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Regular Article

Experiences and self-care efforts among female sex workers in Nairobi, Kenya, during COVID-19

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ABSTRACT

Background: Although the COVID-19 measures were aimed at the public good, they resulted in massive economic disruptions. We explored female sex workers' (FSWs) experiences and self-care efforts following the deployment of COVID-19 containment measures in Nairobi, Kenya.

Methods: Forty-seven women drawn from 1003 FSWs enrolled in the Maisha Fiti Longitudinal Mixed-Methods Study participated. An in-depth interview tool was used to capture FSW' experiences and coping strategies during the COVID-19 pandemic after the Kenya government imposed containment measures that affected work, parenting, alcohol and substance use, exposure to violence, reproductive health service utilization, and mental health. All interviews were audio-recorded and transcribed verbatim. The data were thematically analysed and managed using Nvivo 12 software.

Results: The findings show that FSWs suffered major economic loss following the COVID-19 containment measures that limited their movements and locked them out of sex work locations. Being mothers and daily wage earners, women reported challenges actualizing self-care goals for themselves and their children. Due to income loss, increased vulnerability to food and housing security, and mental distress were commonly reported. Specific behavioural actions to prevent contracting COVID-19 in the context of sex work were limited, due to women's inability to maintain social distance from clients.

Conclusion: While the COVID-19 containment measures were intended to protect the public's health, they resulted in significant economic disruption for FSWs, which affected their ability to care for themselves and their children. Addressing the social determinants of sex work and discriminatory exclusionary practices is important for meeting the self-care needs of marginalised populations, especially FSWs and their families.

1. Introduction

Across the globe, efforts to curb the rapid spread and transmission of SARS-CoV-2 which causes COVID-19 (Morens et al., 2020) included maintaining social distancing in public areas, restricting international and local travel, using face masks, hand washing, and mass confinement in disease-prone areas (Centers for Disease Control and Prevention, 2020). In Kenya, additional control measures included closure of social spaces such as hotels and clubs, closure of learning institutions, restrictions on numbers of persons attending social gatherings such as worship services, dusk to dawn curfews, and partial and complete lockdowns and quarantines (Shaw, 2020).

On the global scale, unparalleled economic disruption affected international and local trade, manufacturing, tourism and service industries and transport, leading to mass job and income losses, abject poverty and premature deaths (Deb et al., 2020; Pak et al., 2020).

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Reports by the International Labor Organization (ILO) indicate that the greatest burden of COVID-19 containment measures occurred within informal economies, which represent 90 % and 67 % of total employment in low- and middle-income countries respectively, with women disproportionately affected (International Labour Organization, 2020a, 2020b). Research on the impacts of COVID-19 containment measures on the Kenyan population has reported economic and psychological shocks and food insecurity among households (Pape et al., 2021; Picchioni et al., 2021; World Bank). Other studies conducted in Kenya have reported particular hardships for women (Pinchoff et al., 2021) and a disproportionate impact on FSWs (Kimani et al., 2020; Mantell et al., 2021).

In Kenya, sex work is categorised as illegal under CAP 63 of the Penal Code (National Council of Law Reporting, 2013). However, an estimated 5 % of women of reproductive age residing in Kenya's urban settings are engaged in sex work (Odek et al., 2014). Because of the prevailing legal framework, women in sex work often face societal stigma and discrimination, including harassment by law enforcement agencies (Mbote et al., 2020). Women who sell sex are often mothers and engage in the trade to provide for their children and significant others (Nyariki et al., 2022). Sex work by nature is a person-to-person job, involving bodily engagement often between highly mobile actors. The requirement for social distancing, the closure of sex work venues and the infectious nature of SARS-CoV-2 left sex workers with no viable option for employment (Kimani et al., 2020).

Although there have been studies conducted in Kenya on the impacts of COVID-19 on FSWs (Kimani et al., 2020; Mantell et al., 2021), these studies have not described the actions and behaviours the women adopted for their survival and wellbeing. This paper, therefore, explores the experiences of FSWs during the peak of COVID-19, including their coping mechanisms following the enforcement of containment measures. The self-care theory espoused in Dorthea Orem's theoretical framework, Nursing Self-care Deficit Theory (NSDT) (Orem et al., 2001), is applied to structure the analysis. The theory, refers to the behaviours and actions individuals initiate to maintain life, health and well-being. Orem and colleagues (Orem et al., 1995, 2001) who developed the theory outline four key concepts: self-care in relation to activities individuals perform to maintain health and wellbeing; self-care agency that focuses on individuals' ability to engage in self-care behaviours; self-care demand that involves the totality of self-care actions required for maintaining health and preventing illnesses; and the self-care deficit that focuses on individuals' incapacity to perform needed self-care tasks due prevailing challenges. Although the theory is commonly applied to the nursing field in relation to how patients respond to and manage illnesses, there is growing appreciation of its application in understanding the care contexts of sex workers and other vulnerable populations (Marie, 2009; Nichols et al., 2015; Orchard et al., 2021). A study conducted in Columbia examining cisgender women sex workers efforts in managing psychological well-being, self-care practices in sexual health were seen to be continuous activities, derived from experience, to maintain sexual health and prevent disease, regardless of the existing or non-existent information or health education (Perdomo Sandoval et al., 2024). A study in Brazil examined the meanings attributed to self-care in relation to the action taken by FSWs in preventing and coping with the COVID 19 pandemic (Couto et al., 2023a). We, therefore, draw on these adaptations of the theory to FSWs managing their health and wellbeing, and coping following the COVID-19 containment measures imposed by the Kenyan government in 2020.

2. Methods

2.1. Study design

A qualitative Maisha Fiti follow-up study conducted in July 2020. The study explored FSW experiences and self-care mechanisms following the imposition of COVID-19 containment measures. The Maisha Fiti Study was a three-year mixed methods longitudinal study that was conducted between June 2019 and August 2020. The study involved 1003 female sex workers attending the Sex Workers Outreach Program (SWOP) that is run by the Partners for Health and Development in Africa (PHDA), in Nairobi Kenya. The outreach program offers Sexual and Reproductive Health (SRH) services, including sexually transmitted infections (STI)/HIV prevention and treatment services to FSWs across Nairobi, Kenya's capital. The study examined the association between violence against women, mental health, harmful alcohol and substance use, biological changes to the immune system and HIV (Beattie et al., 2019). The baseline behavioural –biological quantitative (1003 Participants) and qualitative (40 participants) data were collected between June and December 2019. The follow-up quantitative and qualitative data were collected between June 2020 and January 2021.

Participants were eligible to participate in the study if they (i) were assigned female sex at birth, (ii) had accessed SWOP services 12 months prior to contact with the study, (iii) had no pre-existing health conditions (other than HIV) to affect their immunology, and (iv) were willing to provide written consent to participate in the study. The qualitative study sample comprised 47 female sex workers randomly selected from the initial sample of 1003 female sex workers who responded to the quantitative behavioural-biological survey at baseline. Forty of the female sex workers had participated in the qualitative in-depth interviews at baseline, while an additional 7 were randomly selected and interviewed at follow-up to increase the representation of female sex workers below 25 years of age.

2.2. Data collection

Data collection took place in Nairobi in July/August 2020, four months after the COVID-19 outbreak, at the height of COVID-19 fears and containment measures. Data were collected by two experienced social science qualitative researchers using an English/Kiswahili language tool. Since these were follow-up interviews for the majority of the women sampled, the interviewers reviewed the baseline interview notes alongside the in-depth follow-up guiding questions. For each participant, the same interviewer conducted the baseline and follow-up interview. All interviews were conducted face to face, except for two that were conducted by telephone.

In order to capture and draw comparisons across the women's different experiences and during the pandemic the guiding questions for the follow-up remained similar to those at baseline. The questions dwelt on their daily work as selling sex, their experiences around alcohol and substance use, violence and mental health, reproductive health service utilization and HIV risk exposure. During the follow up we included additional questions on their experiences and coping mechanisms during the first few months of the COVID-19 pandemic. Interviews were conducted in secure rooms with adequate spacing and ventilation (open windows) in line with the COVID-19 containment protocols. Hand washing and the wearing of new face masks and face shields were also observed by both interviewers and respondents throughout the interview sessions. With regards to the two interviews conducted online, study participants were contacted and asked to provide a time when they could be free from interruptions and, like other participants, consent was taken before commencing the data collection. A safe word was also agreed between the participant and interviewer to help terminate the interview if the conditions where the participant was sited changed suddenly.

With permission from the respondents, all interviews were audio-recorded, and accompanying notes/'scripts' were taken to complement the recorded text (Rutakumwa et al., 2020). The interviews lasted approximately 50 min.

2.3. Ethical Approval and obligations

Ethical approval to conduct this study was obtained from the London

School of Hygiene and Tropical Medicine, UK, and the Kenyatta National Hospital/University of Nairobi (KNH/UoN) Research Ethics Committees. All study participants were provided with complete and relevant information about the study at the time of the interview, and explanations were provided to enhance understanding before securing their written consent. To ensure confidentiality of participants' data and ease of retrieval all data were assigned numeric identifiers (MF 001 to MF 1003) were replaced and with pseudonyms as contained in this paper. These were assigned to all scripts and transcripts. All participants were compensated a sum of 500 KSH (3.5 USD) for their transport to and from the interview venue.

2.4. Data Analysis

Data analysis commenced with the completion of the first two interviews and continued until all interviews had been completed. Virtual debriefing meetings involving the research team were held daily to discuss the emerging themes and identify gaps for further follow-up. The interviewers wrote out interview notes at the end of each day and shared these with the research team, for discussion in the virtual meetings. All audio-recorded interviews were transcribed verbatim and translated into English. The data were analysed thematically. At the initial stage, the scripts/interview notes were read in their entirety to identify emerging themes for development of the code book. This process involved TB, PS, RK, EN, MK, MP, JP and HB. For completeness and agreement, team coding of one transcript was applied in the first instance, after which the team met to discuss in-depth and finalize the code book. The remaining transcripts were divided among the eight team members and individually coded into NVivo 12 software. Memos were then compiled by the team to generate the accounts of the women's experiences.

3. Results

Analysis of these data revealed four major themes: Impact of the containment measures, Coping with Containment impacts, Motherhood and Care giving, and Self Care deficits. Each of these themes contained several sub-themes on the impacts of income loss and women's coping mechanisms in the context of self-care, which are presented below.

3.1. Participants' characteristics

The participants had ages ranging between 18 and 45 years, with a median age of 30 years. Forty three 43 (91 %) of the women (91 %) were mothers and had had at least one child before starting sex work. Additionally, 37 (79 %) of the women reported financially supporting others besides their children. Further demographic details are provided in Table 1.

Table 1
Social demographic of study participants (Number 47).

Age in years 18-45 years	
Mean- (33.5)	14 (29.8 %)
18–24	19 (40.4 %)
25–34	14 (29.8 %)
35+	
Education Levels	
Primary complete and below	18 (38 %)
Secondary incomplete	15 (32 %)
Secondary complete and above	14 (30 %)
Marital status	
Single (never married)	15 (32 %)
Married or cohabiting	4 (8.5 %)
Separated, widowed or divorced	28 (59.6 %)
Were mothers	
Had at least 1 child	43 (91 %)
Financially supporting own children and others	37 (79 %)

3.2. Impacts of COVID 19 containment measures on female sex workers

3.2.1. Income loss

Many women reported on how their income had been affected following the COVID-19 containment measures that included the closure of venues where they met clients. Ten (~25 %) of the FSWs were not selling sex at the time of data collection. Of the 37 (79 %) who still sold sex, 31 (83 %) were soliciting clients through online platforms, while 22 (59 %) sought clients from a range of different places. More than half (28) of the women who had been selling sex as their main livelihood had found other sources of income at the onset of the pandemic. These livelihoods included selling illicit brew, groceries, second hand shoes and clothes, hairdressing, and domestic work among other trades. However, the income generated through these efforts was unreliable and yielded a small income:

> *I do casual jobs like washing clothes in people's homes, even if you get Kshs.200 (1.40 USD) we will eat that … … in a week you can get like two times. What you get in those two days, even if it is Kshs.200 (1.40 USD) or Kshs.400 (2.80 USD) you know how you will apportion it across the week before getting the next work. (Edwina)*

3.2.2. Challenges sourcing clients

We, heard from participants how at the beginning of 2020 they, like other Kenyans, had continued to conduct their daily activities as usual. For FSWs, this generally meant that as the pandemic began, they could still go out and solicit clients:

> *The year started well because we used to work nicely. One was able to manage financially, such as buying food and paying the children's school fees and other necessities. (Susan)*

However, in March most (89 %) of the study participants reported experiencing financial stress following the containment measures which came into force that month in Kenya. Sex work being based on a daily survival economy premised on physical contact, mobility and spending time with clients, and the requirement to maintain social distance was hit hard by the restrictive measures. The FSWs had resulted in faced income loss thus affecting their ability to care for themselves and their children. The FSWs shared how even the clients who were available were facing financial difficulties, affecting their capacity to pay for sex as before. Jane and Clarice explained:

> *I also don't know what has happened to the clients. They have no money. Even regular ones are nowhere to be found. (Jane)*

> *… you find someone telling you, "if you can't take one hundred (about USD 1) let me go, don't you hear even me I have no money, I am just doing you a favour. (Clarice)*

For other women, the challenge came in compromising on negotiating safe sex and accepting condom-less sex to have a client so they would be able to meet the children's needs:

> *… you find that the client tells you flesh to flesh and when you remember that a kid is waiting for you in the house, you ask yourself, will I leave this money and you say: 'Let me risk and tomorrow I will go to the clinic for treatment' (April)*

Due to the restrictions and night curfew, some sex workers sold sex during the day. This step did not, however, protect them from meeting the police and city council security personnel (askaris) on patrol who could chase and beat them up while hurling accusations at them for behaving inappropriately:

> *I have been beaten a lot by police. They don't want to see us …… because they know I am a sex worker, they chase me around telling me I can't do this during the day and that I am a bad influence on the community. (Wambo)*

This lack of money also meant an inability to afford food which the children liked. Atieno sobbed as she explained her predicament: '*Things have changed and my children do not understand. Sometimes they ask if they will be eating ugali (maize meal staple) daily, it feels (sobs) bad*'. One other woman, Edith, shared how although she was making efforts to feed her family, her youngest child, a son, was scavenging at dumping sites for plastics to sell to get money for food:

Like now I have a son in class five, he has been very disturbing, and we have had issues since he goes to places picking (rubbish), when I get home, I just beat him with anger. It pains me and I cane him because it is not my wish that he stays hungry or sleeps hungry … when he leaves in the morning he goes picking (discarded plastic) bottles … …. it pains me.

To meet household food needs, 25 of the 47 women reported reduced alcohol use. Thus, although alcohol and substance use is an enabler for engaging clients, they now had to choose between consuming alcohol and buying food:

I have had to stop taking alcohol because of lack of money. Bhang (marijuana) would cost me 50 shillings, which right now goes to food. I also don't drink unless I find a friend drinking and I join in. I would like to think that I am reforming (laughs). (Vera)

3.2.3. Inability to afford housing

A majority (35) of women said that they had difficulties raising money to pay their house rent during the pandemic. As a result, more than half (20) were running into debt, forcing some to negotiate with their landlords to reduce the amounts they had to pay or to allow them more time to mobilize the resources they needed to pay. The women stated that even in situations where the rent had been reduced, they still had challenges raising the full amount:

My rent was reduced from Kshs.3, 000 to 1,500 Kshs. (USD 21.3–10.60); sometimes it is very hard to pay because I need money to buy food and other things. I give him whatever little money I have like 100 or 200 shillings and he understands because the times are hard. (Betty)

Not all the women were as fortunate as Betty in having an understanding landlord. The inability to pay the rent led to some women being evicted or being threatened with eviction. To cope with their poor financial situation, some women had moved to smaller and cheaper housing units, as was the case for Mwikali.

I took the children home and then I had to move out of the house I was living in to go to a cheaper one. In addition, now the one that I was using as the store for alcohol, that is what I converted into my small bedroom. I spread a mattress and that is where I sleep.

A solution to the financial crisis was also to sell household items. This was the case with Malikia, who, before the COVID-19 economic downturn, could comfortably raise Kshs. 6000 (USD 42) monthly towards house rent but was in arrears of Kshs. 20,000 (USD 141) at the time of the interview, which she was paying off in small instalments.

I: So after your house was locked what did you do?

R: I took my children and went to stay with friends and whatever little money I got I gave to the landlord … And I even sold some of my household items. I sold my TV; I sold my table and carpet. I made about Kshs.12, 000 (USD 84.51)

3.3. Coping with COVID-19 containment impacts

Despite the challenges faced, the women in our study adapted to COVID-19 containment measures in a bid to safeguard their wellbeing and that of their children. These measures ranged from finding alternative sources of income, alternative avenues for sourcing clients, and managing the risks they faced to COVID-19 exposure, as well as to HIV.

3.3.1. Alternative sources of income and managing finances

As noted above, several women found other sources of income hawking food stuffs, selling second-hand shoes and clothing, and doing laundry in homes. A few also mentioned earning money from working as peer educators in the SWOP program. Prior to COVID-19, Sandra was a pole dancer in a high-end entertainment venue in Nairobi city. Being the sole breadwinner for her ailing grandmother, a mother with mental illness and her younger brother, she knew she had to find something to do. With no business skills and capital, she resorted to selling fruit by the roadside near their residence, a trade that required little capital investment: *Currently, I am selling oranges. I make like Kshs.200 (1.40 USD). Other times when clients call me once in a while I attend to them.*

Cases of sex workers resorting to selling illicit alcohol, popularly known as changaa, were reported. One such woman was Lydia, a married woman who, before COVID-19, drew income from sex work that enabled her to manage the affairs of her household without struggling. Although married, the husband's income was not enough to meet their family needs. She lamented how since the onset of COVID-19, she had had to use her savings*:*

Those days by the time I sold drugs and clothes and then sex work, I could make cool Kshs.10, 000 (USD 70.50) …. After COVID-19, I started withdrawing that money little by little …. until I withdrew the last coin.

Lydia further explained how with advice from her fellow sex workers who were already selling illicit alcohol she too set up her business. Her initial capital was Kshs. 2000 (USD14) for the rent and Kshs.250 (USD 1.76) to buy a litre of brew. With time, she was able to buy up to 3 L of brew, which gave her Kshs.750 (USD 5.30) per day to meet her children's needs:

You see my children were used to bread and butter when they woke up. Then, they wake up and there is no bread and when they ask you what has happened, you don't know what to tell them. Before they used to ask for something and I would provide for whatever they wanted. Now I can't afford it.

Unlike sex work, these new jobs were not only demanding but also had low returns and came with risks. Women selling illicit brew complained of constant police harassment, forcing them to relinquish significant amounts of their daily income to give to the police. Women who provided laundry services reported declining opportunities due to clients' dwindling capacity to pay to have their laundry done or the fear of contracting the virus when working in a client's home.

3.3.2. Alternative client sourcing mechanisms

Findings further revealed how the closure of venues where the women could meet clients for sex and the dusk to dawn curfews had led the FSWs to adopt alternative mechanisms of sourcing clients. The use of mobile phone communication, social media such as Facebook, and meeting up with clients during the day as opposed to the night, grew in popularity.

So what we do we talk on phone and agree where to meet and then we plan and we go to a certain place, have sex and part ways …… There are those who will meet with you in their houses while others will want to meet with you in the lodging. (Lydia)

For others, places for sourcing clients included transport corridors where they could stand and look for truck drivers or in business areas. Unlike the entertainment venues, where the women were able to look out for each other, selling sex along the transport corridors, on their own, increased women's risk of abuse and low payments for sexual services rendered, as most clients were new to them. This was in addition to not being guaranteed that they would find clients, as explained by Damar:

We stand by the roadside like these days we stand along xxx road … …we target those driving along that road and if all goes well you get a client.

3.4. Motherhood and caring arrangements

3.4.1. Child care arrangements

By not being able to go out in the night and the cost implications of engaging a child minder, many women we spoke to were spending more time with their children than before. For some, this was a blessing, as explained by Jamie, who had not sold sex during the pandemic: *Our relationship is so tight, since I stay with them, I can see what they are doing, we sleep together, and I can tell when they are sick or not. We have been good.*

For the women who continued to work, most reported leaving their children on their own mostly under the care of an older child while at work. During the night, some could leave them with relatives or neighbours for a small fee, while some women had taken the children to family in rural areas where they were assured of care and food.

3.5. Self-care practices and risk reduction

Many of the female sex workers in our study employed various self-care practices in an attempt to maintain health and wellness. These practices included managing their risk exposure to SARS-CoV-2 and HIV.

3.5.1. Managing COVID-19 risk exposure during sex work

Although participants were keen on following the COVID-19 protection and prevention modalities of social distancing, wearing masks and washing hands, they noted that these did not hold in the context of sex work that involved bodily contact. A few women like Debbie reported wearing masks during sexual encounters, not kissing clients and avoiding face-to-face contact:

> *We wear the mask and wash our hands …. avoid kissing. I don't remove my mask during sex*

In the case of Debra, although she wanted to use masks, the clients she encountered were always reluctant, and her minimal effort to reduce the risk of contracting COVID-19 was to avoid face-to-face contact: '*when we are together, I put my neck aside, and when we are done, I bathe and leave.'*

3.5.2. Managing COVID-19 risk at the household

In their homes, the women we interviewed told us that they taught their children and encouraged them to observe COVID-19 prevention protocols, such as frequent washing of their hands with water and soap, wearing masks while out with peers and practicing social distancing. This is explained by Audrey:

> *What I have told them is, there at our place there is a water tap just outside the door, sanitizer we were given by my in-law. I don't want then to go outside the plot to play with other children, let them watch the TV; I don't want them going out of the plot. I don't want them loitering …. Because of social distancing that is why I tell them that I don't want them going outside to mix with other children.*

3.5.3. Managing HIV risk exposure

Despite the diminished sex work market that had adversely affected their finances, women were keen on limiting the risks of acquiring HIV. Of the 37 women who sold sex during the COVID-19 containment period, 24 reported consistent condom use with clients even when they desperately needed money. Two women explained:

> *I cannot have sex without condom, not even during these coronavirus times …. there is client who had promised to pay my rent if I didn't use a condom with him. I refused. I would have my house locked before I have unprotected sex. (Aggie)*

> *I have never stopped using condoms because I know condoms as we go to SWOP and we are taught. In addition, me I see the condom is there, so me if someone refuses to use it I just leave him because I value my body; I love my body very much. You know this person even if he is your friend he will just lie to you and in the end you are the one who will be left with the problem. (Tracy)*

However, a third (35 %) of the FSWs who sold sex during COVID-19 reported inconsistent condom use with clients. This behaviour often occurred with regular clients who were considered boyfriends or spouses, while for others, it was out of desperation for money to meet their basic needs. Those on pre-exposure prophylactics (PrEP) found it easier to give in to clients demanding condom-less sex because they were not worried about acquiring HIV, even though it increased their risk of contracting other STIs.

Despite their efforts at STI and HIV prevention, women expressed concern over the possible rise of infections among FSWs due to their precarious economic situations that forced them to choose between condom-less sex and earning something to ensure their children did not go without food.

3.5.4. Moderated alcohol and substance use

Study participants reported reduced consumption of alcohol and substance use during the COVID-19 containment period. For some, this was attributed to their limited access to places where clients could buy them alcohol. For others, such as Clarice, it was the change of priorities that, due to limited finances, meant they were now saving funds to put towards food items: '*This time I can't take alcohol because that money for alcohol has now been diverted to food. There is no money to waste*', she said.

Another woman, Angie, commented:

> *I use muguka (cannabis) … Sometimes I could be walking along the road, bump into someone with muguka and I ask them to buy me and they agree because muguka is only 50 shillings. …. but my use has drastically reduced due to lack of money. I also don't drink because right now there is no client who will buy me alcohol. They have no money.*

Other reasons provided for changes in alcohol and substance use were to reduce the risks of impaired decision making. With their limited resources, women were keen to remain sober to avoid being taken advantage of by clients.

3.5.5. Managing mental distress

Forty of the 47 women reported poor mental health challenges during COVID-19 due to financial instability affecting their ability to meet their basic needs and those of their children. The women lamented how COVID-19 had robbed them of their social lives and, most importantly, the opportunities to earn income. Not only had they lost their social lives, but they were at home with children demanding attention and explanations from their mother for their poor state of living. For some women, like Malikia, this had resulted in abusive episodes: *'sometimes I am so stressed that I take it out on my children, I find myself shouting at them and they in turn cry'*

Angela blamed her 5-year-old son for her struggles: *Sometimes I hate him since I think he is the reason I am struggling and getting tired this way and he is my kid. I previously felt I could even sell the kid, but now I am hopeful.'*

The women mentioned how sharing their problems with fellow sex workers had helped lighten their burdens. For Angie, the early periods of COVID-19 were particularly difficult, as she worried over how to meet the costs of feeding her children and paying rent; however, through interacting with other FSWs, she had learned to cope:

> *I get to talk with other sex workers going through the same problems as me. My problems seem normal and less after sharing and laughing about them … It helps that there are many of us going through the same problems **[…]** we are able to talk about a lot of things from how hard it is to get clients*.

3.6. Self-care deficits

Women on ART reported challenges with treatment adherence, primarily due to the negative effects with taking drugs on empty stomachs: '*adhering has been a challenge because of lack of food. Sometimes I vomit after taking the drugs*' Jane explained. Despite the desire to remain on treatment, the inability to afford food had resulted in 3 out of 10 women putting their treatment on hold as mentioned Malika: *The only challenge has been taking them on an empty stomach yet food is scarce, but I have stopped taking them.*

Poor drug adherence due to insufficient food was reported among PrEP users. Of the 11 (23 %) women who had been on PrEP prior to the pandemic 5 had stopped using it because of side effects. Alexia explained:

> *PrEP I have not taken, I stopped. […] Just after these COVID stories, I even had others in the house, and I stopped. […] I just feel they bore me; I just don't like them. I just feel that they making me have palpitations, they are nauseating, when I take them I feel so low, that is I am not able to cheer up. Before I take them, I am cheerful, and I will do my business well. However, when I take them, I feel fatigued, lazy and sleepy.*

In terms of self-care for COVID-19, none of the FSWs we spoke to had taken a COVID-19 test or had sought treatment for COVID-19-related symptoms. They feared being quarantined: June, for example, said: *I just think if I get tested and get trapped there what would my kids eat […] yes, in case I am taken to quarantine, what will my kids feed on?'* Angie commented:

> *No I have not tested because that will cost me money. I was told they are charging Kshs. 5000 (USD 35) for the test and where am I supposed to get Kshs, 5000 (USD 35) from? [And if she tested] they will give me a positive result even if I'm negative (laughs). I could be perfectly healthy then get a positive result. I might cough due to irritation during sample collection, then they out me in quarantine. What will my children eat when I'm in quarantine? I don't want to get tested. I trust in God to keep me safe. I am taking lemon water.*

Several women mentioned government and private sector programs that had been initiated to provide a cushion for the poor and vulnerable against the severity of the COVID-19 containment measures. They, however, lamented that despite their social economic vulnerability due to income loss they were seldom considered in the financial support or food rations programs in the community. Some women mentioned how they were discriminated against and denied the support that came into their community, as they were assumed to be able to look after themselves.

4. Discussion

In this paper we have documented the impacts of the COVID-19 pandemic and the enforced containment measures on the livelihoods of FSWs attending the Sex Workers Outreach Program (SWOP) in Nairobi, Kenya. In Kenya, sex work is not only criminalized but highly stigmatized thus diminishing the economic options available to the sex workers. Drawing from the self-care framework, which is understood as behaviours and actions taken by individuals, families and communities to maintain and promote good health as well as prevent illnesses and any negative eventualities (Orem et al., 2001) we discuss their efforts to adapt to the COVID-19 containment measures and the challenges they faced in self-care and the care of their children. Our study findings showed that prior to the COVID-19 pandemic, the majority of study participants were reliant on sex work as an avenue for self-care, as it acted as an enabler to actualizing their mothering roles (Nyariki et al., 2022; Shah et al., 2023; Wanjiru et al., 2022).

Similar to other settings, our findings show that although the COVID-19 containment measures were intended for the public good, they resulted in substantial or total loss of income for FSWs, thus disabling their capacity to care for their children and themselves. Due to the inability to make money, female sex workers had heightened food and housing insecurities, and sexual risky behaviours. These findings are aligned with recent studies, where FSWs have reported income loss leading to multifaceted insecurities following the COVID-19 lockdowns (Hamadani et al., 2020; Hassan et al., 2021; Kimani et al., 2020; Mantell et al., 2021; Museva et al., 2021; Picchioni et al., 2021). It was further shown that although mental health is an essential element in self-care it was unattainable for the sex workers following the COVID -19 containment measures. The period was marked with increased anxiety, due to economic instability, loss of social networks resulting in unanticipated self-care deficits as has been reported in other studies (Brooks et al., 2023; Couto et al., 2022, 2023b).

Faced with the risk of contracting COVID-19 and/or HIV, a loss of livelihood and yet the continuing role of providing for their children, the women had to make hard choices. For these women, self-care behaviours and actions were mediated by their sense of the impending risks and their need to meet the needs of their children. Similar to findings from other settings, several women in this study reported reducing sex work and/or adopting other forms of income generation even though less well paid for fear of contracting COVID-19 in addition to difficulties engaging clients (Hassan et al., 2021; Jozaghi & Bird, 2020; King et al., 2023). For others, sex work remained the main income source, and to survive, many took to other means of sourcing clients and meeting them away from the entertainment venues, as has been reported in other studies (King et al., 2023).

We found that being the primary caregivers to their children the female sex workers, as previously reported (Nyariki et al., 2023), had additional caring duties because of the COVID-19 containment measures that had resulted in schools' closure, had added a layer of complexity to their engagement in self-care. Besides an inability to pay for child minders they had challenges ensuring children's adherence to the COVID-19 prevention protocols of social distancing, wearing of masks and washing of hands which were not always adhered to at all times, as reported in other studies (Plevinsky et al., 2020).

Findings from the study showed threats to the gains made by in the female sex workers self-actualization, actions motivated by the education received through the SWOP clinics and their agency to live to raise their children (Nyariki et al., 2022). However, the gains could not withstand the threats resulting from the economic impacts of the COVID-19 containment measures. Because of their restricted capacity to negotiate for better pay and safe sex with clients, several of them reported accepting meagre pay for the sake of meeting their children's basic needs. These findings resonate with those of a study conducted in Zimbabwe that reported FSW adoption of risky sexual behaviours in order to manage to make a living (Mavhandu-Mudzusi & Moyo, 2022).

Our findings show that FSWs and their children experienced food insecurity. Because of income loss occasioned by the COVID-19 containment measures, a majority of the women in this study were not able to provide adequate and quality food to their children, as reported in other studies (Corburn et al., 2020; Mantell et al., 2021; Picchioni et al., 2021). In keeping with other studies in other settings, food insecurity was said to affect drug adherence among FSWs living with HIV (Chop et al., 2017). The findings suggest that although at an individual level the FSWs living with HIV were seen to engage in health-promoting behaviours, not having a reliable source of income to afford food and to be able pay for basic needs resulted in substantial anxiety and stress, thus comprising their agency to attain wellness (Beattie et al., 2020; Panneh et al., 2022).

The findings further showed that despite the Kenya government's efforts to put in place social protection to cushion the urban poor and vulnerable from the harsh impacts of the COVID-19 containment measures, the majority of FSWs did not benefit from these programs. This was due to the illegality of sex work and the persistent stigma and discrimination of sex workers, as evidenced from other studies in the region (Hassan et al., 2021; Reza-Paul et al., 2022). A study conducted in

South Africa, reported that due to the criminalization of sex work, FSWs did not fall within the bracket of those receiving social protection (Mlambo & Masuku, 2023).

We found that many of the women were spending more time with children than before, which they saw as a benefit (Nyariki et al., 2022). Their financial decisions focused on providing food and shelter for the family. To meet these obligations, many made mention of adopting cost-saving measures that included avoiding the purchase of alcohol, reducing the amounts and times of daily food intake and sometimes missing the afternoon meal. These findings are in line with those reported in Kenya and other regions (King et al., 2023; Mantell et al., 2021; Mavhandu-Mudzusi & Moyo, 2022; Zemrani et al., 2021).

4.1. Strengths and weaknesses of the study

A major strength of this study was our ability to build on the already existing relationship between study participants, which allowed the study team to stay in contact with the participants during the difficult months of the COVID-19 containment measures, to collect the data. However, the findings from this study have provided insights to experiences and coping mechanisms of female sex workers in relation to COVID, the findings cannot be generalized to other sex worker populations not enrolled in the SWOP programs. The majority of the women in this study were mothers and their experiences may not be representative of female sex workers without children.

4.2. Conclusions

FSWs in Nairobi, Kenya, usually enter sex work to meet the needs of their families and those of their own. By framing the findings of this study within the self-care lens, the findings from this study point to the need for programs to re-evaluate the available care and support provided to FSWs and marginalised populations and how to meet the needs of these women in the case of emerging infections such as COVID-19. The findings therefore suggest a holistic approach to understanding and addressing the barriers to the self-care needs of FSWs and other marginalised populations to meet their actualization of self-care goals. Rights-based programming particularly social protection geared towards cushioning the poor and vulnerable is vital in meeting the needs of FSWs.

CRediT authorship contribution statement

Emily Nyariki: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Mamtuti Panneh:** Writing – review & editing, Methodology, Formal analysis. **Rhoda Wanjiru:** Writing – review & editing, Project administration, Methodology, Formal analysis. **Pooja Shah:** Writing – review & editing, Formal analysis, Data curation. **James Pollock:** Writing – review & editing, Formal analysis. **Hellen Babu:** Writing – review & editing, Formal analysis. **Mary Kungu:** Writing – review & editing, Project administration, Formal analysis. **Alicja Beksinka:** Writing – review & editing, Formal analysis. **Jennifer Liku:** Writing – review & editing, Investigation. **Joshua Kimani:** Writing – review & editing, Supervision, Resources, Project administration. **Janet Seeley:** Writing – review & editing, Supervision, Methodology, Funding acquisition. **Tara S. Beattie:** Writing – review & editing, Supervision, Funding acquisition, Data curation.

Data availability

The data informing this study are not publicly available due to privacy or ethical restrictions. However, requests for segments of the data may be available on request from the corresponding author.

Ethical declaration statement

The Maisha Fiti study was ethically approved by the Kenyatta National Hospital – University of Nairobi Ethics Review Committee (KNH ERC P778/11/2018), the Research Ethics Committees at the London School of Hygiene and Tropical Medicine (Approval number: 16229) and the University of Toronto (Approval number: 37046).

Written informed consent was obtained from all the participants in accordance with the ethics requirements and all methods were carried out by relevant guidelines.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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