

Understanding changes made to reproductive, maternal, newborn and child health services in Pakistan during the COVID-19 pandemic: a qualitative study

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COVID-19 mitigation measures have disrupted the provision of essential health services. The goal of this study was to understand changes in reproductive, maternal, neonatal, and child health (RMNCH) services during the pandemic in Pakistan. We conducted a qualitative study in November and December 2020 consisting of telephone in-depth interviews with women, healthcare providers, and community stakeholders. Interviews were analysed using a thematic, iterative approach. All health facilities had changed their routine procedures, including adjustments in service delivery time and staff hours to reduce crowding, and maintain standard operating procedures (SOPs) such as social distancing. Women highlighted stockouts and lack of supplies as key barriers to care-seeking. Stockouts and crowding led to shifts in care-seeking away from public to private facilities. RMNCH service utilisation declined first due to restrictions during the lockdown, then due to fear of contracting COVID-19 at healthcare facilities. This study provides important insights into RMNCH services during the COVID-19 pandemic from care-seekers' and care-providers' perspectives. The findings of this study were used to develop interventions to address access to RMNCH care during the COVID-19 pandemic. DOI: 10.1080/26410397.2022.2080167

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Introduction

The COVID-19 pandemic has directly resulted in more than 518 million cases and 6.2 million deaths as of May, 2022.¹ COVID-19 poses a particular risk during pregnancy, and symptomatic diagnoses have been associated with increased risk of maternal mortality and other adverse maternal and neonatal outcomes.² Furthermore, the indirect effects of the pandemic on reproductive, maternal, neonatal and child health (RMNCH) may be even greater. Care provision for COVID-19 has overwhelmed health systems worldwide. Resultantly, governments and health officials have struggled to minimise collateral detrimental effects on socioeconomic, health, and psychological aspects of the populace they serve.

COVID-19 mitigation measures are likely to have disrupted the delivery of essential health services due, for example, to movement restrictions and fear of infection. Past experiences from Ebola have shown that inability to access essential healthcare leads to substantial increases in morbidity and mortality attributable to other treataconditions.³ ble preventable health and Specifically, during Ebola outbreaks declines were documented in antenatal care attendance, facility-based deliveries, family planning visits, and child vaccinations.⁴ Concerns were raised early in the COVID-19 pandemic that a relatively modest decline in access to sexual and reproductive health services in low- and middle-income countries (LMICs), could have substantial effects on enhancing the number of unintended pregnancies. neonatal complications, maternal mortality, and neonatal mortality.⁵ Furthermore, a modelling study estimated that indirect effects of the COVID-19 pandemic in LMICs could result in monthly increases in child mortality ranging from 10% to 45% and increases in maternal mortality ranging from 8% to 39%.⁶ Globally, decline in antenatal care attendance, sexual and reproductive health visits, and child health services was documented in multiple LMICs during pandemic.7-9

Pakistan already faced substantial challenges related to RMNCH availability and utilisation before the pandemic. An estimated 420,300 children under five years die annually,¹⁰ and maternal mortality results in an estimated 8,300 annual deaths in the country.¹¹ Even prior to the COVID-19 pandemic. Pakistan faced substantial challenges related to RMNCH availability and utilisation and was unable to meet the set targets for MDGs 4 and 5, despite substantial increases in RMNCH expenditures between 2000 and 2010.¹² Persistent challenges to progress include political ownership, quality of services, and inconsistent supplies.¹³ The Lady Health Workers (LHWs) Programme is an initiative to increase the reach of health services for poor and vulnerable communities. LHWs are associated with public health facilities in their respective communities and receive trainings, stipends, and medical supplies from the facility. Despite this, LHWs are still beyond the reach of the poorest and most remote segments of the population, especially in rural Pakistan.¹¹

Disruptions to the health system that ensued due to the pandemic had further consequences for RMNCH services. The first confirmed COVID-19 case was identified in Pakistan in February 2020. As one of the first preventive measures to curb the spread of the virus across the country, a nation-wide lockdown was implemented from 1 April 2020. Some Federal governments announced lockdowns even earlier. Sindh and Baluchistan announced lockdowns as early as 23 March 2020, while Puniab announced a lockdown from 24 March 2020. The national lockdown was relaxed in phases in May, after pressures from various bodies, and replaced with a smart lockdown,^{14,15} where lockdown was implemented in selected areas based on their risk profile instead of complete lockdown in all areas. Though outlets providing daily necessities and essential services such as groceries and pharmacies were open during various times of the day during the lockdown, a lack of public transportation limited access to some services. Furthermore, sexual and reproductive health (SRH) services are not often prioritised and often hardest hit with limited access and supplies. As a result, women, and girls, especially the poor, remote, and most vulnerable, are unable to exercise their reproductive rights. This has a detrimental effect on their health and long-term future.^{16–19} As of 24 June 2021. Pakistan was the 29th most-affected country with 951.865 cases and 22.108 deaths.¹ The Government of Pakistan, with support from partners, has responded to the pandemic by strengthening coordination, disease surveillance, diagnostic testing, case management, and community mobilisation and sensitisation. Many resources – human, material, and financial – have been diverted from the routine side, and towards supporting COVID-19 response activities.

Routine outpatient services were suspended for some time during early lockdowns. However, even with the resumption of services, people avoided visiting outpatient clinics, due to fear of exposure. which likely reduced utilisation of essential healthcare, including the negative impact on the use of RMNCH services. A study on uptake of outpatient paediatric services shows a decline in outpatient visits with the first identification of COVID-19 cases.²⁰ Concerns were raised during the early months of the pandemic in Pakistan that diverting healthcare resources to address COVID-19 could result in increased adverse maternal and child health outcomes and declines in child vaccination.²¹ Although the government has taken measures to ensure continuity of essential healthcare services, these trends may have significant and lasting effects on RMNCH.

Understanding RMNCH health-seeking behaviours, and barriers to healthcare delivery during the COVID-19 pandemic, can help ensure a proactive and adaptive response to the health needs of affected communities. Engaging with affected communities is vital to understand the context. identify barriers to intervention implementation and uptake, and co-design practical, workable solutions that can reduce risk and protect the most vulnerable. The goal of this qualitative study was to understand changes in essential RMNCH services during the pandemic. Specifically, we examined: (1) drivers and changes related to careseeking from the perspective of married women of reproductive age: (2) changes in care delivery for specific RMNCH services from the perspective of healthcare providers; and (3) suggestions for strategies to facilitate care-seeking from married women of reproductive age and community stakeholders.

Methods

Approach

We conducted a remote qualitative study consisting of telephone in-depth interviews with women, healthcare providers, and community stakeholders. This methodology was selected to provide the flexibility necessary to adapt to contextual realities of conducting research during the COVID-19 pandemic, while adhering to the principles of minimising physical interaction and in compliance with COVID-19 guidelines. Ethical approval was granted by Research and Development Solutions Pakistan Research Ethics Board on 6 October 2020, and the National Bioethics Committee of Pakistan on 20 October 2020 (Ref: No.4-87/COVID-51/NBC/20/515).

Setting and selection of health facilities

Two districts from each of the four provinces of Pakistan were purposively selected. In selecting study districts, security concerns were taken into consideration as was the presence of human capital investment projects (HCIPs) supported by the World Bank (WB), the funder of this research activity. One of the focuses of the WB was to understand the impact of COVID-19 on RMNCHN and nutrition service uptake and supply in order to support the respective government in designing appropriate communication materials. A minimum of four public health facilities were purposively selected from each district. A mix of high client volume and low client volume health facilities were selected to reflect diverse contexts. To assess the service utilisation status of health facilities and based on district health information system (DHIS) data, the total outpatient department (OPD) service users from facilities in sampled districts for June to August 2020 were added together and compared with the same period in 2019. Facilities were then categorised as low, medium, and high service utilisation based on the percentage change in service volume. The service utilisation data was further confirmed by provincial and district health officials before the final selection of the facilities. At least two facilities each in the low- and high-client volume categories were then selected for each of the four districts, resulting in a sample of a total of 32 facilities.

Study population

The study population comprised married women of reproductive age, community stakeholders, and healthcare providers (Table 1). Community stakeholders (religious and community leaders) and married women of reproductive age were purposively recruited from catchment areas of selected health facilities. Married women of reproductive age (18–49 years) who had a child under the age of 5 were eligible for inclusion in the study. A sample frame of women meeting the above criteria was developed using the research agency's (IPSOS) consumer database that contains consumer contact details along with sociodemographic information and place of residence. Participants were further screened, using а screening form, before the interview to assess whether they visited a public health facility in their catchment area for reproductive, maternal and child health services. One healthcare provider who provided outpatient care was recruited from each sampled health facility. At the end of each interview with women and health providers, the participant was asked for names of community leaders who they thought influence community health decisions. This list was used as a sampling frame to randomly select one community stakeholder to be interviewed from each catchment area. All participants were required to have access to a mobile or landline telephone for inclusion in the study.

Data collection

Due to pandemic prevention and control requirements, interviews were conducted remotely by land or mobile telephone. All data were collected in November and December of 2020. Semi-

Table 1. Sample inclusion and exclusion criteria				
Study population	Inclusion criteria	Exclusion criteria		
Married women of reproductive age	 Currently married Ages 18–49 years Have child/ren under five years of age Residing in catchment areas of the sampled public health facilities in Sindh, Punjab, Khyber Pakhtunkhwa (KP) and Baluchistan provinces Have access to a mobile or landline telephone Consenting to participate in the study 	 Minors (less than 18 years of age) Not accessible by telephone Did not consent to the study 		
Community stakeholders	 Religious or community leader in the catchment area of the selected public health facility Have access to a mobile or landline telephone Consenting to participate in the study 	 Minors (less than 18 years of age) Not accessible by telephone Did not consent to the study 		
Healthcare providers	 Providing out-patient care at public health facilities (District headquarters, Rural health centres or Basic health units) in Sindh, Punjab, KP and Baluchistan provinces Working in facilities categorised into high and low volume (in terms of service utilisation) based on DHIS essential services provision data Have access to mobile or landline telephone Consenting to participate in the study 	 Minors (less than 18 years of age) Private sector providers Not accessible by telephone Did not consent to the study 		

structured in-depth interview guides were used to conduct the interviews. Topics included COVID-19 knowledge and information sources: access, provision, and utilisation of essential RMNCH services during the pandemic; and factors affecting provision and utilisation of services. Different interview guides were developed for married women of reproductive age, the community stakeholders and health providers. The interview guides for married women and community stakeholders focused on service availability and utilisation (the demand side dimension), whereas the interview guide for providers focused on service provision (the supply side dimension). Interview guides were developed based on Population Services International's (PSI) prior experience and were refined following feedback and suggestions from the World Bank. The questionnaire was pre-tested in the first week of November 2020, and interview questions were further reviewed and refined during data collection, in response to themes that arose during interviews.

The study team provided each participant with information about the study and its purpose before conducting a short screening interview to determine eligibility. Informed consent was obtained from each participant before the interview for those who agreed to participate. In total, 48 of 96 (50%) of the women who were contacted for the study agreed to participate. The remaining 48 were either not eligible for participation in the study or did not consent to participation in the study. The average length of the interview was 60 min, ranging from 45 min to 90 min. All 16 community stakeholders who were contacted agreed to participate. Among healthcare providers, 31 of 45 (69%) consented to participate. Where necessary, the interviews were conducted over a series of 2-3 shorter sessions to reduce participant fatigue. Interviews were conducted in Urdu by gender-appropriate interviewers. All interviews were audio recorded, transcribed, and translated into English within 1-2 days. Transcripts were checked by the

Table 2. Characteristics of study participants				
Characteristic		N (%)		
Married women	48			
Age	18–24 years	4 (8.3)		
	25–34 years	29 (60.4)		
	>34 years	15 (31.3)		
Facility	High client volume	27 (56.3)		
catchment	Low client volume	21 (43.8)		
Province	Baluchistan	13 (27.1)		
	КР	11 (22.9)		
	Punjab	13 (27.1)		
	Sindh	11 (22.9)		
Community stake	16			
Gender	Male	16 (100)		
Facility	High client volume	7 (43.8)		
catchment	Low client volume	9 (56.3)		
Province	Baluchistan	4 (25)		
	КР	4 (25)		
	Punjab	4 (25)		
	Sindh	4 (25)		
Current position	Community head	6 (37.5)		
	Chairman	1 (6.3)		
	Nazim	2 (12.5)		
	Patwari	1 (6.3)		
	Politician	2 (12.5)		
	Sector In charge	1 (6.3)		
	Union councillor	2 (12.5)		
	Village committee secretary	1 (6.3)		
Healthcare provi	31			
Gender	Male	17 (54.8)		

	Female	14 (45.2)
Facility	High client volume	15 (48.4)
catchment	Low client volume	16 (51.6)
Province	Baluchistan	8 (25.8)
	КР	8 (25.8)
	Punjab	8 (25.8)
	Sindh	7 (22.6)

Note: KP = Khyber Pakhtunkhwa; *Nazim* = elected local government leader; *Patwari* = local government official

research team to ensure accuracy of the transcription and translation as part of data quality measures.

Data analysis

A general coding framework that captured key concepts related to the research objectives, organised in a hierarchy of main themes and sub-themes. was developed prior to the analysis. The team used a thematic, iterative analysis approach and themes/sub-themes were refined throughout the analysis process. Each interview's transcript was read in detail by the data analysis team, and portions of the text relevant to the study questions were highlighted and coded in Dedoose a webbased mixed methods data analysis software. The research and programme teams, including PSI and Maternal & Infant Health Consulting, were engaged in regular, collaborative discussion of emerging results and themes from the interview. A common narrative was developed based on the identification of recurring themes. Illustrative quotations were identified by participant type and province.

Results

Characteristics of study participants

Study participants reflected high volume and low volume facilities across each of the four provinces (Table 2). Married women's ages ranged from 20 to 40 years and most were ages 25–34 (n = 29). Current positions of participating community stake-holders included community head (n = 6), union

councillor (n = 2), Nazim (elected local government leader, n = 2), politician (n = 2), and others. All community stakeholders were male which was reflective of the key stakeholders mentioned in the individual interviews. Healthcare providers included medical officers, medical technicians, and lady health workers (LHWs). Nearly half of healthcare providers were female (n = 14).

Changes in care-seeking

Health system disruptions and fear of contracting COVID-19 delays care-seeking

Disruptions to health systems were described by married women and community stakeholders across all four provinces. These disruptions spanned all sectors, including routine RMNCH services. Community stakeholders and married women described difficulties seeking care due to the closure of health facilities.

"The health services were closed. In case we got sick we would take medicine (Panadol) on our own. There are no doctors available here. There were no services available here, there were no doctors or nurses here.... All the health centers are closed and there had been no attention paid to child immunization. We are really worried about this as no one is providing healthcare facilities to children." (Community stakeholder, Baluchistan)

"One child in our family missed his immunization during corona. We went to get our child immunized but they didn't provide us with the service and kept on delaying." (Married woman, Baluchistan)

The majority of married women noted that fear of contracting COVID-19 at a facility while seeking care had resulted in delayed or forgone care, or the belief that they would have delayed or forgone care if needed. These effects extended to care for themselves and for their children:

"Two to three times since start of coronavirus pandemic I did not take my child to the hospital when he got the flu, with the fear of getting him exposed to coronavirus. So, I self-medicated my child." (Married woman, Punjab)

However, based on increased feelings of responsibility to maintain their health and protect their families, women were willing to seek care if there was an emergency for their children or if they were worried about their own health. As one woman from Khyber Pakhtunkhwa (KP) explained, "We try to avoid going to the hospital during coronavirus, due to the fear of getting infected. But when it's absolutely necessary, we do visit and follow SOP's [standard operating procedures to prevent COVID-19]."

As a solution, several women mentioned purchasing medications at private clinics or over-thecounter medicine for their children, rather than bringing them into a hospital, indicating a possible shift of care-seeking behaviours away from higher level facilities to those that may be perceived as safer from infection with COVID, including clinics, pharmacies, and self-care at home. One woman in Baluchistan explained, "In COVID-19 I didn't go to hospital instead I used to get medicine from clinic for my children ..."

Community stakeholders from all four provinces also observed the impact of fear on delayed or forgone care among people in their community:

"Before [the pandemic], if any illness occurred, we used to go directly [to a health facility] but now after the fear of COVID-19, people have stopped going to seek health services, they delay the procedure of getting treated." (Community stakeholder, KP)

Growing preference for private over public facilities

As a result of the pandemic, some women noted that they now preferred to seek care from private facilities rather than public facilities. This theme emerged across all four provinces, and both high volume and low volume facility catchment areas. Underlying belief/perception for the preference of private facilities was that the risk of contracting COVID-19 while seeking care was lower than at public facilities. Public facilities were perceived to be overcrowded with patients, slow (longer waiting period), and commonly were not kept clean. Additionally, participants believed that private facilities had higher quality providers and greater service availability than public facilities:

"I wanted to protect myself and my family from getting infected. That's why we choose to go [to] private clinic as they were not crowded as much hospitals are." (Married woman, KP)

Despite preferences for obtaining care from private facilities, access was not always guaranteed

due to cost barriers, particularly in the context of COVID-19 driven financial insecurity. A woman in Punjab explained,

"We would go to the government hospital, as private hospitals are expensive and in COVID-19, financially we got affected so we can't afford the private hospitals."

The shift to private facilities, and the resulting financial burden, was also described by a woman in Baluchistan:

"We used to frequently visit our [public] health center for health services but now we avoid visiting health centers and rather visit private hospitals because of fear of COVID-19. There is always lack of cleaning and care and that is why we have fears now, although it is difficult to visit private hospitals because coronavirus has also impacted our economic situations, but we are visiting them because of our own health." (Married woman, Baluchistan)

Women reported limited medicine stocks in public facilities, whereas supplies remained available in private facilities, markets, and pharmacies. This theme was particularly salient in Punjab, where condom stockouts were a consistent problem in public facilities from the start of the pandemic. Such was not the case for private facilities and markets. More so than in any other province, the majority of married women in Punjab were condom users before the pandemic. When encountering stockouts, they shifted to private facilities, choosing to pay for condoms rather than waiting for free condoms to become available again at public facilities, speaking to the strength of their loyalty to this method.

"We need condoms, we have to buy them from the market too, because we're no longer getting them from the hospital and lady health workers. Before the pandemic, we could get all our family planning supplies from the local hospitals for free, now we have to get everything ourselves from the market." (Married woman, Punjab)

"During pandemic the product (condoms) was unavailable 4–5 times. We have faced problems for getting the condoms from the health facility. ... We haven't discontinued using FP [family planning] method. We purchased the products privately." (Married woman, Punjab)

Changes in RMNCH care provision

Contraception

The main changes to contraceptive services mentioned by healthcare providers were related to COVID-19 preventive measures, contraceptive supply challenges, and community-based service provision. Most providers did not report changes in contraceptive counselling or service provision in their facility other than changes related to COVID-19 preventive SOP such as social distancing, and use of mask. Some providers mentioned shortages of contraceptive products, which limited clients' choice of methods. Changes in service provision at the community level included reductions in household visits by LHWs due to fear of infection and travel restrictions, particularly during the lockdown period.

"Patients who come in for implant, we counsel them to get injections (due to lack of implants) and they discuss with family first and visit next day to receive these services." (Healthcare provider, Baluchistan)

Some facilities altered their hours of service provision to reduce crowding, but this change was not perceived to have impacted the volume of family planning clients. A healthcare provider from a high volume facility in Baluchistan mentioned that despite the schedule changes they had not seen a decrease in family planning clients:

"No such change in demand of these services by patients. But there's a possibility that the utilization has increased because people are spending more time at home."

Two healthcare providers from high volume facilities mentioned that the uptake of contraceptive services had decreased because people were afraid to visit the health facility.

"Before COVID-19 we used to provide family planning and counselling services, but after COVID-19 ladies stopped coming at our hospital. We used to have 3,000 + patients in OPD [outpatient department] which was reduced to only 200–300 patients." (Healthcare provider, Sindh)

"The utilization of these services [family planning] has decreased in last couple of months due to the fear among people regarding coronavirus. People are mostly in a hurry. They come for other treatments only, but we manage to counsel them (on FP) somehow." (Healthcare provider, Sindh)

Maternal health

Some providers acknowledged a decrease in utilisation of maternal health services (antenatal, delivery and post-natal) during the pandemic, especially during the lockdown period. Providers reported that clients were afraid to visit to seek maternal health services because of COVID-19. One provider said that clients only came when they were in pain or had problems that needed immediate attention. A provider from a low volume facility in KP said,

"Yes, there were a lot of changes [in service utilization] due to corona. During last 6 months only 5 delivery operations [vaginal deliveries] had been conducted."

Responses were mixed, however, and many perceived no changes in maternal health service delivery. A provider from a high volume facility in Sindh said,

"Yes, we provide these services [prenatal/postnatal/ neonatal care and delivery]: After COVID-19 we haven't faced any specific issues. We just followed SOP's."

Some providers felt that clients had shifted to private maternity homes/centres or had delivered at home because of fear. In addition, some providers mentioned that people got offended when asked to take a COVID-19 test and as a result did not return to the facility again. They mentioned that changes in uptake of maternal health services could lead to maternal and child health problems:

"Yes, we provide [care] to delivery cases and the cases decreased as people stay at home for deliveries. If we ask them to get corona tests, they get offended and don't come again. Women prefer delivery at home as compared to at hospitals. This results in miscarriages and malnourished mothers and children." (Healthcare provider, Baluchistan)

Providers believed that supplies and equipment were key drivers in the provision of maternal health services. One provider from a high-volume facility in Baluchistan mentioned that the availability of personal protective equipment (PPE) helped ensure provision and utilisation of maternal services, particularly delivery services. Lack of supplies and equipment necessary for infection prevention during delivery was seen as the main challenge in providing services. In the absence of these supplies, clients preferred larger health facilities such as hospitals or private sector facilities compared to smaller public sector facilities that may not have such resources:

"No case for delivery has been entertained. Pregnant ladies take full treatment of 9 months from medical center but go to general hospital/private for delivery. We don't have proper equipment for sterilization of tools used in hospital." (Healthcare provider, Baluchistan)

Child health

Child vaccination services were affected during the lockdown but resumed after lockdown was lifted. Providers said that they made additional efforts to provide child vaccinations, including door-to-door visits and counselling. A major challenge they described was that parents were afraid of getting their children vaccinated due to fears of visiting health facilities:

"The biggest challenge I faced is that parents don't bring children for the vaccinations as they are scared. So I went myself to many homes to convince and counsel them to bring children for vaccination." (Healthcare provider, Punjab)

A few women and almost half of community stakeholders noted that they or others in their community believed that healthcare providers were administering a poisonous injection to people who go in for health care, resulting in serious injury or death. This was reported from respondents in all four provinces, hence indicating widespread pervasiveness of the rumour. More worryingly, this rumour led people to avoid or delay seeking healthcare (for COVID-19 and non-COVID-19 related illness), out of fear that they or their loved ones would be injected and killed leading to distrust of injections of any kind, including child vaccination:

"There is a rumor that doctors are giving injections of poison that kill humans, so we don't go to hospital.... I'm worried about the injections. So even if I'm given [any sort of injection] by the doctor I don't take it" (Married Women, Baluchistan)

However, for one woman from Baluchistan, this rumour was dispelled once she actually sought care:

"Recently I took my youngest child to the medical center because he was suffering from cough. They ran a Corona test on him and told us that he is negative... We were afraid in the beginning because we heard rumors like, doctors are giving deadly injections to patients, but it was all a lie. I was satisfied with the medical assistance we got." (Married Women, Baluchistan)

A care provider from Punjab praised LHWs' efforts in creating awareness that contributed to the continuity of child health services in their area. Similarly, a provider from a facility in Sindh mentioned that community members and doctors helped to spread awareness in the community that contributed to continuity of child health services.

Many providers indicated no overall changes in nutrition service provision, including child nutrition counselling and growth monitoring except during periods of lockdown:

"There was no change in this service. We gave counselling like before, even in COVID-19 as malnourished children are in huge quantity and mothers need constant counselling and supplements for their newly born children." (Healthcare provider, Baluchistan)

Some disruptions in supply were mentioned and were seen as the major barrier to nutritional supplement provision. Providers also mentioned that utilisation decreased due to travel restrictions during the lockdown period:

"During rise of COVID-19, these services [maternal and child nutrition counselling, growth monitoring, iron and folic acid supplementation] were disturbed because health workers were not able to visit door to door. Moreover, in my vicinity, some areas are hard to reach due to bad conditions of roads." (Healthcare provider, Punjab)

Barriers to RMNCH services provision

Inadequate supplies of protective equipment including masks, gloves, sanitisers, and personal protective equipment (PPE) were the major challenges to RMNCH services provision. Some providers also expressed concerns about their facility's inability to provide masks or sanitiser to patients. Only some facilities and providers had financial means to provide this level of support for their clients. A few providers mentioned that they had received training on PPE but these supplies were not always available at the health facility for examining patients, or for LHWs, when conducting household visits. *"Equipment and supplies to manage COVID-19 are provided in limited amount; and they were not enough for even staff."* (Healthcare provider, KP)

"Trainings were given to us on how to use PPE, but we don't have any PPE kits available for use." (Healthcare provider, Punjab)

Providers also mentioned stockouts of medicine and supplies as another key challenge for them. This included supplies for RMNCH services like family planning but also medical supplies for other conditions. As a healthcare provider in Sindh described,

"We were facing a lot of issues in terms of medicines and injections. There was shortage of supplies of medicines and injections."

Another challenge was that patients did not always adhere to preventive measures, as they did not believe COVID-19 existed. Patients were often offended when asked to maintain social distancing within the clinic. Physical examinations were not always possible because of social distancing protocols and patients were unhappy with these changes.

"It's very difficult to guide/counsel patients when they don't wear masks. If patients are told to maintain distance from doctors, staff and other people, they get offended and tell me that this disease doesn't exist, that it's a lie." (Healthcare provider, Baluchistan)

"Me and my staff members are following the SOPs, but we are facing problems due to illiteracy among people. They don't wear mask and don't follow the SOPs. Most of the patients tell us that it's fake, there's no such thing as coronavirus." (Healthcare provider, Punjab)

At the other end of the spectrum, some providers mentioned that people were scared to visit the health facility because of fear of acquiring COVID 19 infection, which made it difficult to ensure continuity of essential services. A healthcare provider from KP said,

"We couldn't provide these services because people used to stay at home, and they didn't come to seek advice on these services."

Some facilities started house-to-house visits or sent LHWs, especially for child vaccinations; however, they met resistance at some households. These households restricted entry of health workers due to perceived risk of COVID-19 exposure and infection from those associated with health service delivery.

"We had been treated badly at times. The people don't even open the door to us. My workers who provide these door-to-door duties tell me that there are people who treat us badly." (Healthcare provider, Sindh)

"The LHW working in the center are doing routine work. The LHW going to homes might have suffered with problems. The community should be made aware about the importance of LHW." (Healthcare provider, Baluchistan)

Suggestions to facilitate RMNCH continuity of care

Increased government assistance

Married women and community stakeholders from three provinces requested additional involvement from the government in fighting back against COVID-19. Some wanted government aid to provide free masks and hand sanitisers, with the intent to increase adherence to COVID-19 preventive measures.

"I would just like to say that government should take initiative and they should start providing with masks and hand sanitizers to poor people since they can't afford these thing... Everything can happen when you have money. For example, if you have money you can purchase masks, gloves, hand sanitizers etc.... they will follow the guidelines if we have masks and hand sanitizers available in our community." (Community stakeholder, Baluchistan)

"Government should provide free of cost masks to general public and school-going children and launch a comprehensive plan which will help us to deal with the financial burdens." (Married woman, KP)

Married women and stakeholders noted that community members were not adhering to preventive measures, particularly as time went on, and people became less afraid of COVID-19. For example, a married women in Baluchistan noted the following:

"As the fear of coronavirus decreased recently, people reverted to their old behavior... [before] everyone was using masks but now people aren't using masks anymore."

Similarly, a community stakeholder in Punjab noted that

"during the first wave of COVID-19 people used to wear masks and take safety measures... now they are not following any guidelines... they take it very lightly and even make fun of it."

Several participants hoped for government actions that would increase adherence to COVID-19 preventive measures through enforcement and imposing fines for non-adherence, particularly as time went on, and people became less afraid of COVID-19.

"I think taking precaution is very necessary. Fine[s] should be imposed [on people] who doesn't follow SOP's." Otherwise people won't take safety measures." (Community stakeholder, Punjab)

"There was a sense of fear due to COVID-19 but now people are not scared any more. People are not maintaining social distancing ... People are not following SOPs in public places and transport. It would be easier if government strictly imposed SOP's. People should be always wearing masks." (Married woman, Punjab)

Healthcare providers also viewed guidance and trainings from the government-and other partners-as key motivators to continue to provide services. Many providers mentioned precautionary measures taken by the facility, the provision of personal safety equipment, and the provision of supplies such as masks, hand sanitisers, gloves, face shields, and PPE from the government and other partners as additional incentives.

"Safety equipment that was provided for our personal safety like masks, gloves and sanitizers helped us for the continuity of work." (Healthcare provider, Sindh)

"The preventive measures being implemented in the hospital was a huge driver [to continue to provide services]. The support from our staff kept the hospital going and suppliers of medicines provided stock and the hospital ran as usual providing all the services." (Healthcare provider Punjab)

Outreach campaigns

Although all participants had heard of COVID-19 and could name at least one symptom, many had lingering questions, particularly around best practices for primary prevention. Participants perceived a general confusion around COVID-19 messaging and desired additional information. The suggested role of outreach campaigns was to reduce rumours and improve care-seeking and adherence to COVID-19 preventive measures.

"If people know that there is no false testing in the healthcare center, they will visit for their routine checkup, and I think it is the role of government to increase information sharing among community." (Community stakeholder, KP)

"There needs to be massive awareness raising for community and more services for health at local level to overcome these issues and fears... Fear, lack of information and awareness and no health services would prevent them from seeking health services." (Community stakeholder, Sindh)

In terms of who would provide the outreach campaigns, and the medium through which they would be presented, multiple suggestions were provided. Some focused on personalised outreach campaigns, potentially delivered door-to-door by trusted health professionals. One married woman in Baluchistan said, *"Sessions should be held to spread awareness. Apart from this, LHW should come to our places to educate us about this virus."* Others focused on outreach campaigns delivered by social media to improve awareness and shift attitudes around COVID-19:

"It will be easy if social media will create awareness at a big scale, so everyone is educated. The schools are closed yet the shopping malls are opened, so people get confused if this is real or not and what to avoid and not. So it will be better if media will give more information regarding the disease and its symptoms to the general public." (Married woman, Baluchistan)

"COVID-19 is affecting all of us psychologically as well. People should be motivated on social media to fight back this disease rather than making people hopeless by only telling them bad news." (Community stakeholder, Punjab)

Discussion

This study highlights challenges and facilitators for maintaining continuity of essential RMNCH services in Pakistan during the COVID-19 pandemic. We found that all health facilities had made changes in their normal procedures, including adjustments in service delivery time and staff hours to reduce crowding and maintain social distancing measures. Masks, hand sanitisation, gloves, and social distancing had become a new norm. Not all clients, however, were happy with the social distancing measures. Some perceived these measures to have increased emotional distancing between providers and patients and to have resulted in diminished service quality. Providers acknowledged that patients were not happy with social distancing protocols which was a disincentive to care seeking.

Some facilities provided their patients with masks and hand sanitiser, but not all were able to do so. Many healthcare providers mentioned a lack of these essential supplies for staff. Another research of physicians who were surveyed in the early phase of the pandemic in Pakistan, similarly expressed concerns about the availability of PPE.²² Findings from our study are also consistent with results of a July 2020 Internet survey of healthcare providers working in labour and delivery settings in Pakistan that was conducted by Izhar and colleagues.²³ Providers in their study reported high knowledge about COVID-19 prevention measures, but substantial dissatisfaction with the availability of PPE and ability to socially distance in outpatient clinic and emergency room settings.

Although preventive measures were a key motivator for service continuity, a lack of supplies and medicines posed a substantial challenge. Women highlighted stockouts and lack of supplies or equipment as barriers to care-seeking. This finding is consistent with research by Shah et al²⁴, which showed that essential supplies such as family planning, and maternal health were severely impacted by COVID-19. especially during the lockdown period when these services were also suspended.²⁴ Stockouts and crowding indicate a shift in care-seeking away from public to private facilities. These shifts were also noted by healthcare providers, particularly for delivery services. Concerns about stockouts are not unique to women in Pakistan. A study of women who missed antenatal care visits in rural Ethiopia during the pandemic also indicated concerns about shortages of essential medicines.²⁵ In a multi-country study of urban slums that included a site in Karachi, community stakeholders reported financial pressures similar to those identified in our study, including reduced household resources to be able to pay for care, and supply chain problems in the public sector resulting in shifts to the private sector.²⁶

Women in the study mentioned delaying or not seeking RMNCH services despite providers' perception of few changes in the provision of services aside from precautions taken for COVID-19 prevention. Indications of decline in use of services are consistent with trends in child vaccination that were documented during the lockdown in the Sindh province of Pakistan, including substantial increases in missed follow-up vaccinations compared to pre-pandemic rates.²⁷ A study in Sindh Province also showed a significant decline in RMNCH services during the first COVID-19 wave.²⁸ These findings are also consistent with research conducted in other countries: declines in utilisation of a range of RMNCH services related to lockdowns in the early months of the pandemic have also been documented in Nigeria and South Africa.²⁹

RMNCH service utilisation declined first due to restrictions during the lockdown, then due to fear of contracting COVID-19 at healthcare facilities. Concerns about overcrowding are consistent with findings from a survey of healthcare providers in the Punjab province of Pakistan, many of whom expressed concerns about overcrowding of emergency departments leading to infection control challenges in the early months of the pandemic.³⁰ Similarly, a survey of women delivering in hospitals in Lahore, Pakistan, in May and June 2020 found that 75% of women were afraid of getting COVID-19 during their hospital stay.³¹ Women in the study on missed antenatal care visits in rural Ethiopia similarly identified concerns about the safety of visiting crowded facilities.25

Some providers in our study mentioned that they took additional steps to ensure continuity of vaccination services by conducting household visits and counselling, but not all households were receptive to these efforts. Although there was support to healthcare providers for COVID-19 prevention efforts, they met resistance at the community level during household visits due to fear of infection and myths related to COVID-19. Similar challenges to maintaining delivery of household-based services by community health workers during the pandemic were noted in the multi-country study of urban slums.²⁶

Findings from this study underscore the challenge of protecting sexual and reproductive health

and rights (SRHR) during the COVID-19 pandemic given the complexity of supply and demand-side forces that interrupted access to high-quality RMNCH services. Anticipated threats to SRHR expressed early in the pandemic included concerns about staffing challenges, shortages of medical supplies, and stockouts for routine and acute healthcare services, particularly in the context of contraceptive services, antenatal care, and labour and delivery.¹⁷ Challenges related to supply shortages and stockouts were salient in our study, as were demand-side factors including risk perceptions and ability to pay and perceived quality of care. Strategies to protect SRHR during future public health emergencies could include initiatives to support task-shifting and channel innovation, including care delivery by community-based providers, such as LHWs, and support of affordable service provision through the private sector.

This study was qualitative in nature and has several important limitations. The findings are specific to the population living in the catchment areas of the public health facilities because of the purposive sampling strategy. In addition, because of COVID-19 related restrictions and preventive measures, the study was limited to those with access to mobile or landline telephones, who are likely to be wealthier on average than the general population. The sample frame for community stakeholders was developed based on nominations from women and health providers, and all interviewed stakeholders were men. This study therefore was not able to capture the perspectives of female community stakeholders, who may be particularly influential with regard to utilisation and availability of RMNCH services but who were not well represented in the sample frame. Finally, although some healthcare providers had private practices, this study focused on care provided in public facilities and was not designed to gather detailed information about care provided in private facilities.

Despite these limitations, this study provides important insights into RMNCH services during the COVID-19 pandemic from both the care seeker and care provider perspectives and contributes to a nascent evidence base on this topic. Furthermore, the findings of the study also contributed to the identification of effective communication strategies to address access to RMNCH care in the context of COVID-19 and the development of interventions to promote access.

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Résumé

Les mesures d'atténuation de la COVID-19 ont désorganisé la prestation des services de santé essentiels. L'objectif de cette étude était de comprendre les changements intervenus dans les services de santé reproductive, maternelle, néonatale et infantile (SRMNI) pendant la pandémie au Pakistan. Nous avons réalisé une étude qualitative en novembre et décembre 2020 consistant en entretiens téléphoniques approfondis auprès de femmes, de prestataires de soins de santé et d'acteurs communautaires. Les entretiens ont été analysés au moyen d'une méthode thématique et itérative. Tous les établissements de santé avaient changé leurs procédures habituelles, notamment avec des ajustements des horaires de prestation des services et du temps de travail du personnel pour réduire l'affluence et maintenir des procédures opérationnelles normalisées comme la

Resumen

Las medidas de mitigación de COVID-19 han interrumpido la prestación de servicios de salud esenciales. El obietivo de este estudio era entender los cambios en los servicios de salud reproductiva, materna, neonatal e infantil (SRMNI) durante la pandemia en Pakistán. Realizamos un estudio cualitativo en noviembre y diciembre de 2020, que consistió en entrevistas telefónicas a profundidad con mujeres, prestadores de servicios de salud y partes interesadas en la comunidad. Se analizaron las entrevistas utilizando un enfogue temático iterativo. Todos los centros de salud habían realizado cambios a sus procedimientos rutinarios, tales como ajustes en el tiempo de prestación de servicios y en las horas del personal para reducir el hacinamiento y mantener procedimientos operativos normalizados (PON) como el distanciamiento social. Las mujeres destacaron

distanciation physique. Les femmes ont cité les ruptures de stock et le manque de fournitures comme principaux obstacles à la demande de soins, et les ruptures de stocks et l'affluence ont abouti à une réorientation de la demande de soins du secteur public au profit des établissements privés. L'utilisation des services de SRMNI a diminué initialement en raison des restrictions pendant le confinement, puis du fait de la peur de la contamination par la COVID-19 dans les centres de santé. Cette étude procure de précieux renseignements sur les services de SRMNI pendant la pandémie de COVID-19 du point de vue des patients et des prestataires de soins. Les conclusions de l'étude ont été utilisées pour mettre au point des interventions relatives à l'accès aux soins de SRMNI pendant la pandémie de COVID-19. los desabastecimientos y la falta de suministros como barreras clave para buscar atención, y los desabastecimientos y el hacinamiento causaron que la búsqueda de atención se desviara de los centros de salud públicos hacia establecimientos de salud privados. El uso de servicios de SRMNI disminuvó inicialmente debido a las restricciones durante el cierre, y posteriormente debido al temor de contraer COVID-19 en establecimientos de salud. Este estudio proporciona importantes perspectivas sobre los servicios de SRMNI durante la pandemia de COVID-19, desde el punto de vista de quienes buscan los servicios y de los prestadores de servicios. Los hallazgos del estudio se utilizaron para crear intervenciones para abordar el acceso a los servicios de SRMNI durante la pandemia de COVID-19.