

Authors: Aline Semaan, Lenka Benova (lbenova@itg.be)

July 15, 2020

Background and methods

In India, the coronavirus disease (COVID-19) pandemic has [resulted](#) in around 410,000 confirmed cases and led to more than 13,000 deaths as of June 21st 2020. As evidence continues to be generated around the impacts of the infection during pregnancy and the postpartum period, it is expected that the outbreak's indirect effects will exceed the direct impacts of infection among women and newborns. This document summarises the findings from a global online survey of maternal and newborn health professionals working in India and to document challenges encountered and solutions applied to ensure the continuity of care during the early stages of the pandemic. The summary of global responses was published [here](#) (Round 1 survey questionnaire is provided as supplementary material).

This summary includes analysis of responses received between March 25 and May 19, 2020. The survey collected data on the respondents' background (country and region, qualification and work responsibilities, gender, and basic characteristics of the health facility in which the respondents worked, if any). To avoid concerns over confidentiality, we did not collect names of health facilities. The questionnaire included three core modules focusing on preparedness for COVID-19, response to COVID-19, and health workers' own experience of work during the COVID-19 pandemic. In the fourth, optional module, we asked respondents to elaborate on adaptations to 17 care processes (timing, frequency, modality of contact with patients during various types of outpatient and inpatient care) and to comment on whether they perceived that the uptake of care by the population they serve changed and, if it had, how.

Respondents' characteristics

We use 69 responses collected from healthcare professionals working in 15 Indian states, 33 of whom agreed to answer the optional module. **Table 1** summarizes respondents' characteristics. Most respondents were obstetricians/gynaecologists (n=62, 90%), women (n=50; 72%), and around half were heads of facilities or wards (n=36, 52%). Most respondents provided outpatient and inpatient antenatal care (81% and 75%, respectively) and inpatient childbirth care (80%) and more than half provided inpatient and outpatient postnatal care (58% and 65% respectively). Around half of respondents provided care in referral hospitals and in the private sector (46% and 49% respectively). Almost all facilities where participants worked provided caesarean-sections (n=63, 91%), and 70% (n=48) accepted maternity patients referred from other facilities. Only 5 respondents (2 working in the public sector and 3 in the private sector) reported that their facilities had seen maternity patients with confirmed or suspected COVID-19 infection.

Part 1. Preparedness for COVID-19 (Table 2)

Quantitative findings	Qualitative themes and Respondent testimonies
<p>82% of respondents received information on COVID-19</p> <p>33% received training on providing care during COVID-19</p>	<p>Information provided to respondents included general guidance about prevention measures (e.g., hand hygiene, disinfecting surfaces and equipment, personal protective equipment (PPE) use, social distancing and isolation), patient screening, case reporting, and updated policies and guidelines.</p> <p>Training included preparing to conduct caesarean sections among women diagnosed with COVID-19, by dedicating operating theatres specifically for this purpose, and training healthcare providers on PPE donning and doffing.</p>
<p>65% of respondents received updated guidelines on care provision to pregnant, labouring or postpartum women and their newborns in the context of COVID-19</p> <p>All respondents searched for guidance themselves and most take part in informal sharing with colleagues</p>	<p>Which guidelines were being used by respondents?</p> <p>A range of guidelines were mentioned by respondents, from international (WHO, RCOG, ACOG, RCM, ICM) and Indian, including Government of India, MoH, National guidelines, All India Institute of Medical Sciences (AIIMS), Indian Council of Medical Research (ICMR), FOGSI, Kerala Federation of Obstetricians and Gynaecologists (KFOG), NNF, and Indian Academy of Pediatrics (IAP).</p> <p><i>“We mostly work with what RCM, ICM and WHO provide [because] India’s Ministry of Health doesn’t provide much information since there’s hardly any midwifery led birth centers.”</i></p> <p>Many respondents mentioned having to adapt and combine guidelines from various sources, such as adapting Indian national guidelines for their own institution, and also drawing information from other national guidelines (e.g. Malaysia, Hong Kong).</p> <p><i>“It would have helped if WHO gave a document outlining a plan and steps to be taken. Now we have separate documents. And we had to search, ask, reach out to countries, join online discussions with China team. Not all units may be aware or have resources.”</i></p>
<p>60% were mostly or very clear on how to provide care for women with COVID-19 symptoms</p>	<p>However, in free text responses, many respondents highlighted lack of clear guidelines.</p> <p><i>“I do not know, if a pregnant women come to our center with COVID infection, how to deal the situation.”</i></p> <p><i>“How to manage even a low risk [COVID-19] suspected patient with minimal resources. Hence decided to admit only patients with no respiratory symptoms. What can I do if patient develops severe respiratory symptoms after admission as we decided not take any patients with respiratory symptoms.”</i></p> <p><u>Recommendation from respondent</u> – organise cross-country experts on webinar to share experience</p>

Part 2. Response to COVID-19 (Table 3)

60% of respondents reported screening maternity patients for COVID-19 symptoms.

46% were able to order a COVID-19 RT-PCR test for a patient suspected with SARS-CoV-2 infection. The range of time periods to receive results: 12 hours to 7 days.

5 respondents reported having provided care to COVID-19 suspected/confirmed women (all worked in referral hospitals).

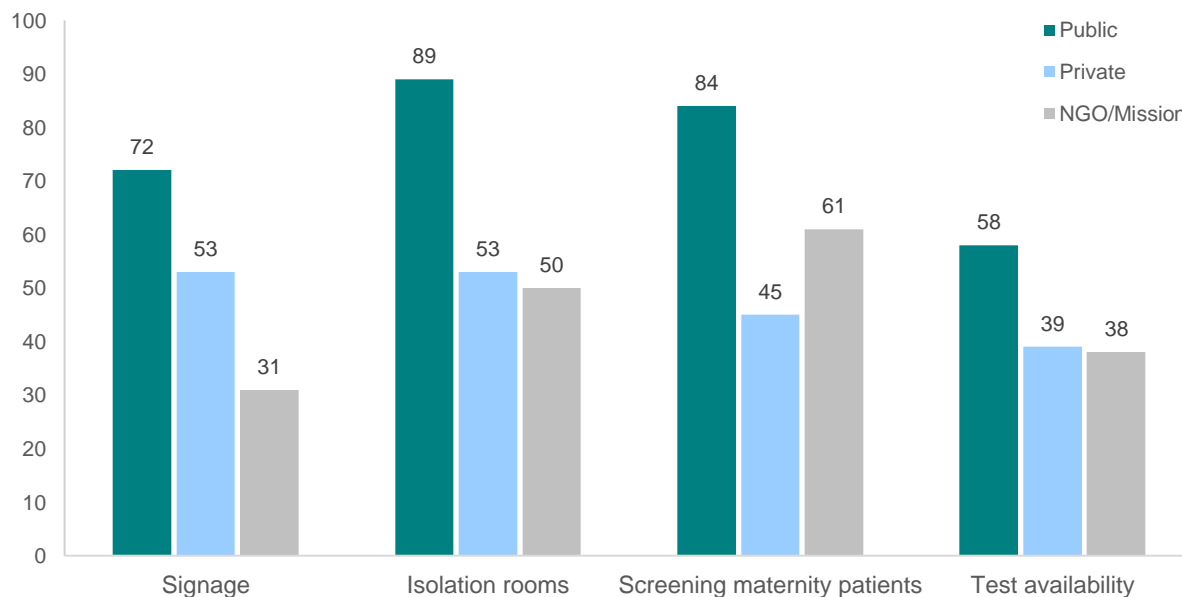
78% of respondents reported an increase in routine cleaning in their maternity ward.

50% had sufficient PPE (face masks, gloves and aprons).
 Difficulty with supply chains was mentioned in relation to lockdown and border closures, and high cost of PPE.

“Because of non availability of at least surgical masks and not clear what exactly to be done, we stopped services currently even emergency.”

70% perceived that patients’ questions about COVID-19 were adequately answered by their facility.

Figure 1. Percentage of maternal and newborn healthcare providers who reported measures taken by their respective facilities in response to COVID-19, by sector



Part 3. Personal experience and work (Table 3)



Quantitative findings	Qualitative themes and Respondent testimonies
<p>Half of respondents reported that their concerns about COVID-19 were addressed well or completely by the facility where they work</p>	<p>Respondents highlighted the need to ensure availability of PPE, including for private sector providers.</p> <p><i>“Childbirth and related healthcare can't shut down during the pandemic, [...] so personal protection is the only possible thing to avoid spread through me and getting infected.”</i></p> <p><i>“It would be very sad if any team member gets infected because of lack of protection gear. We are trying to get them the AAMI 3 gowns or hazmat suits for the isolation ward, we have got them. We hope the supply is maintained. It would be a great help if the cost can be standardised, lowered. It is costing a huge amount but we all felt we have to give standard recommended PPE, so following the Hongkong protocol for they have minimal infection rates.”</i></p> <p>Other common concerns mentioned by respondents included:</p> <ul style="list-style-type: none"> - Overcrowding of patients in the facility - Issues with health providers transportation to the facility - Delayed patient access to hospitals because of lockdown - Patients not being able to adhere to birth plans <p><u>Recommendation from respondents:</u> Improve timely access to COVID-19 testing for patients and health care workers, including financial barriers.</p>
<p>Over 90% of respondents reported that their stress levels were somewhat or substantially higher than usual</p>	<p>Some of the reasons for the increased stress mentioned by respondents included:</p> <ul style="list-style-type: none"> - Fear of becoming infected & about one’s safety and livelihood; - Rumors/misinformation and panic; - Uncertainty about information related to: fetal transmission; risk of transmission during pregnancy; morbidity and risk of mortality and neonatal outcomes uncertainties, including no country-specific data on pregnancy and COVID-19; - Providers have no information about patient's contacts or social distancing except from her self-reported history. - Staff shortages. <p><u>Recommendations from respondents on how to better support health providers:</u></p> <ul style="list-style-type: none"> - Provide psychological support - Extra allowances in addition to salary, compensatory leave - Police protection needed from violence/attacks.

Part 4. Changes to the care provided to women and newborns (Figure 2)

The table below reports responses from 33 health professionals who completed the optional module.

Quantitative findings	Qualitative themes and respondent testimonies
27 participants (81%) perceived that women's use of care in their respective facilities was affected by COVID-19	<p>Fewer women were attending routine outpatient visits (mainly antenatal and postnatal) either because of fear of contracting the illness, or because of lockdown measures.</p> <p><i>"[We are] seeing fewer patients than usual. Infertility patients are not coming. Obstetric patients have reduced number of antenatal visits."</i></p> <p>However, respondents from hospitals reported increases in numbers of patients due to closures of peripheral facilities.</p>
23 respondents (70%) reported there were changes to the provision of inpatient antenatal care	<p>More home-based patient follow up.</p> <p><i>"More [pregnant women] with diabetes mellitus or hypertension were being cared for at home."</i></p>
10 respondents mentioned that there were changes in the provision of caesarian sections	<p>Numbers of elective caesarean sections have reportedly increased among maternity patients in general, and in some cases were conducted at 39 weeks of gestation.</p> <p><i>"We will not allow as much time in second stage [of labour]. Certainly would like to avoid a difficult delivery in the labour room. This is likely to push up our cesarean rate."</i></p>
<p>28 respondents (84%) reported changes to visiting hours/number/type of visitors for mothers and newborns</p> <p>24 (73%) reported changes to the rules on number of labor companions</p>	<p>Mostly respondents reported either shortening of visiting hours, cancelling visits altogether, or reducing the number of allowed visitors to inpatients.</p> <p><i>"Elderly relatives, other immunocompromised individuals, febrile, outsiders whose personal hygiene is questionable should not visit hospital."</i></p> <p>Healthcare providers reported limiting the number of labour companions to one person, advising companions to wear PPE, reducing crowding between companions in the corridors by placing chairs at a distance, and/or removing "comfortable chairs".</p>
Few respondents reported any changes in pain relief options available (n=3) or on induction of labor (n=5)	<p>Labour inductions were discouraged, with the exception of one respondent:</p> <p><i>"Elective induction [is conducted] at 39 weeks in order to streamline work and the staff."</i></p> <p>Only one respondent specified that the use of nitrous oxide for pain relief options during labour decreased because of the lack of filters.</p>
Around 46% of respondents reported changes in the provision of inpatient and outpatient postnatal care	<p>Early discharge was encouraged in the postpartum period, and routine checks were postponed or conducted remotely, including breastfeeding counselling.</p> <p><i>"Plan to discharge early; routine postnatal visit at 30 days instead of 15 days."</i></p>
Nine respondents mentioned changes in the provision of routine newborn care before discharge from facility	<p>Disruptions or delays in the infant vaccination schedule:</p> <p><i>"Pediatrician have shut their clinics hence zero dose BCG is missed. Oral polio and Hepatitis B are being administered by staff."</i></p> <p><i>"Vaccination schedule deferred for post lockdown."</i></p>

Figure 2. Summary of free text responses to questions about adaptations to maternal and newborn care provided (n=33)

	 Pregnancy Antenatal care	Labour & Childbirth	Postnatal & newborn care 
Care availability & utilisation	<ul style="list-style-type: none"> - Excluding low risk women from face-to-face appointments - Reduced routine visits and postponed appointments - Staff shortage affects care provision - Home care provided to high-risk pregnant women - Limited availability of sonography - Longer waiting time 	<ul style="list-style-type: none"> - Staff shortage affects care provision 	<ul style="list-style-type: none"> - Deferred infant vaccination schedule - Reduced, postponed or cancelled outpatient checks
Care content & quality	<ul style="list-style-type: none"> - Reduced number or complete ban of visitors during inpatient admissions 	<ul style="list-style-type: none"> - Reduced number or complete ban of labour companions and visitors - Increased caesarean sections performed on non-infected women to reduce time spent in labour room - Entonox not given for pain relief - Epidural actively encouraged 	<ul style="list-style-type: none"> - Reduced number of visitors in NICU, limited to parents
Adaptations to care process	<ul style="list-style-type: none"> - Providing care through phone/video calls - Screening patients for COVID-19 symptoms before appointment/admission - Social/physical distancing in clinics and waiting areas - Healthcare providers increased hand hygiene measures - Reduced operating hours or stopped outpatient care - Providing patients with awareness on precaution and hygiene measures - Increased cleaning measures 	<ul style="list-style-type: none"> - Dedicated caesarean section theatre and labour room for potential COVID-19 patients - Reduced number of beds in the same room - Increased cleaning measures 	<ul style="list-style-type: none"> - Encourage earlier discharge from facility - Increased cleaning measures - Providing care through phone/video calls - Providing patients with awareness on precaution and hygiene measures - Reduced operating hours or stopped outpatient care - Social/physical distancing in clinics and waiting areas

Points in **bold** font were reported by seven or more respondents.

Key challenges to and solutions for maintaining provision of maternal and newborn care: In respondents' words



Closures of health facilities mean that other facilities, particularly hospitals, are overcrowded

“Peripheral private sector doctors stopped antenatal outpatient clinic, hence rush at our out patient department making social distancing difficult.”

“Too many emergencies are coming as all hospitals nearby are closed.”

We are seeing “increased maternity cases as services are not provided in peripheral MCH care centres.”

Patients are unable to access care

“We are not able to take care of patient with genuine needs and the regular care is interrupted. We may be missing critical issues in some patients due to lockdown.”

“Patients are scared to come to hospitals for routine visits.”

Solutions

Referrals to higher-level public facilities based on symptom screening

“All registered will be directed to a triage desk and screened for respiratory symptoms and signs at the point of entry. Only patients with no respiratory symptoms are sent to waiting areas. Low risk patients are managed at the triage desk. Moderate and high risk referred to district government hospital.”

“[in our private hospital] suspected patients are screened for fever and they are referred to other government centres where covid test and isolation wards are available. So patients getting admitted have less risk of getting infection.”

Referral of suspected cases from private to public facilities was a theme uniquely identified in the Indian context in our survey. Facilities receiving referrals were screening patients upon arrival, conducting triage, and treating patients with no RT-PCR test results as suspected COVID-19 cases.

Care provided remotely over the phone

“Provision of telephone contacts of doctors to patients so that they can easily be reached if they have complaints to minimize the frequency of visits to the hospital.”

*“Everything has changed. The antenatal clinics have been closed and that has been very worrying for us and we are **trying to do video consult** - and picking those who need urgent clinical review.”*

*“We have restricted to one attendee only. We believe that **birth companion is a very important part of her support** and we will continue doing that. We have removed visiting hours, when families would come to visit.”*

*“We are also **minimizing our exposure to team** and have kept reserve teams. The team is divided into two, one remaining at home as reserve force to step in if any exposure to members of on site team occurs. The teams rotate on a weekly basis.”*

Table 1 - Survey (n=69*) and optional module (n=33*) respondent characteristics

	Survey (%)	Optional module (%)
Cadre		
Midwife	1 (1)	0 (0)
Obstetrician/gynaecologist	62 (90)	28 (84)
Neonatologist	2 (3)	1 (3)
Paediatrician	2 (3)	2 (6)
Other	2 (3)	2 (3)
Female	50 (72)	23 (70)
Position*		
Head of facility	20 (29)	11 (33)
Head of department or ward	16 (23)	7 (21)
Head of team	7 (10)	5 (15)
Team member	14 (20)	6 (18)
Consultant/Private practice	9 (13)	4 (12)
Other	2 (3)	0 (0)
Type of care provided (multiple responses allowed)*		
Outpatient ANC	56 (81)	25 (78)
Home-based childbirth care	3 (4)	2 (6)
Outpatient PNC	40 (58)	18 (56)
Outpatient Breastfeeding support	27 (39)	13 (41)
Inpatient ANC	52 (75)	23 (72)
Inpatient childbirth care	55 (80)	24 (75)
Inpatient PNC	45 (65)	21 (66)
Surgical care	43 (62)	21 (66)
Neonatal care (small and sick newborns)	15 (22)	10 (31)
Home visits	2 (3)	2 (6)
Community outreach	7 (10)	7 (22)
Abortion and post-abortion care	30 (43)	15 (47)
Other	7 (10)	4 (12)
Health facility level*		
Referral hospital	32 (46)	17 (51)
District/regional hospital	7 (10)	5 (15)
Health center	8 (12)	4 (12)
Polyclinic/Clinic	8 (12)	3 (9)
Health post/unit or dispensary	3 (4)	0 (0)
Private maternity hospital or nursing home	10 (15)	4 (12)
Health facility sector*		
Public	19 (28)	11 (34)
Private	34 (49)	16 (50)
Non-governmental	11 (16)	3 (9)
Faith-based or mission	2 (3)	2 (6)
Medical college hospital	1 (1)	0 (0)
Type of area*		
Large city (more than 1 million inhabitants)	39 (57)	15 (48)
Small city (100,000 to 1 million inhabitants)	18 (26)	11 (35)
Town (fewer than 100,000 inhabitants)	6 (9)	5 (16)
Village/Rural area	2 (3)	0 (0)

* Differential number of missing values across variables

Abbreviations: Antenatal care (ANC); Intensive care unit (ICU); Neonatal intensive care unit (NICU); Postnatal care (PNC)

Table 2 – Preparedness for COVID-19 among maternal and newborn health professionals in India, by sector

	Public N=19 (%)	Private N=33 (%)	NGO/Mission N=13 (%)	Total* N=69 (%)
Institution provided information on how to prepare for COVID-19	16 (84)	28 (84)	10 (77)	56 (82)
Institution provided training on COVID-19	7 (37)	12 (36)	3 (23)	23 (33)
Received updated guidelines for MNH care provision because of COVID-19	11 (61)	26 (76)	6 (50)	45 (67)
Personally searched for guidance and information to prepare for COVID-19	18 (100)	33 (97)	13 (100)	67 (98)
Received information related to COVID-19 informally through colleagues	16 (84)	32 (94)	12 (100)	63 (93)
Participate in a self-organisation in response to the COVID-19 outbreak	8 (42)	19 (58)	6 (46)	35 (51)
Facility published materials covering COVID-19 targeted toward pregnant, labouring, or postnatal women	12 (63)	12 (35)	5 (38)	31 (45)
Perception that patients' questions were adequately answered at facility	12 (63)	24 (71)	10 (77)	48 (70)
Level of knowing how to provide care for a woman with COVID-19				
Not at all clear / Not confident in what to do	4 (21)	6 (18)	2 (15)	12 (18)
Somewhat clear but major issues remain	5 (26)	6 (18)	4 (31)	15 (22)
Mostly or very clear	10 (53)	21 (64)	7 (54)	41 (60)
Running water and soap always available for staff when providing care	18 (100)	16 (84)	19 (100)	66 (98)
Running water and soap always available for patients/visitors	34 (100)	33 (97)	34 (100)	61 (90)
Sufficient water and disinfectant always available for cleaning surfaces	12 (100)	10 (83)	13 (100)	68 (98)

*Differential number of missing values across variables

Table 3 - Response to COVID-19 among maternal and newborn health professionals and their workplaces in India, by sector

	Public N=19 (%)	Private N=33 (%)	NGO/Mission N=13 (%)	Total* N=69 (%)
Duration to get the results				
1 day or less	7 (70)	4 (50)	2 (50)	14 (61)
Between 1-2 days	1 (10)	3 (37)	0 (0)	4 (17)
More than 2 days	2 (20)	1 (13)	2 (50)	5 (22)
Designated COVID-19 liaison team or person				
No	2 (10)	12 (37)	5 (38)	20 (30)
In maternity ward	2 (10)	2 (6)	2 (15)	7 (10)
In facility as a whole	12 (63)	9 (28)	3 (23)	24 (36)
Both in maternity ward and facility as a whole	3 (16)	8 (25)	1 (80)	13 (19)
Routine cleaning in maternity ward				
Unchanged	3 (16)	3 (9)	2 (15)	9 (13)
Decreased	1 (5)	0 (0)	0 (0)	1 (2)
Increased	14 (74)	28 (82)	11 (85)	54 (78)
Sufficient PPE items				
Gloves	12 (70)	31 (94)	10 (77)	54 (82)
Masks	9 (50)	24 (73)	8 (62)	42 (63)
Aprons	7 (39)	20 (63)	5 (38)	33 (51)
All three types	7 (41)	19 (59)	5 (38)	32 (50)
Respondents' work affected by COVID-19				
	18 (95)	30 (91)	12 (100)	63 (94)
Level at which concerns were addressed by facility				
Not at all/Minimal	6 (31)	3 (9)	2 (17)	12 (18)
Somewhat	4 (21)	12 (37)	6 (50)	22 (33)
Well/completely addressed	9 (47)	17(53)	4 (33)	32 (48)
Respondents' stress levels				
Same as usual	0 (0)	2 (6)	1 (8)	3 (4)
Somewhat higher than usual	10 (53)	20 (60)	6 (50)	38 (57)
Substantially higher than usual	9 (47)	6 (50)	5 (42)	26 (38)

*Differential number of missing values by variables

^Among those who are aware about the report form

Abbreviations: Personal Protective Equipment (PPE)