RESEARCH ARTICLE

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Received: 21.12.2021
Acceptance: 12.02.2022
DOI: 10.18521/ktd.1039175

Konuralp Medical Journal
e-ISSN1309–3878
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www.konuralptipdergi.duzce.edu.tr

Impact Assessment on Maintenance of Essential Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition Services in the Context of COVID-19: Insight from North-Central Nigeria

ABSTRACT

Objective: In the context of COVID-19 in North Central Nigeria, a qualitative interview study was conducted to assess the impact on the maintenance of essential sexual, reproductive, maternal newborn, child, adolescent healthy plus nutrition serves (RMNCAH+N).

Methods: This proposition aligns with the global crusade of the United Nations Sustainable development goals (UNSDGs 2.3.8) that highlights good nutrition (zero hunger) access to quality healthy and sustainable economic growth path. To this end, a field survey design was done qualitatively. Key informant interviews (KIIs) and focus group discussions (FGDs) were used in the qualitative analysis, which was based on typical interview schedules. During the study period, a total of 258 people from six different communities participated in the KII and FGD interviews.

Results: Key study findings outline eight major master essential concepts, such as healthcare workers reporting a variety of tough emotions and psychological issues. These included insufficient medical equipment's, dissatisfaction with members of the public who did not observe social distancing norms, concerns about protecting their loved ones from infection, increased workload, and changing working conditions, insufficient personal protective equipment kits (PPE), and a sense that their frontline work was being undermined.

Conclusions: There was also a significant increase in gender-based violence. Further policy suggestions are outlined in the concluding section.

Keywords: SDGs, Good Nutrition, COVID-19. RMNCAH+N Services, Mental Health, North Central Nigeria.

COVID-19 Bağlamında Temel Üreme, Anne, Yenidoğan, Çocuk, Ergen Sağlığı ve Beslenme Hizmetlerinin Sürdürülmesine İlişkin Etki Değerlendirmesi: Kuzey-Orta Nijerya'dan İçgörü

ÖZET

Amaç: Kuzey Orta Nijerya'da COVID-19 bağlamında, temel cinsel, üreme, anne yenidoğan, çocuk, ergen sağlıklı artı beslenme hizmetlerinin (RMNCAH+N) sürdürülmesi üzerindeki etkiyi değerlendirmek için nitel bir görüşme çalışması yapılmıştır.

Gereç ve Yöntem: Bu önerme, kaliteli sağlıklı ve sürdürülebilir ekonomik büyüme yoluna iyi beslenme (sıfır açlık) erişimi vurgulayan Birleşmiş Milletler Sürdürülebilir kalkınma hedeflerinin (UNSDGs 2.3.8) küresel mücadelesi ile uyumludur. Bu amaçla niteliksel olarak bir alan araştırması tasarımı yapılmıştır. Tipik görüşme programlarına dayanan nitel analizde temel bilgi kaynağı görüşmeleri (KII'ler) ve odak grup tartışmaları (FGD'ler) kullanılmıştır. Çalışma süresi boyunca, KII ve FGD görüşmelerine altı farklı topluluktan toplam 258 kişi katılmıştır.

Bulgular: Temel çalışma bulguları, çeşitli zorlu duyguları ve psikolojik sorunları bildiren sağlık çalışanları gibi sekiz ana temel temel kavramı özetlemektedir. Bunlar arasında tıbbi ekipmanın yetersiz olması, sosyal mesafe kurallarına uymayan halkın memnuniyetsizliği, sevdiklerini enfeksiyondan koruma endişesi, artan iş yükü ve değişen çalışma koşulları, yetersiz kişisel koruyucu ekipman kitleri (KKD) ve sağlık sorunlarına karşı duyulan güvensizlik sayılabilir. ön saflardaki çalışmaları baltalanıyordu.

Sonuç: Cinsiyete dayalı şiddette de önemli bir artış oldu. Diğer politika önerileri sonuç bölümünde özetlenmiştir.

Anahtar Kelimeler: İyi Beslenme, COVID-19, RMNCAH+N Hizmetleri, Akıl Sağlığı, Kuzey Orta Nijerya.

INTRODUCTION

The tragedy of Coronavirus disease (COVID-19) struck humanity in late 2019, causing significant disruption worldwide. The World Health Organization declared this crisis a global pandemic in March 2020. (1). As of May 4th, 2021, over 154 million cases of COVID-19 had been reported globally, with 3.22 million confirmed deaths and more than 1 billion vaccines administered so far, while cumulative cases for 47 affected countries in Africa were reported to be over 3 million cases (World Health Organization, COVID-19 4th May global situation reports). Due to the rapid spread of this virus, governments reacted quickly, prioritizing human safety even at the expense of their economies, with actions such as movement restrictions, social distancing, and border closures to reduce mortality and morbidity (2).

The crisis brought on by the Coronavirus disease has wreaked havoc on the global healthcare system as well as the economy. The rapid rise in COVID-19 cases has presented the health care system with both direct and indirect mortality from preventable and treatable illnesses. This pattern has also been observed in previous pandemic outbreaks; the indirect impacts appear to outweigh the pandemic itself (3). During the Ebola epidemic in 2013-2016, mortality rates increased due to healthcare system Unpreparedness, which were driven by underlying diseases such as measles, malaria, HIV/AIDS, and tuberculosis (4). The crisis readiness capability of a healthcare system determines its ability to provide adequate and effective care. As the World Health Organization emphasizes, in an emergency crisis such as a health crisis, well-organized and effective public health guidance preparation should be maintained to support public trust or demonstrate the capacity to provide adequate care and manage infection risk in health facilities and communities while reducing direct mortality, preventing panic, and indirect mortality.

The Federal Government of Nigeria, in collaboration with the Federal Ministry of Health and the National Center for Disease Control (NCDC), implemented measures to control virus spread with a focus on citizens' well-being and the socioeconomic disruptions caused by the outbreak. These restrictions include social isolation, foreign and domestic travel restrictions, airline suspensions, lockdowns of non-essential operations, and school closures. NCDC guidelines recommend that all healthcare providers maintain a high index of suspicion for COVID-19 when treating outpatients by taking comprehensive medical histories and administering a routine COVID-19 exam to all health staff (5).

Every Woman, Every Child (EWEC), the Global Strategy for Women's, Children's, and Adolescents' Health and Development, aims to achieve the SDGs for women's, children's, and adolescents' health and development because progress is impossible without health and well-being (6, 7). The 2030 sustainability goals plan has been altered. Because of the fast-moving nature of the COVID-19 pandemic and its consequences, such as a lack of medical equipment, healthcare professionals, and psychosocial effects, as well as strict restrictions (8). To improve the health of women and children and address unmet community needs for sexual and reproductive health, as well as maternal, newborn, child, and adolescent health (SR/MNCAH), countries where the Sustainable Development Goals (SDGs) lag the most must accelerate progress (9). Governments have established certain special health facilities for preventive and control measures. These measures can differ based on the designated position of each facility, but they all seek to limit the pandemic's spread and to improve health outcomes. These measures include case management of COVID-19, continuing provision of routine essential health services, preventing patients from acquiring COVID19 while in (out) of the facility, and sharing COVID-19 information as part of the risk communication plan in conjunction with the central response system and communities are some of the interventions in place(10,11).

The COVID-19 pandemic has had significant, multifaceted, and ongoing negative indirect effects on the provision of sexual, reproductive, maternal, and newborn health care (12). Lockdowns preventing patients and workers from accessing health facilities, resource shortages, and the reassignment of healthcare personnel and equipment to COVID-19 units have all been documented around the world. Many of these have led to the unwarranted deferral of evidence-based and supportive measures, such as the routine separation of newborns from COVID-19 positive mothers, lack of breastfeeding support, denial of abortion treatment, and suspension of reproductive cancer screening or campaign activities (13). These negative impacts of the crisis have been identified across a broad range of health systems and income levels, highlighting an overarching lack of prioritization, attention, and support for these critical areas of health SR/MNCAH, which has been worsened by a global pandemic. The World Health Organization (WHO) discovered that the population, efforts, and medical supply have evolved to respond to emergencies. This trend was repeatedly seen in past pandemic and epidemic situations, often resulting in the neglect of basic and essential health care services. Individuals with health issues not associated with the pandemic have difficulty accessing health care services, leading to a spike in the indirect mortality rate. Emergencies in public health reveal that the effect of an epidemic on reproductive, maternal, and child health, gender-based violence, mental health, and nutrition often

goes unnoticed because the effects are often the indirect result of unprepared, strained health care systems, interruptions in care, and redirected priorities rather than the direct result of the infection (6, 14). If routine health care is disrupted and nutrition services are limited as a result of unavoidable crises, health system failure, or government and health care unpreparedness for pandemics, the increase in infant and maternal deaths will be devastating. Statistical models predicted a decline in the overall health of reproductive, maternal, and newborn health care, as well as severe mortality outcomes, in the early stages of the COVID-19 pandemic (15). A reduction in coverage of vital maternal health interventions of 9.8–51.9 % would result in an 8.3–38.6% increase in maternal mortality and a 98–44.7% increase in under-5 child deaths per month (14, 15). Rural communities are frequently depleted and deserted in this aspect of the topic. However, few literature studies in low-income countries focus on this aspect of the study. This study aim to fill that gap. By utilizing first-hand accounts experience from individuals, to highlight the challenges that healthcare emergencies pose, as well as propose strategies for preparedness and response to healthcare crises.

The key concern is how the following have been maintained in small rural communities of Africa using Nigeria as a backdrop during the pandemic crises "Essential Reproductive, Maternal, Newborn, Child and Adolescent Health plus Nutrition services". This research aimed to evaluate the continuity of vital SRMNCAH+N services and mental health amid COVID-19.

Literature Review: The Millennium Development Goals were established primarily for developing countries to eradicate poverty and stop HIV/AIDS from spreading. However, in 2015, the United Nations Member States reassessed these targets to achieve a more substantial result (16). The 2030 Agenda for Sustainable Development, which essentially consists of the 17 Sustainable Development Goals, was an immediate call to action in both developed and developing countries. These goals, notably sexual, reproductive, maternal, nutrition, and newborn health, should be prioritized by all governments in the current COVID-19 pandemic crisis to accomplish sustainable development goals.

These are among the 16 basic health services divided into four categories defined by the World Health Organization (WHO) as indices of a country's coverage levels and equity, with the goal of reducing maternal, infant, and child mortality, malnutrition, and stillbirths. The goal focuses on the most significant outcomes, highlighting interventions and preventive measures, and recognizing the importance of providing a continuum of care from adolescent girls, women, or mothers to infants. (17, 18).

Covid-19 is still causing panic and havoc in the following systems around the world: healthcare, economic, social, agricultural, and transportation. Most citizens in developing countries are shifting their focus away from the COVID-19 crisis and toward the threat that the crisis poses to the food supply, children's health, reproduction, health, adolescent health, and maternal health. The majority of the consequences of this crisis are visible among informal sector workers in developing countries, primarily in Africa (19). According to a World Health Organization regional report released on May 5th, 3,288,840 COVID-19 cases were reported in Africa. As Africans continue to battle the spread of communicable viruses, little to no attention is paid to the crisis's impact on the general public (2).

In the healthcare profession, crisis preparedness is critical. What is the capacity of the community health workers at the facilities, and how well equipped are they for SRMNCAH+N Services during healthcare emergencies? A study by Tran et al. (20) found a significant lack of integration with national health-care systems. In order to expedite the Millennium Development Goals in terms of SRMNCAH+N, the study identified 31 significant packages to promote community health worker training, particularly during healthcare crises. The purpose of the training package was to increase the ability of community health workers, allowing governments and partners to undertake a coordinated response. Hemm et al. (21) research validated this, and Akhanemhe et al. (22) study reinforced it. Since health is wealth, Alhassan et al. (23) emphasize the function of telehealth and its importance during communicable disease emergencies and the sustainability of African economies. Wong et al. (24) conducted research during COVID-19 that employed an epidemiological approach to assessing the global demand for telehealth services, focusing on the 50 most-affected countries. The study discovered a spike in demand for telehealth services in all 50 countries, emphasizing the need to expand telehealth capabilities both before and after the pandemic healthcare crisis. Mukiibi (19) investigates the state of food security in Africa during COVID-19 and finds that prices are skyrocketing and food is in short supply due to a variety of factors, including difficulties in cross-border trade as many countries continue to close their borders to prevent the virus from spreading, resulting in malnutrition and economic crisis. The situation is worsening and becoming more apparent in urban areas as it spreads to rural communities, causing increased morbidity, especially among those who have already been affected by social, health, and environmental injustices as a result of climate change and land grabbing.

The indirect mortality effects of a crisis in the context of a vulnerable, unprepared health

system may be as significant as the direct mortality effects of the crisis itself. Courtney et al. (25) stated that our nation is unprepared to deal with large-scale, healthcare crisis that would necessitate the employment of the healthcare system as a critical response component (i.e., beyond local emergency medical services for triage, basic care, and transport). After the September 11, 2001 bioterrorism popularly known as 9/11 and the 2001 anthrax letters, Courtney et al. (25) evidently discover that before these unprecedented health emergencies, the need to strengthen healthcare preparedness is paramount worldwide. Meanwhile According to Sochas et al (26) research investigation from the Ebola virus outbreak in Western Africa from 2013 to 2016 demonstrated the detrimental, indirect effects that such crises can have on sexual and reproductive health, Limited care due to healthcare crises and fear of seeking treatment during the outbreak contributed to an estimated 3,600 maternal deaths, neonatal deaths, and stillbirths. According to Parpia et al. (27) a 50% reduction in health-care utilization in Sierra Leone would have resulted in 2800 additional deaths from malaria, HIV/AIDS, diabetes and tuberculosis, according to an analysis of data from Sierra Leone's Health Management Information System, that number approaches the number of deaths directly caused by the Ebola virus in the country. Furthermore, Sochas et al (26) stated that many people are likely to have died from indirect effects of Ebola due to a lack of access to health care throughout the outbreak. Because of the Sierra Leone health system's pre-existing, chronic lack of preparedness, patients and some health professionals were understandably concerned about contracting the disease during the outbreak. Furthermore, health-care resources were diverted to deal with the issue, including screening and managing suspected and confirmed cases, as well as managing an increasing number of infected patients (28). Gerberding et al. (29) define the health-care system's response and preparedness as a collective effort of public health and law enforcement agencies that signals the need for large-scale intervention to protect thousands of public at risk. Kruk et al. (30) build on this definition, healthcare preparedness is the ability to effectively respond to a crisis while maintaining core functions resulting into preventing indirect effect of the crisis. Michau et al. (31). discuss ways to improve reproductive, maternal, and child health, gender-based violence, mental health, and nutrition by understanding how, why, and how to prepare and respond to crises. This research is similar to Zhou et al. (32) research, which focuses on how to prepare for healthcare crises and respond to mental health, child, and nutrition health. Given the emphasis on conscious perception, the Michau et al. and Zhou et al. definitions are the most applicable to the goals of this study (31, 32).

MATERIAL AND METHODS

Methodology: The research employed a qualitative method, deploying in-depth individual key informant interviews (KII) and focus group discussions (FGDs), which were audio-recorded and transcribed verbatim. Interpretative Phenomenological Analysis (IPA) approach analysis was used for coding (33). An Interpretive information-gathering approach was used to examine the experience of how reproductive, maternal, newborn, child, and adolescent health plus nutrition (RMNCAH + N) services with mental health have been sustained among randomly selected local government communities within Kaduna state in north-western Nigeria since the start of the Covid-19 pandemic. This approach was chosen for this study because it involved the interpretation of the meaning and the deep examination of lived experiences, which reflected the authors' exploratory attitude to the COVID-19 crisis involving RMNCAH+N services. Individual experience is prioritized in IPA, which gives a ‘voice' to the lived experiences of a clinical population (34).

Study Setting and Context: Nigeria has a three-tier political system, with a democratically elected federal government at the national level, state governments in the 36 states, and the Federal Capital Territory, all of which are divided into local government areas (LGAs) governed by local government authorities. The local government authority oversees the establishment, operation, and provision of Primary Health Centre services in Nigeria, which is overseen by the National Primary Health Care Development Agency (NPHCDA) (35-37). The experiences of people living in rural northern Nigeria are the focus of this study. Two factors influenced the selection of rural northern villages. To begin with, numerous researches have revealed that maternal health treatments are of poor quality (38, 39). It also contains functional primary and secondary health care facilities.

Participants and Procedure: This qualitative study features an interpretative Phenomenological Analysis (IPA) approach (23). (N = 258) participants from Kaduna state's randomly selected six Local Government Areas (Chikun, Birnin Gwari, Ikara, Makarfi, and Kaura Local Government Area) who were healthcare workers (HCW), traditional birth attendance (TBA), traditional head leader (THL), adolescent/youth, and pregnant women in the previous 8-10 months (see Table 3).

The following criteria are used to select communities: The community must have a government-owned health facility that is also registered with the National District Health Information Software (DHIS). must have registered data on the National DHIS for the previous three months and, most importantly, must have provided SRMNCH+N services. Communities situated in

areas with security issues are among the exclusion criteria.

The key informants were selected based on their status and/or location in the state's local LGAs, as well as their knowledge and experience with the state's LGAs.

The focus group discussion (FGD) groups had ten participants each, with the female focus groups consisting of women who had been pregnant in the previous 8-10 months, and the adolescent/youth focus groups consisting of individuals aged 18-24 years. All of the above inclusion criteria were used to recruit participants.

Ethical Considerations: Participation was entirely voluntary, and traditional and community leaders were informed about the study. Participants' written and verbal consent was obtained prior to the start of their interview days. Any identifying information was removed from the data prior to processing. This ensured privacy and anonymity.

Data Collection: To collect information and data from the LGA communities, health care workers (HCW), Traditional Birth Attendance (TBA), traditional head leaders (THL), adolescents, and pregnant women were interviewed using a combination of structured and unstructured techniques (Semi-structured interview), one-to-one key informant interviews (KII), and Focus Group Discussions (FGDs) with Standard In-depth guidelines. (See Table 3).

Duration: Data collection took place over the course of two months, from February to April 2021, with each person receiving a minimum of two hours of focus group discussion with a 20-minute break in between, as well as one hour of key informant interviews.

For this qualitative IPA study, we used six LGAs with eighteen (18) KII participants for this qualitative IPA study. Individuals were employed to offer in-depth experience of the impact of COVID-19 on RMNCAH+N (Table 2). In addition, four focus group discussions (FGDs) with ten individuals each were organized in each of the six LGAs, resulting in a total of twenty-four (24) Focus Group Discussions (n = 240) participants (Table 1). All interviews were conducted in two languages, Hausa and English, depending on the literacy of the participants.

Table 1. FGDs Community-based Demographic Characteristics

FGDs Participant		
2 FGDs (20 participants)	women that were pregnant in the past 8-10 months	Age range: 25-49 years.
2 FGDs (20 participants)	Adolescent (male and female)	Age range: 18-24 years
	Total	
6 Community	24 FGDs (240 participants)	

Table 2. KII Community-based Demographic Characteristics

KII Participant	
KII (1 participant)	Traditional Birth Attendance (TBA)
KII (1 participant)	Traditional head leader (THL)
KII (1 participant)	Experience Health care worker (HCW)
Total	
6 Community	3 KII (18 participants)

Table 3. Community participant (6)

key informant interviews (KII)	18
Focus Group Discussions (FGDs)	240
Total	258

Data Analysis: The IPA method was used in this study as a qualitative research strategy. This method was chosen for this study because it involved the interpretation of a thorough evaluation of lived experiences. These methods reveal the authors' exploratory perspective toward the COVID-19 issue involving RMNCAH+N services. Individual experience is emphasized in IPA, which offers a "voice" to a clinical population's lived experiences.

We followed the guidelines set forth by Smith et al. (33) for the examination of shared experiences. Individual participation in data analysis was emphasized by the writers, who used the unique characteristics of individual cases and the experiences of a focus group to develop major themes.

Each interview was double-checked by the entire panel of interviewers. All of the interviewers listened to the voice recordings and compared them to the transcribed text, and the tapes from each group were transcribed verbatim. The analysis was carried out by the first and second authors, while the last authors independently evaluated a sample of transcripts. To ensure accuracy, the THL, HCW, and TBA were given transcripted interviews. Before being approved by all of the authors, all of the coding were double-checked for accuracy by the third and last writers, who double-checked both the coding and the interpretation.

Significant themes were captured through participant statements, which were then analyzed using Willig (40) steps to generate a detailed main finding of the community RMNCAH+N services experiences throughout the pandemic. (See Fig. 1)

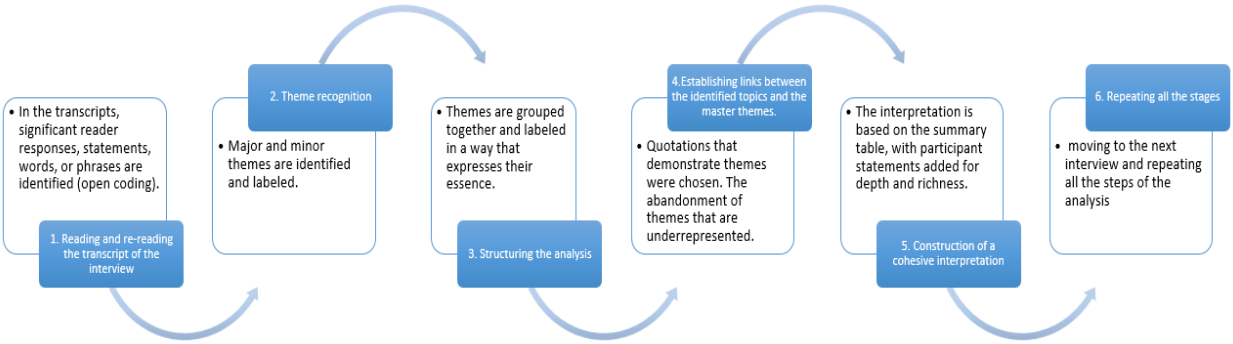

Figure 1. The Methodology followed for Interpretative Phenomenological Analysis (Activity& Actions)

Following the IPA technique step by step, we identified topics and themes that struck us as important to the experiences of participants throughout the transcript and in the question-focused files. Themes were generated by combining codes that were similar or followed a pattern. Virtual meetings with research team members were used during the study and after fieldwork to compare codes and categories and re-categorize the study's interpretation. Six HCW key informant participants from the six communities were presented with the study's findings, and all agreed on the eight major results conclusions.

RESULTS

258 people from six different communities participated in the KII and FGD interviews (see Table 3). The eight major master essential concepts discussed in this essay are summarized in Table 4. The samples chosen for this article highlight the most intriguing or insightful findings and capture the essence of each issue/theme.

Table 4. Master key Themes identified in the study

1. Sources of COVID-19 information healthcare workers and community Members
2. Current availability of Infection Prevention, Control measures, Personal Protective Equipment (PPE), guidelines and protocols for COVID-19 response in community and from health facilities.
3. Availability of human resources for the response to COVID-19.
4. Psychosocial impact of the pandemic on health care workers (HCWs).
5. Effect of the pandemic on RMNCAH+N service provision and service uptake
6. The pandemic's gendered impact and the pandemic's impact on gender-based violence.
7. Immediate effect of the pandemic on health care financing for RMNCAH+N Service delivery.
8. Source of Assistance

1. Themes 1.Sources of COVID-19 information for healthcare workers and community members.
- The COVID-19 pandemic is well-known and well-understood by the majority of healthcare workers and community members (90%)
- Most state primary health care staff and local government workers get their COVID-19 knowledge from the internet, radio, television, Zoom meetings, and WhatsApp community platforms.
- However, some respondents still doubt the existence of the virus and count it as false political news.

2. Themes 2. The current availability of infection prevention, control measures, personal protective equipment (PPEs), guidelines, and protocols for COVID-19 response in the community and in health facilities.
- The government provides PPEs, especially nose masks, for health care workers in facilities and few communities but was never sufficient.
- Two of the six community KIIs were of a different opinion, believing that their community had a large supply of PPEs provided by the government in partnership with a member of the House of Representatives from their community.

3. Themes 3. Availability of human resources for the response to COVID-19.
- An adequate number of human resources were made available across the LGAs for the response to COVID-19.
- Since the outbreak of the pandemic, a significant number of people have volunteered to help.

4. Themes 4. Psychosocial impact of the pandemic on health care workers.
- All the HCW respondents acknowledged that mental strain and stress, among others, were the major psychosocial impact of the pandemic crisis.
- Health-care workers reported a variety of tough emotions and psychological issues, including dissatisfaction with members of the public who did not observe social distancing norms, concerns about protecting their loved ones from infection, increased workload and changing working conditions, insufficient PPE, and a sense that their frontline work was being undermined.

5.Themes 5. Effect of the pandemic on RMNCAH+N service provision and service uptake.
- The majority of responders stated that the pandemic had a significant impact on the provision of RMNCAH+N services, and that many HCWs were absent from work due to the lockdown and fear of COVID-19 contact with patients.
- The respondents reported that due to the scarcity of PPEs, there was a significantly low turnout in Antenatal Clinic visits and treatment uptake by other community members.
- Nursing mothers and adolescents experience the greatest increase in psychological stress.
- Only a few people were reported to have access to RMNCAH+N services, but service providers had major challenges due to a scarcity of goods and resources, especially during the lockdown's peak.
- The fear of becoming infected during visits to health facilities resulted in an 80% decrease in hospital visits.
- Significant Increase in malnutrition among children and mothers, reported by traditional Birth Attendance and traditional head leaders KIIs

6. Themes 6. The pandemic's gendered impact and the pandemic's impact on gender-based violence.
- The lockdown had the greatest effect on women and children, according to respondents, because many of them were unable to reach hospitals, marketplaces, and other areas where they might provide for their families and socialize.
- There was a significant increase in occurrences of gender-based abuse as a result of the lockdown's idleness. The majority of the victims of this violence and harassment were women and children.

7. Themes 7. The immediate effect of the pandemic on healthcare financing for RMNCAH+N service delivery.
- Almost all responders acknowledged a considerable drop in financing for RMNCAH+N services as a result of funds being diverted to adequately address/tackle the pandemic.
- The cost of health care services has increased and some people have to pay for services privately.

8. Themes 8. Assistance.
- Some of the respondents attested to receiving government aid in the form of food, commodities such as salt, soap, toiletries, and personal protective equipment (PPEs), although there was significant inequality in distribution.

Others received assistance from family and friends, religious centers, cooperative organizations, and other sources.

DISCUSSION

The impact of the COVID-19 pandemic on RMNCAH+N services in the north-central small rural communities of Nigeria, Kaduna state LGAs, was researched using in-depth -qualitative interviews with 258 key informants, interviews, and focus group discussions. Eight major themes were identified and recommendations or solutions for better preparation and response to future emergencies affecting health systems and disrupting health service delivery, or for the resurgence of COVID-19, are provided below.

There is a need to accelerate development in countries where the Sustainable Development Goals (SDGs) are lagging to improve the health of women and children and address unmet community needs for reproductive health, as well as maternal, newborn, child, and adolescent health (RMNCAH+N). Nigeria, as a developing lower-middle-income country, must work hard to meet the 17 Sustainable Development Goals (SDGs) associated with the RMNCAH+N service. Alhassan et al. (2) revealed in their study that 15% of the government's expenditure was to be allocated to the health sector to attain this goal, but by 2013, only five countries had accomplished this target, namely Botswana, Rwanda, Zambia, Madagascar, and Togo. Nigeria, as a country, has failed to live up to expectations. According to our findings, due to a variety of factors listed in Table 4, there has been a significant drop in RMNCAH+N service provision and low service uptake. It is therefore recommended that the following programs should be considered, especially for developing countries and the LGAs in Nigeria.

First, the development and promotion of anti-violence awareness campaigns and COVID-19 awareness. According to our findings, this reveals that many FGDs shy away from such discussions, and the reason was later confirmed by KIIs, revealing the high level of domestic violence, especially during the COVID-19 restrictions. Violence against women and children is being criticized all across the world, with a broad consensus that violence must be prevented, especially in Africa. We realized that it was crucial to go beyond working with individuals. Michau (41) described how community-awareness campaign have resulted in reductions in gender-based violence around the world, particularly in low- and middle-income countries. As a result, the technique of community mobilization, Raising Voices, should be utilized in the LGAs and periodic involvement with various sectors (e.g. religious leaders, police, health care providers, local government officials) should be encouraged. Six guiding concepts derived from Michau et al., (31) study should be applied in conjunction with a training process for community activists to inform and structure the process of making programming more effective, systematic, and comprehensive. The "Raising Voices" program is now used in over 50 countries worldwide. The program will work to address the root causes of these issues, such as gender inequality, low access to education for girls, and child marriage, as part of its mission to end

gender violence and address maternal, newborn, and child mortality and morbidity. This will hasten progress toward the achievement of the 2015-2030 Sustainable Development Goals (SDGs) 4, 5, and 16 while serving as a solution to theme 6.

Secondly, an introduction to "digital health". Similarly, when it comes to physicians and community health workers, 80 percent of our interviewees refuse to visit the hospital, even at a severe stage of illness, out of fear of being infected during visits to health facilities. The ability of the health care system to deliver adequate and effective care depends on the capacity of its preparedness for crises. As a result, due to the evolving nature of the Coronavirus, services such as digital health, also known as telehealth (tele-consultancy, tele-mental, and tele-pharmacy) and the CHWs training package should be considered. This will help in accelerating the Sustainable Development Goals (SDGs) 3, 9, and 11 and be aimed at thorough preparedness for any future health crises. This will allow healthcare practitioners to give services in concert with the current condition of the pandemic, lowering COVID-19 direct and indirect mortality worldwide as well as reflecting an interest in strengthening the capacity of CHWs. Policymakers should organize and classify training resource materials for Community Health Workers (CHWs) in RMNCAH+N. Overall, WHO and partner programs have developed a large number of mapping training resource packages for CHWs on various components of RMNCAH+N. UNAIDS, UNFPA, UNICEF, UN Women, and the World Bank collaborate as the H4+ to promote the health of women and children (see the WHO/Department of Maternal, Newborn, Child, and Adolescent Health website or contact mncah@who.int).

CONCLUSION

In accordance with global expectations for good healthcare (SDG-3) and sustainable development amidst a global pandemic, which resonates with the position of the Woman, Every Child Global Strategy for Women's, Children's, and Adolescents' Health (EWEC Global Strategy) strives to achieve the sustainable development goals of women's, children's, and adolescents' health and development because progress is impossible without health and well-being. Most developed countries have implemented digital health care because the traditional face-to-face patient-physician care model has had to be re-examined in many countries due to the pandemic. Digital care and new models of care have been rapidly deployed to meet these challenges and reduce indirect mortality. As a recommendation to find a solution to themes 4, 5, and 7 as well as to accelerate the Sustainable Development Goals (SDGs) 3, 9, and 11, we recommend that governments implement the most important of these technology domains, telehealth, and telemedicine, in all LGAs. The promise of telehealth will increase the availability of expertise and access to care, including data-driven disease surveillance, screening, triage, diagnosis, and monitoring, thereby increasing the geographical coverage of health systems. Alhassan et al. (23) identified telehealth as a panacea for managing the three stages of a health crisis (pre, during, and post-crisis). Other research studies (42-44) also support the telehealth era. The study's findings can be used as a guide to embracing the new era of telehealth, its benefits, and how to overcome any barriers to it in rural communities.

Finally, theme 8 demonstrates significant inequality in all government aid distributions among LGAs, which contradicts the goal of Sustainable Development Goal (SDG) 10, which specifically calls for the reduction of inequality within and between countries. Many countries have made major progress in overcoming inequality within the public (44).

This study's key study finding outlines unpreparedness and poor response to health crisis, healthcare workers reported a variety of tough emotions and psychological issues. These included dissatisfaction with members of the public who did not observe social distancing norms; concerns about protecting their loved ones from infection; increased workload and changing working conditions; insufficient personal protective equipment kits (PPE); and a sense that their frontline work was being undermined. The result also shows that history, politics, existing relationships (for example, between healthcare institutions and with public health and emergency management agencies), hazards, geography, and culture all play a role in developing and operating the best healthcare preparedness in each community.

Limitations

Although our research yielded several interesting results, it was not without limitations, including the following: Meeting the traditional birth attendant and the traditional head leader was a major challenge.

- Using the Global Positioning System, the majority of the LGAs were difficult to locate (GPS).
- Almost half of the initially chosen communities were located in security challenged areas and some were difficult to access. Getting a replacement community for the nullified ones was very tedious.
- There are difficulties in obtaining information about some topics that are considered shameful and sensitive, such as family planning and sex.
- Most FGD groups avoid answering questions about gender-based violence.

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