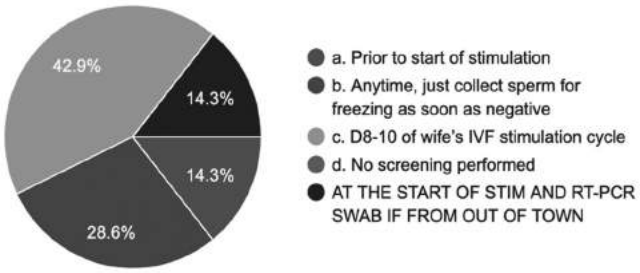

Figure 11. When is the male tested?

local recommendations to avoid overburdening the healthcare system. With the easing of restrictions worldwide, fertility centers have started to resume procedures. This study was performed around 5 months after the easing of the national restrictions.

As of November 2020, there are seven PSRM accredited fertility centers, 24 years after the establishment of the first IVF center in the country in 1996 . Majority of the fertility centers in the Philippines are in the National Capital Region with the remaining three in each of the country's group of islands, Luzon, Visayas and Mindanao. The fertility centers have been operational for 5 to 20 years, with the majority performing less than 250 cycles per year.

There was an overall decrease in fertility procedures performed in all the centers with most of the centers reporting a less than 50% decrease in oocyte pick up, less than 75% decrease in frozen embryo transfer and around 50 – 75% decrease in intrauterine insemination cases. These figures are comparable to the report published by Tan et al on the global survey for the trends in fertility practice.[9] The paper reported that most respondents noted ≥75% reduction in fresh and frozen cycles as well as IUI case reduction. The higher volume change in embryo transfers and IUI maybe attributed to the local and international recommendations discouraging embryo transfers, while the less volume change was noted for oocyte pick up maybe attributed to

cases of advanced maternal age, diminished ovarian reserve and fertility preservation that have opted to freeze-all for a later transfer.

All respondents reported center modifications to ensure the safety of their staff and patients. All centers implemented social distancing, triaging of patients by symptoms, personal protective equipment for doctors and staff, placing alcohols at the reception, limiting the number of people allowed in the center and scheduled appointments. These values are higher in comparison to the reported safety provisions in the global survey that included hand sanitizing (63%), symptom screening (60.4%), spacing between appointments (56.9%), and temperature checks (52.7%).[9] These data may indicate that Philippine fertility centers are more cautious or aggressive in implementing safety measures compared to other centers globally. This is consistent to the recommendations on resuming fertility care released by the PSRM last September 2020.[10] Some of the guidelines recommend wearing full PPE during procedures such as OPU and ET and observing physical distancing. Other recommendations are strict triaging or screening of all patients prior to entering the infertility clinic, including filling -up of questionnaires regarding possible signs and symptoms and risk of exposure, and checking of body temperatures.

The PSRM also recommended pre-treatment counseling for patients regarding potential risks of pursuing care during the COVID-19 pandemic, including unknown impact of COVID-19 infection on pregnancy and fetal risks; risk of exposure to COVID-19 infection at the clinic, possible treatment cancellation due to infection, or changes in national policies and strict home quarantine while undergoing treatment procedure.[10] All respondents revised their informed consent forms for procedures informing patients that fertility care during pandemic should proceed with caution as the effect of the virus during pregnancy is not completely understood, testing for COVID–19 must be done, and that embryo transfer is preferentially delayed. Six of the seven centers also included the possibility of cancellation of the cycle if the patient develops symptoms or presents with a positive RT PCR swab for COVID – 19. These revisions are similar to the global survey where patient counselling included the risk of cycle cancellation if the patient becomes positive for COVID-19 (85.6%), possible risks of adverse pregnancy outcomes due to COVID-19 (69.9%), miscarriage (67.2%), and fetal anomalies (58.9%).[9]

There were variations among the centers' attempts to screen for COVID – 19 among the staff and the infertile couple. Most centers required an RT PCR swab but there were some centers that accepted rapid antigen and rapid antibody tests. This may be due to the lack of RT PCR swabbing sites and center during the earlier part of the pandemic. There were 2 centers that reported having staff who acquired COVID 19 infection, though the source was undetermined and these staff / personnel were allowed to return following work guidelines after 10-14 days of quarantine from the last day of symptoms.

In term of patient screening, ESHRE recommends testing only for individuals who have symptoms or have had contact with someone with symptoms of COVID-19 infection , while the British Fertility Society and Association of Reproductive and Clinical Scientists (BFS-ARCS) advised to routinely test IVF patients for COVID-19, if a test is available. PSRM recommends a negative RT-PCR COVID-19 test for the patient, husband and attending specialist prior to initiating an IVF cycle, or prior to performing intrauterine insemination.[10] Majority of the respondents (85.7%) did the screen based on mandatory RT PCR swab test.

There is still a paucity of data on how best to screen and monitor our patients in a fertility setting. It has to be acknowledged that fertility treatment is unique, as it lasts for weeks, during which one's health and exposure needs to be continually assessed. This is different to elective surgery, where a COVID-19 test can be scheduled just before admission. Repeated RT-PCR COVID-19 testing introduces a substantial burden on the fertility services and staff resources, as well as an obvious financial burden for the patient. Whether opportunistic COVID-19 testing should be part of the artillery remains up to the individual clinic,[13] hence the differences in the timing of screening of each centers. For the wife, there are centers that perform screening on the start of the stimulation, some screen on day 8 – 10 of the stimulation, some screen prior to the start of stimulation, another screens both at the start and during the trigger, while one center do not perform any testing. This is likewise reflected in

the differences in screening for the husband. It is likewise prudent to defer procedures in a COVID-19 positive patient as its effect in any future pregnancy is still unknown.

Limitations and Recommendation

The findings of the study are limited to the time and situation when it was conducted. A follow up of the current practices a year or two from the pandemic is recommended.

Conclusion

Majority of the PSRM accredited fertility centers have experienced a sharp decline in the number of fertility procedures due to the pandemic. There were seen in the decrease in volume of oocyte pick up, frozen embryo transfers and intrauterine insemination. All of the fertility centers were aware of the international and local guidelines set during the COVID – 19 pandemic and most have implemented multiple safety measures and screening protocols to decrease disease transmission for both patients and staff.

Disclosure of Interest

The authors have no conflicts of interest to declare.

References

1. WHO Coronavirus Disease (COVID-19) Dashboard. https://covid19.who.int/?gclid=CjwKCAjwz6_8BRBkEiwA3p02VQdYi3tywX33db-oXCUjed0TL_ouW34u5y0lV6zPPwuhkHuDfy5ohxoCjiYQAvD_BwE
2. WHO Coronavirus Disease (COVID-19) Dashboard Philippines. https://covid19.who.int/region/wpro/country/ph
3. Patient Management and Clinical Recommendations during the Coronavirus (COVID-19) Pandemic: American Society of Reproductive Medicine; 2020. Available from: https://www.asrm.org/news-and- publications/covid-19/.
4. CFAS Communication on COVID-19: Canadian Fertility and Andrology Society; 2020. Available from: https://cfas.ca/CF AS_Communication_on_COVID-19.html#march18.
5. A statement from ESHRE for phase 1 - Guidance on fertility services during pandemic. April 2, 2020. https://www.eshre.eu/Press-Room/ESHRE-News/
6. Philippine Society for Reproductive Medicine Statement regarding Reproductive Medicine management during the COVID-19 pandemic. March 28, 2020. sites.google.com/view/psrm.
7. Requena A, Cruz M, Vergara V, Prados N, Galliano D, Pellicer D. A picture of the COVID-19 impact on IVIRMA fertility treatment clinics in Spain and Italy. RBMO 2020; 41 (1): 1-5.
8. Dupont P. Life and death in the Philippines. Facts Views Vis Obgyn 2013; 5(4): 274-7. PMID: 24753955; PMCID: PMC3987382.
9. Tan J, Dahan MH, Baris Ata M, Nair S, Shoham Z, Lin Tan S. Trends in fertility practice during the COVID – 19 pandemic: A global survey of 299 clinics representing 228,500 IVF cycles. Fertil Steril September 2020; 114(3) Supplement E528. DOI:https://doi.org/10.1016/j.fertnstert.2020.09.019.
10. Philippine Society for Reproductive Medicine Statement regarding Reproductive Medicine management during the COVID-19 pandemic. September 2, 2020 UPDATE #2.
11. ESHRE COVID-19 working group. ESHRE guidance on recommencing ART treatments, 2020a. Published 23/04/2020 Last update: 05/05/2020. Available from https://www.eshre.eu/Home/COVID19WG.
12. The Association of Reproductive and Clinical Scientists (ARCS) and British Fertility Society (BFS) U.K. best practice guidelines for reintroduction of routine fertility treatments during the COVID-19 pandemic. June 12, 2020. https://www.britishfertilitysociety.org.uk/2020/06/12/arcs-and-bfs-u-k-best-practice-guidelines-for-reintroduction-of-routine-fertility-treatments-during-the-covid-19-pandemic-2/
13. Papathanasiou T. How to safely deliver fertility treatments in the COVID-19 era: the controversy of guidelines. 29 June 2020. https://www.bionews.org.uk/page_150502.