Understanding pathways leading to stillbirth: the role of care-seeking and care received during pregnancy and childbirth in Kabul province, Afghanistan

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Abstract

Background: The underlying pathways leading to stillbirth in low- and middle-income countries are not well understood. Context-specific understanding of how and why stillbirths occur is needed to prioritise interventions and identify barriers to their effective implementation and uptake.

Aim: To explore the contribution of contextual, individual, household-level and health system factors to stillbirth in Afghanistan.

Methods: Using a qualitative approach, we conducted semi-structured in-depth interviews with women and men that experienced stillbirth, female elders, community health workers, healthcare providers, and government officials in Kabul province, Afghanistan between October-November 2017. We used thematic analysis to identify contributing factors and developed a conceptual map describing possible pathways to stillbirth.

Findings: We found that low utilisation and access to healthcare was a key contributing factor, as were unmanaged conditions in pregnancy that increased women’s risk of complications and stillbirth. Sociocultural factors related to the treatment of women and perceptions about medical interventions deprived women of interventions that could potentially prevent stillbirth. The quality of care from public and private providers during pregnancy and childbirth was a recurring concern exacerbated by health system constraints that led to unnecessary delays; while environmental factors linked to the ongoing conflict were also perceived to contribute to stillbirth. These pathways were underscored by social, cultural, economic factors and individual perceptions that contributed to the three-delays.
Discussion: Efforts are needed at the community-level to facilitate care-seeking and raise awareness of stillbirth risk factors and the facility-level to strengthen antenatal and childbirth care quality, ensure culturally appropriate and respectful care, and reduce treatment delays.

Key words: Stillbirth; fetal death; perinatal death, health services access, care-seeking, quality of care, health system; Afghanistan

Statement of significance

Problem or issue
- Stillbirth prevention efforts in low- and middle-income countries (LMIC) have been hampered by inadequate investigation into the underlying contextual factors that contribute to these deaths and which affect the uptake of preventative measures and interventions.
- Afghanistan is a high stillbirth burden country, yet there has not been any research into parent’s or healthcare providers’ experiences of stillbirth to understand how and why these deaths occur to inform future prevention efforts.

What is already known
- Stillbirth rates remain high in LMICs despite several known interventions available to prevent stillbirths in these settings.

What this paper adds
- This study provides insight into the various pathways that may lead to stillbirth in Afghanistan.
- We identify where efforts can be directed to achieve reductions in stillbirth highlighting where interventions and services may be ineffective or require adaptation.
Introduction

Stillbirths were recently described as a ‘neglected epidemic of grief’, highlighting the inadequate reduction in the burden and lack of recognition of the impact these deaths have on families and caregivers.¹ A stillbirth is a baby born without signs of life from anywhere between 22-28 weeks of pregnancy through to childbirth (a lower gestational age threshold of 16 or 20 weeks is adopted in many high-income countries²).³ The slowest declines in stillbirths have been in low- and middle-income countries (LMICs) which account for 98% of the 2.6 million third-trimester stillbirths every year.⁴ Limited understanding of the risk factors and causes of stillbirth in these settings arising from decades of no or inadequate data, and lack of investigation into these deaths, has been a major impediment to stillbirth prevention efforts.²,⁴ Many stillbirths are preventable with known, low-cost interventions;⁵ however, to select, prioritise and implement these interventions requires data and knowledge on the major risk factors and causes within each country context – data which are currently lacking.⁴

Current recommendations for policy and programmatic focus to reduce stillbirth emphasise the need to increase uptake of and improve the quality of antenatal care (ANC), promote skilled birth attendance, facility births, and ensure quality basic and emergency obstetric care.⁶ However, there are numerous challenges to the adequate implementation, accessibility and uptake of these interventions, many of which are context-specific.⁶ The effectiveness of these interventions hinges on decisions that occur in the home and how families regard pregnancy, respond to complications, and subsequently decide to access care in a timely manner. These decisions are largely shaped by socio-cultural norms, beliefs and practices, socio-economic factors, and the perceived need and acceptability of health services.⁷,⁸ Culture, tradition, and social values also have an important role in pregnancy, childbirth and on care-seeking behaviour;⁹ social and cultural norms also influence the role of women and men in society, their decision-making capacity, and access to household resources. There is also an array of factors that influence the health system’s capacity to deliver adequate and quality care. Understanding the inter-relation of these factors and the underlying social processes that occur at the individual, household,
and community level needs to be explored and understood in order to inform effective interventions for stillbirth reduction.

Afghanistan is a low-income, war-torn nation that has faced over four decades of conflict, political instability, internal displacement and widespread poverty. Under-five child and neonatal mortality rates have declined considerably over the past two decades but continue to remain some of the highest globally\(^\text{10}\). In 2018, Afghanistan's under-five child mortality rate was estimated at 62 per 1000 live births and the neonatal mortality rate at 37 per 1000 live births.\(^\text{11}\) The most recent maternal mortality estimates for 2015 have shown a concerning increase since 2010 to 1291 per 100 000 live births.\(^\text{12}\) Stillbirth rates have remained persistently high with an estimated 27 per 1000 births in 2015 and average annual rate of reduction of only 1.9% between 2000 and 2015.\(^\text{13}\)

Exceptional progress was made in reducing maternal and child mortality following the fall of the Taliban in 2001 after which the Afghanistan Ministry of Health along with international partners invested heavily in rebuilding the health system, training female doctors, midwives and community health workers to address severe human resource shortages.\(^\text{14,15}\) These efforts have improved access to care, however, ensuring the provision and uptake of health services has been an ongoing challenge due to accessibility, remoteness, poverty and restrictions on women's mobility\(^\text{16}\). Challenges with quality of care continue to persist despite quality of care improvement initiatives.\(^\text{17,18}\) Several studies have documented gaps in the capacity of healthcare providers to provide intrapartum care and detect and treat maternal conditions in pregnancy, both of which can increase risk to stillbirth.\(^\text{17,19,20}\) Stillbirth prevention has received little recognition to date and was not mentioned in the most recent 2017-2021 National Reproductive, Maternal, Newborn, Child and Adolescent Strategy.\(^\text{21}\) The absence of data and evidence on the burden and risk factors for stillbirths is a contributing factor to the lack of attention to stillbirth prevention efforts.
To date, two studies have investigated the underlying reasons behind the high burden of stillbirth in Afghanistan. A 2006 study exploring perinatal outcomes in three tertiary hospitals in Kabul found unusually high rates of fetal death in term babies even after caesarean section suggesting delayed or low-quality intrapartum care. In this study, women admitted with intrapartum complications had over six times greater risk of stillbirth. A recent analysis of the 2010 Afghanistan Mortality Survey (AMS) identified key risk factors for stillbirth at the national level. Women who did not receive ANC, or had pregnancy complications such as antepartum bleeding, infections, headaches, and reduced fetal movement had significantly increased risk of stillbirth. Stillbirth was also associated with region of residence, ethnicity, and giving birth at a health facility. Quality of ANC was also strongly associated with intrapartum stillbirth, suggesting many stillbirths might be prevented through early detection and management of risk factors during pregnancy. Although useful for programmatic focus, these findings do not explain the reasons why women do not access care, or why stillbirth risk is raised when women give birth in a health facility, or why maternal conditions that increase stillbirth risk remain untreated.

Qualitative studies examining stillbirth in low-resource settings are few and generally focused on understanding the experiences and impact that stillbirth have on families and are critically important. What is not so well explored are the underlying pathways and contributing factors that lead to these deaths. Social autopsy is a method increasingly being used in LMICs to identify the social, cultural, behavioural, and health system factors contributing to newborn, child and maternal deaths. Often used together with verbal autopsy, social autopsy examines aspects around care-seeking, health behaviours, cultural norms, and local practices that can provide further insight into the contributing social factors behind the death. Analysis of social autopsies are often guided by conceptual frameworks such as the Three Delays Model and Pathways to Survival. Taking on a similar approach, here we aimed to understand from parent’s and healthcare providers’ experiences, the underlying contextual, individual, household, and health system factors that led to stillbirth in Afghanistan as there are no studies which have investigated the experiences of women, families, or healthcare providers of stillbirth
to understand why and how these deaths occur. By examining these pathways, we can identify where interventions and efforts are needed to prevent stillbirths and how to adapt these for communities in Afghanistan.

Participants, Ethics & Methods

Study design
We conducted a qualitative study using semi-structured, in-depth interviews with mothers and fathers who had recently experienced a stillbirth, female community elders, community health workers, various healthcare providers at maternity hospitals, and government health officials.

Study setting
The study was conducted between October and November 2017 in urban and rural districts of Kabul province in Afghanistan where the capital, Kabul, is situated. This province was chosen as the most feasible and secure location in the country at the time, although Kabul province and the capital continue to experience increasing insecurity and are targeted regularly by insurgents. Study sites included three of the capital’s largest referral maternity hospitals and two lower-level health facilities in two rural districts ~25-30 kilometres west and north of Kabul city. Located in the eastern part of Afghanistan, over half of Kabul province is mountainous or semi-mountainous terrain. In 2017-18, the total population was 4.7 million, 80% of which were urban residents. The population is comprised of multiple ethnic groups; Pashtuns and Tajiks make up the majority, followed by the Hazara, Uzbeks, Baloch, Turkmen and several other minority groups. In Kabul province, almost one-third of women aged 15-49 years are literate compared to 15% nation-wide and the fertility rate in 2015 was 4.6 – slightly lower than the national average of 5.3.

Coverage of healthcare in the province is generally far better than other provinces due to the availability of specialist and referral facilities in the capital. In 2015, approximately 80% of women in
gave birth in a health facility compared to 48% nationally, and 66% received at least one ANC visit, compared to 59% nationwide. However, over 80% of women in Kabul reported at least one problem with accessing health care in 2015.

**Study participants and recruitment**

A total of 55 participants were included and recruited using purposive and snowball sampling, detailed elsewhere (reference omitted)(see Table A1, Appendix). Briefly, we identified mothers who gave birth to a stillborn either from hospital medical records and contacted them by telephone if numbers were available, through notification from healthcare providers when a stillbirth occurred, or through our local interviewers’ networks. Fathers were recruited through identified mothers. In rural districts, Community Health Workers (CHWs) assisted with identifying participants including female elders. We endeavoured to recruit women that gave birth at home as well as at the health facility as they were likely to have different experiences.

Key informants including healthcare providers/managers and government officials were identified in consultation with local study investigators and consideration of respondents' role in the delivery or management of maternal, reproductive, neonatal, and child health services at maternity hospitals, and within the Afghanistan Ministry of Public Health (MoPH). To recruit healthcare providers, the study investigators approached hospital managers/directors to explain the study, obtain their support, and invite them to participate. These individuals then identified and referred us to relevant health facility staff to arrange interviews.

**Data collection**
We prepared separate semi-structured interview guides for each participant group to explore their experiences, perceptions and practices around stillbirth (see Appendix). Interviews were conducted by three experienced Afghan qualitative interviewers in either Dari or Pashto, the two official Afghan languages. The first author, a foreign female public health researcher, also conducted interviews in English with selected healthcare providers and key informants, where appropriate. Interviewers participated in three-days training on the background and objectives of the research study and interview procedure, interpretation of the interview instruments, and qualitative data collection. Interview guides were then piloted and refined over two days.

Interviews took place in private locations preferred by participants. Prior to commencement of interviews, participants were provided with information on the study and gave verbal or written informed consent. Some women were prohibited by their mothers-in-law from being interviewed alone and so in these cases, they were also present during the interview. For socio-cultural reasons, interviews were conducted by a member of the same gender as the participant. Interviews were audio-recorded when consent was obtained; however, over half of women's interviews were not audio-recorded due to women's concerns about privacy, or prevention by the mother-in-law. In these cases, interviewers took detailed notes which were expanded after the interview. Interviewers also completed a debrief form to document non-verbal observations during the interview about the participant or the interview environment, any new topics that arose, and challenges faced.

Transcription of audio-recorded interviews was done verbatim then translated to English. Translated transcripts were cross-checked by local interviewers and study investigators for accuracy and to clarify contextual meaning. Daily debriefing meetings were held among the study team to discuss processes and challenges during data collection and reflect on emerging findings. Interviews with mothers, fathers, and healthcare providers continued until we had obtained a range of responses and reached a point in the data collection where no additional themes were emerging.32
Data analysis and theoretical framework

To analyse the data, the first author first read all transcripts multiple times and prepared an initial code list based on the interview guide topics adding new codes as additional concepts emerged. Two authors discussed and refined the code list and one subsequently coded all transcripts line-by-line based on this coding framework. Transcripts were imported into N-vivo 11 software to facilitate data management and development of the coding scheme. To analyse the data, we used thematic analysis wherein our themes were key concepts perceived to have potentially contributed or led to stillbirth/death either directly or indirectly based on the narratives of respondents. Theme development was primarily deductive and informed by existing theoretical frameworks including the three delays model and models to understand determinants of access to care.

The three delays model proposed by Thaddeus & Maine to explain why maternal deaths occur is also useful for understanding the events leading to stillbirths, as timely care-seeking is critical to stillbirth prevention. The three delays include the first delay at home to make the decision to seek care, the second delay which is related to the time taken to reach care, and the third delay related to the time taken to receive (quality) care once at the health facility. This model considers three broad groups of factors that determine utilisation and outcome; i) socio-economic and cultural factors, ii) accessibility of facilities, and iii) quality of care. Critically, it considers the decision-making process which itself is influenced by the socio-cultural context and individual and community knowledge and perceptions about quality of care. Several theoretical frameworks have also been developed to understand factors affecting access to care which including accessibility, availability, affordability, acceptability and perceived need.

We used components of these frameworks to facilitate grouping of factors to understand how and why stillbirth occurred. Themes were revised and refined after discussion among team members.
Perspectives of various participant groups assisted with triangulating findings and allowed us to obtain a more comprehensive picture of the factors contributing to stillbirth. The overall analysis was used to develop a conceptual map describing the possible pathways leading to stillbirth in the context of Kabul province in Afghanistan.

Ethical approval for the study was provided by the [Institute name omitted, Afghanistan] (no. 43831) and the ethical review committee of the University of [name omitted] (no. 2017/566). Written permission was received from participating hospitals permitting access to health facilities to identify women who had a stillbirth.

Results

Participant characteristics

The socio-demographic and obstetric characteristics of mothers and fathers that had experienced a stillbirth (Table A2) indicate that were almost equal numbers of urban and rural residents and most were of Tajik or Pashtun ethnicity. Almost all mothers were not educated (17/21) and five of the nine of the fathers were employed. Most respondents had lost their infant at term (9 or more months gestation) and almost half had experienced a previous perinatal loss (miscarriage or stillbirth). Only 3 of the 21 women interviewed gave birth at home while the remainder gave birth at a health facility.

Main findings

We identified several underlying themes contributing to stillbirth, either directly or indirectly, which we grouped under five categories representing the main pathways, I) Low access and utilisation of healthcare, II) Socio-cultural factors, III) Unmanaged maternal conditions, IV) Quality of care, and V) Environmental factors. Under each of these pathways, we explored the driving factors and processes that led to these, and also highlight where the phases of three delays’ contribute to stillbirth. We summarise these pathways into a conceptual map (Figure 1).
I. Low utilisation and access to healthcare during pregnancy & childbirth

The low levels of utilisation and access to healthcare appeared to be contributing factors increasing women’s risk to stillbirth. Driving factors underlying low access and utilisation were summarised under six key sub-themes – i) women’s lack of autonomy and decision-making power, ii) socio-cultural barriers to attending health facilities, iii) low perceived need & benefit of pregnancy care, iv) economic barriers to access, v) physical access barriers, and vi) perceived quality of care at facilities.

Women’s lack of autonomy and decision-making power

Women’s lack of autonomy and decision-making power around care-seeking during pregnancy for routine ANC, and when experiencing problems or choosing where to give birth, created major barriers for women to access care and appeared to be an important factor contributing to stillbirth. This was compounded by restrictions on women, particularly in rural areas, to freely travel alone. These factors all contributed to the first delay. In Afghan households, the mother-in-law is usually the key decision-maker in the family, followed by her son, and both impeded access to health services. One mother explains,

‘When I became very sick during the delivery, my mother told my mother-in-law, “As it is her first baby, we must take her to the hospital.” But my mother-in-law told her, “I hadn’t gone to the hospital in my time, but still I had healthy children; therefore, I won’t let her visit the hospital.”

-Mother#13

A CHW described how many women were prohibited by their families to give birth in a health facility, and so she and another health worker would assist these women to deliver their baby at home, ‘...if
there are some women whose in-laws don’t allow them (to attend a health facility), then I and [-name of CHW omitted-] visit there and help them…She is also a health worker like me. Then she visits there and helps them till they deliver the baby.’ [CHW#01].

Husbands also had a central role in decision-making to seek care, and several women stated that the reason they did not access care or delayed when they faced complications was because their husbands prohibited them. A female elder who assisted her daughter-in-law during childbirth explained; ‘Our males don’t allow women to deliver the baby in the hospital, so I helped her in the delivery...’ [Female elder#03]. A mother of a stillborn had complained of severe headaches during her pregnancy and said she had informed her husband about her problem, but when asked why she did not seek care she stated, ‘I was so worried, but if someone (referring to her husband) doesn’t accept what I say, then what can I do?’ [Mother#17]. Another described how she had severe bleeding but did not go to the hospital for over five days, ‘...I think I have done heavy work and I might have lifted a heavy sack which caused it’s death. I had severe pain and bleeding...It was 5 – 6 days before I was taken to the hospital and I couldn’t stand.’ When asked why she did not seek care earlier, she responded, ‘My husband didn’t allow me. All my children are small, but I have only one young daughter and she is sick.’ [Mother#07] - implying that she did not have anyone else in the home or a daughter old enough to take care of the housework. This was a recurring issue raised by several women who were not able to leave the home or delayed seeking care due to household responsibilities.

Other circumstances where women reported not having a say in decision-making was when medical interventions were required. One young mother who had a previous miscarriage followed by a term stillbirth described how in the seventh month of her third pregnancy she again experienced severe symptoms, ‘...I faced high blood pressure problem and my hands and feet were swollen. So, I told my father-in-law about this problem. I was serious and I couldn’t be taken to the doctor. Later, it became so serious and then I told my mother-in-law about it...So, I was taken from Shamali (area north-east of
Kabul) to Kabul in a Suzuki carry wagon. The doctors said I needed to have artificial pain (induction) and have the delivery, because there was no other way...They said that I might die or the baby might, but my mother-in-law told the doctor not to give me artificial pain, and we would see what happens and suggested to only prescribe me medicines...' [Mother#16]. When she returned home and went into labour in her ninth month, she started bleeding heavily, and the baby was stillborn.

**Socio-cultural barriers to attending health facilities**

Receiving treatment from a male doctor was a factor that deterred women from attending health facilities, particularly in rural areas where there were fewer female healthcare providers. One mother when probed about why her mother-in-law did not want her to see a health provider it became clear that it was related to the fear of having her be seen by a male doctor, ‘...She is sad for my baby, but she says it is not good that a male doctor checks me up. My mother-in-law doesn’t accept it.’ [Mother#13].

Additional barriers were related to the appropriateness of the facilities in rural areas, which contributed to the first, and sometimes, second delay as families would bypass lower-level facilities to attend tertiary hospitals in Kabul which had many female providers. One respondent explained,

‘...some of our health facilities are culturally not acceptable because the delivery room is exposed, the venue is behind the yard, and the premises of health facilities have many other clients, and men are coming to receive services and that’s why mothers don’t like to come.’

-MoPH official

Healthcare providers also stated that a key reason women were not accessing ANC was because of the shame associated with getting pregnant and its association with sexual activity. This was especially problematic among younger women who were pregnant for the first time. This added to the first delay as women would avoid disclosing the pregnancy and any problems to her family.
Low perceived need and benefit of care during pregnancy

Reasons for not accessing care were underscored by perceptions that it was unnecessary due to previous uneventful pregnancies or that non-attendance was the norm. Many women gave birth at home at the insistence of their husband or mother-in-law who believed it was unnecessary to attend a health facility, ‘I always helped my daughters-in-law deliver the baby. You can see that all my grandchildren are healthy… It isn’t necessary to take my daughter-in-law to the hospital for the delivery.’ [Female elder#03]. Fathers tended to agree with and trusted their mothers’ decision, as this bereaved father asserted, ‘Yes, she (his mother) is more expert; she said that, there is no need to go to hospital.’ [Father#04].

Over half the women interviewed had not received ANC during their pregnancy, many of whom thought there was no need because their previous births had been without problems. One mother explained, ‘I was nine months pregnant when suddenly my blood pressure went high and I had bleeding. I visited a clinic nearby our house, but we were told in the clinic that they couldn’t do anything, so I should visit the hospital quickly… Then I visit the hospital and the doctor did an ultrasound test. She said that my baby is lost.’ [Mother#12]. When asked why she didn’t have any ANC she replied, ‘I always had normal blood pressure and I have delivered other children too, but I haven’t had the blood pressure issue (that time)’.

Not acting on or delaying care-seeking for problems in pregnancy or childbirth was also common and led to further delays in receiving care and ultimately increased the risk of stillbirth. Sometimes, women themselves would delay, as one father recounts, ‘...a week before he was born, my wife complained of pain…I told her let’s go to the clinic…she has gone to this clinic and the doctor has given her the pills for anaemia, but on the second night she also complained of pain, I told her, let’s go to the clinic, but she told me it will be ok, there is no need to go to the clinic. On the third night she felt pain again and I brought her to the clinic, but they referred us to Kabul city…After 20 minutes my mother came to me...’
and told me that the son born, but he is stillbirth. Three days before the delivery he was alive in his mother’s womb...' [Father#06].

Women in this study generally had little awareness of the importance of ANC, but also of general pregnancy care and expressed a desire for information. One mother who previously had a miscarriage, when asked if she was advised by anyone to seek care, she replied, ‘No, no-one has told me...I have requested my mother-in-law so many times that I have lost two babies since I was married but you haven’t told me what to do, because you are also like my mother to me. You haven’t told me what was right and wrong...’ [Mother#17]. A CHW also reiterated that women were not aware of their own care practices during pregnancy and continued to engage in heavy physical work, stating that, ‘...they (pregnant women) don’t know how to protect themselves. They bring pails full of water from the hand pump to their homes, they are cooking breads in the oven, and they are pulling the pails full of the grass and dung to the roof, which weigh about 21 or 28 kilograms.’ She added that lack of knowledge about birth spacing was an issue contributing to anaemia and placing women at risk of adverse outcomes, but that it was also a challenge to educate women, ‘Some of them have 8 or 9 children because there was no birth space and physically they are weak...Some of the people know the benefit of birth space, but most of the people don’t know...’ [CHW#03]

Healthcare providers raised similar concerns about women’s lack of knowledge of pregnancy nutrition. A ward chief in a maternity hospital who also had a private ANC clinic said, ‘Our people are poor, our people don’t have information about some things because they are illiterate, uneducated...They didn’t have information about their feeding! [what they should eat]. That vegetables are very important, that nutrition is very important...They don’t know about this.’ [Neonatal ward chief_facility#01]. Inadequate intake of folic acid supplements among pregnant women was also raised as a factor, as one doctor explained, ‘...the main reason for stillbirth is the neural tube defect, and it can be prevented by folic acid. The gynaecologist should advise folic acid to pregnant mothers, or there should be a huge campaign for
using the folic acid for mothers who want to get pregnant or are already pregnant...’ [Neonatal ward chief_facility#02]. Another concern mentioned by several providers was that many women continued to take medications while pregnant that led to miscarriage and stillbirth, unaware of the harmful effects they had on the fetus, such as analgesics and medication for seizures or epilepsy which were easily accessible without a prescription.

There was an overarching belief by families that consulting a medical provider was only needed for a problem rather than as a preventive strategy, contributing to the first delay. It was common practice to give birth at home and access care only when complications arose. A father whose aunt had delivered several of his children at home stated, ‘...she has good experience and all deliveries were done well, there were no problem. If there was any problem we went to the hospital.’ [Father#05]. This meant women were arriving at health facilities too late with complications. Health providers mentioned bleeding, prolonged or obstructed labour, placental abruption and placenta previa as common complications they dealt with because of this delay. One mother who was six months pregnant with her sixth baby described her birth, ‘... it wasn’t properly [normally] delivered, because I had a problem with bleeding. I had bleeding for (a) longer time and it [the baby] was stuck too. So, then it was taken (out) in parts...’ [Mother#14]. Doctors at tertiary referral hospitals also reported that most admitted maternity patients were high-risk,

‘There are other problems also; sometimes the patient comes from other hospital - provincial hospital and private clinics in (a) bad situation. They come here and labour a stillbirth. We know that the main problem may be obstructed labour... infection, maybe PROMS...The patients come with complication! About 80% of our patients come with complications.’

- Hospital deputy director_facility#01
Economic barriers to access

Poor socio-economic status was a reason for not receiving ANC during pregnancy or giving birth at a health facility. Many parents were aware of the need and importance of seeing a doctor during pregnancy but did so only when they could afford it, ‘I was taken to the doctor if I had severe pain or problem. It depended upon the money.’ [Mother#14]. Another father who lost his twins, one as a stillborn and one in the early neonatal period, acknowledged that he could not afford to take his wife to the doctor, ‘...the economic situation was very bad and I couldn’t bring my wife to the doctor for the antenatal care.’ [Father#09].

Socio-economic status also affected women’s ability to pay for medication or treatments needed for conditions that would reduce their risk of stillbirth – contributing to the second delay. One respondent who suffered complications from high blood pressure and had two stillbirths expressed how she could not afford to buy medication for her condition. Another woman who also lost her baby described how she could not afford preventive treatment for her condition,

‘...I had a big problem. I was so weak [anaemic] and my uterus was two degrees down.... I have spent lots of money, but it hasn’t been cured...I was told that I need to be surgically operated, but I don’t have anyone at home to take care of children...Besides, we don’t have good economic condition to have the medical treatment...'  

-Mother#14

The cost of care once at the facility also discouraged families from deciding to seek care, contributing to the first delay. Families described how, despite being public facilities, they had to purchase everything from gloves to birthing kits, and staff would also demand bribes, ‘...there is no good care or service for the patients in [name of maternity hospital omitted] Hospital. The entire world refuses to visit [name of maternity] hospital...There is only the package (newborn kit) to buy and then this package is divided
for two babies... We bought gloves not only once, but 4, 5, 6 and 8 times and they ask for money... The nurses and the midwives receive such money. They take up to 100 – 300 Afghans (~3-4 USD). They ask for it when a baby boy is born...’ [Mother#14].

**Physical access barriers**

Access to facilities in terms of distance, physical availability, and security compromised women’s ability to receive timely care and contributed to stillbirth through the first and second delays. The availability of health services in rural areas was also a challenge. Several women spoke of not having available services nearby. One mother who lived in rural district travelled to a public maternity hospital in Kabul to give birth as there was no public facility near where she lived, only a private hospital she couldn’t afford. Another mother recounted how she started having pain and bleeding at night before her delivery but waited until morning because her nearest facility was too far. By the time she arrived at the facility the next day, she had lost her baby,

‘...I had severe pain and a little bleeding at night. When the bleeding started, I told my mother-in-law and she called the local midwife, but the midwife didn’t know what to do. She told me to visit the hospital. It was late at night and our house was far away from the hospital; therefore, I visited the next morning. I suffered the pain till the morning and then I visited the hospital. When I was checked-up I was told that the baby is lost, and I needed to do the surgical operation...’

-Mother#11

Insecurity from the ongoing conflict in Afghanistan also compromised the ability of families to access health facilities and led to the second delay. One mother described fleeing her village because of the fighting and was not able to reach a facility in time. Her mother-in-law tried to deliver the baby, but due to difficult labour, the baby was stillborn,
'I had a nine-month pregnancy but there was battle in our village and I was in Kunduz. We left the house and escaped and came toward Kabul... We had travelled some distance then I got sick, my mother-in-law said that she needed to find a hospital. We got off the car in a village where there my father-in-law's friend was living but we couldn't reach to the clinic. I had lots of bleeding. Then my father-in-law took me to one of our relatives' house and I delivered the baby there, but it was dead... My mother-in-law and another woman helped me in the delivery. It was so difficult to deliver the baby, because the baby was not coming out, so it was forcibly pulled out and the baby died.'

-Mother#21

*Perceived quality of care at health facilities*

A recurring reason for not seeking care at health facilities was the perceived poor quality of care and previous negative experiences of behaviour and attitude of healthcare providers – a factor that contributed to both first and second delays,

>'When you visit the clinic, they don't care about you even if you are so critical, but they only prescribe you a tablet or two and then discharge you...therefore; I don't visit the clinics... because the doctors are mostly angry and they don't have good behaviour. They even don't listen to what the patient says.' [Mother#14].

Several women also described how they were spoken to harshly after their baby had died, and others recounted seeing women physically abused by staff. There was also a sense of mistrust of healthcare providers as this elder's comment illustrates, 'The hospital doesn't care about the mother. It doesn't give the baby to its mother after the delivery and steals it...' [Female elder#03]. Due to these perceptions, women would bypass their nearest facility to attend a hospital they thought provided
better care, adding to the second delay, as one mother states, ‘...because [hospital name omitted] is one of the best hospitals and my economic condition didn’t allow me to visit a private maternity hospital. I visited this governmental hospital, because it provides proper treatment to the patients; otherwise, I could visit the hospital in Lycee-Maryam (another hospital in Kabul) which was closer to me.’ [Mother#20].

II. Socio-cultural factors

Several underlying socio-cultural factors potentially had direct pathways leading to stillbirth, including the neglect and poor treatment of women and their health at home, and perceptions around surgery.

Poor treatment of women

Several women reported that they were mistreated and neglected by their in-laws, and occasionally husbands; they were not provided with adequate food and were denied access to healthcare during pregnancy,

‘Because they (her in-laws) don’t like to visit the doctor and they don’t like to provide the pregnant woman with good food. My mother’s house was better, because I was visiting the doctor there and I was so attentive...I have completed the vaccines for tetanus there, but I am not good with the doctor here.’

- Mother#09

Domestic and family violence against women was highlighted as contributing to stillbirth as this female elder implies,


‘A dead baby was born in one of our neighbourhood. But when they asked about the reason, they said don’t ask about it again. Everyone asked him about the reason. They say he might have hit his wife, but his wife said that she was milking the cow and the cow hit her.’

-Female elder#01

**Perceptions and fear of surgical interventions**

Prevailing social and cultural perceptions or fear about surgery and caesarean section was another impediment to preventing stillbirth. These perceptions contributed to second and third delays; they prevented women from going to the facility to begin with, but also once at the facility when the intervention was recommended, families would refuse, and stillbirth would occur. Health providers relayed that if caesarean section was recommended in one facility, families would leave and try another health facility, hoping for a different outcome. In Afghan health facilities, a family member, usually the mother-in-law, must give consent for surgery unless the mother’s life is in danger. Health providers reported that many families refused to allow caesarean sections even if it was lifesaving for the baby. Reasons for refusal included beliefs that the longer recovery time that would delay women’s return to household duties or that the surgery would cause infertility. One healthcare provider described how a recent patient’s in-laws refused to give permission for a caesarean section, which consequently resulted in a stillbirth. The mother was in labour for over 12 hours while the doctors tried to obtain permission from the family. The doctor explained how this was a common problem faced in Afghanistan, ...We are waiting...but they are not allowing us to do the procedure...’ [Emergency ward chief_Facility#02].

**III. Unmanaged maternal conditions**

Many women had underlying medical conditions that led to complications in pregnancy and childbirth that inevitably resulted in stillbirth. These conditions remained undetected due to lack of or inadequate ANC where providers had not detected or managed the illness. Others were unaware of existing medical conditions until the time of birth. Health providers stated that many women were attending facilities at delivery with advanced conditions especially anaemia, hypertension, and diabetes. For
many, this was the first time they had been in contact with a health provider during their pregnancy. A doctor also reiterated there was a high prevalence of anaemia which she believed was contributing to many stillbirths, 'Our mothers don’t pay attention to their food and their anaemia. When we examine them for haemoglobin, there are mothers with 3, 4 grams of haemoglobin... If this mother was under ANC of the doctor and consumed the required amount of food containing vitamin, folic acids and iron, she won’t face any problems.' [Obs/Gynae trainer_facility#01]. Another provider recalled a recent stillbirth to a 36-year-old woman. It was her sixth pregnancy and she had developed gestational diabetes but was unaware of it, subsequently developed complications in childbirth and had a stillbirth, 'We have recently a stillbirth in our hospital and this is so bad case, we can prevent it if the mother had ANC...The mother had gestational diabetes... She doesn’t know about this because she lives in the village and this is the first time she has come to hospital... She was having labour pain, but in labour the water was gushing (out) from her ... mothers that have diabetes have a polyhydramnios; it means... the amniotic fluid is increased than the normal patient...The amniotic membrane was ruptured so the cord was prolapsed around the neck of the baby. So, in this case the baby died because of this issue...'

-Obs/Gynae resident doctor_facility#01

Health providers also raised concerns about unmanaged infections as an underlying condition contributing to stillbirth. A neonatal ward chief stated this was particularly common among women coming from rural areas, '...TORCH infections – toxoplasmosis, rubella, CMV, malaria, tuberculosis yeah?
And in the provinces, some of the people have problems and it’s not prevented, it’s end of stage...'

[Neonatal ward chief_facility#01].
IV. Quality of care

Several aspects around the quality of care provided at health facilities and by private providers were placing women at risk of adverse outcomes, primarily through the third delay. This included both provider practices and underlying health system constraints which impacted provider practices. Broadly, we grouped these factors under, i) inadequate care or inappropriate medical advice during pregnancy, ii) inadequate care, attention, and harmful practices during childbirth, iii) delayed or inappropriate referral, and iv) Inadequately equipped health facilities and restrictive hospital policies.

Inadequate antenatal care or inappropriate medical advice during pregnancy

We found from parent’s accounts of their pregnancies and the events leading up to the birth that poor advice and care provided during pregnancy was potentially a contributing factor to stillbirth. Several respondents explained how they visited multiple providers and received conflicting information. One father described how his wife had several check-ups during her pregnancy because of a previous miscarriage; nevertheless, their baby was stillborn,

‘...my wife got pregnant, we attended ANC and visited the doctor once a month to this clinic. We had several times the ultrasound check - more than 20 times, because we are afraid from the miscarriage. The baby was normal in all the examination and checks. When she completed her ninth month, the doctors said she still had some time for the delivery; one of them said she has one week, and another said only two days left for the delivery. Finally, it reached the tenth month and she didn’t deliver the baby, one day we had three ultrasound checks...With different doctors. The time of the delivery was over, but the doctor didn’t want to take her birth, and said still you have time. But the baby had died in the womb of her mother when the doctor checked, he said, “Oh! The baby is not moving, it seems that she already died.”'

-Father#09
Healthcare providers and parents reported that in Kabul, numerous private clinics offer ultrasound-only examinations where parents check the health and sex of the baby instead of seeking proper ANC. Respondents stated that many of these clinics were unregulated and providers have a poor reputation and not adequately qualified or trained to use the equipment,

‘I just want to mention about the carelessness of the doctors; there is no supervision to check the work of the doctor, our community is involved in corruption... Here this female doctor for the last four years has been doing ultrasound examinations; she has earned lots of money and made a very good life for herself, she received 250 or 300 Afghanis (~3-4 USD) from each...ultrasound examination. She couldn’t identify the critical cases, only checking the gender of the baby.’

- Father#06

As a result of these experiences, families lose trust in healthcare providers and it was a regular practice to seek advice from multiple sources, as another father explains, ‘...because sometimes the machine of the ultrasound may not work well, or sometimes the doctor is not able to point out the problem. That is why it is better to do the ultrasound with other doctors as well.’ [Father#09].

Such poor quality of care and advice results in problems remaining undetected and contributes to the second and third delays as parents go from one provider to another.

The perception from several government healthcare providers was that ANC provided in the public health system was also of poor quality and that this was the main reason women did not seek ANC, and women that did receive ANC would visit private providers if they could afford it. However, families also reported poor experiences at private clinics where providers also missed detecting problems,
I have visited a private clinic. Three doctors came and examined me. They said that it was a baby girl and was healthy, but when I returned home, I told my mother-in-law that it wasn’t alive because I didn’t feel any of its movements... I have done some chores, washed the clothes and cleaned the house, but I have got the (labour) pain, so I visited the 20-bed clinic [public facility nearby] at eight o’clock at night and had the examination. I was told that the baby is seven months and that the intestine of the baby has come out and to take me to the Lycee-Maryam hospital (specialist hospital in Kabul) because the baby’s face and the entire skin was damaged, but I had the delivery in this 20-bed hospital...It means, it was left in my womb for 10 – 12 days. This private clinic told me that it was a baby girl, but it was a baby boy...Yes, I felt before the delivery, because my sister-in-law asked me to help her. So, I felt that my baby has been died, because it didn't move...

- Mother#08

Inadequate care, attention and harmful practices at facilities during childbirth

Even when women made every effort to seek care when they had a problem or to give birth, they faced delays and poor quality of care at facilities. One mother who was expecting twins was experiencing severe pain and so visited the hospital for a check-up said, ‘The doctors poorly checked me up and said it is not my delivery month and they couldn’t do anything for me. They added that I don’t have any pain, so we couldn’t do anything, but I had pain in the womb...I told them I currently have pain in the womb. I had severe pain and I couldn’t eat... but no one listened to me, so I returned home...I have visited [-name of tertiary maternity-] Hospital twice, but no one cared about me there.’ [Mother#05]. She subsequently lost both her babies; one was stillborn and the second died soon after birth. Similar scenarios were reported by others where patients were ignored or refused admission to hospital. One father believed that this was the reason for his stillborn, ‘When we have come the first time, the doctor hasn’t paid attention to her (his wife) and refused to admit her...It was the exact time for the delivery. When Dr. R*** (personal doctor) referred her to the hospital, the doctors refused to admit her. On the second day, she felt so much pain and she told me that she was looking for the doctors in such condition too and she
was telling them that she was in severe pain, but they didn’t give her time. My wife is still crying for her child and she is very disappointed...’ [Father#02].

A CHW also explained how the quality of care provided at facilities was inadequate, and contributing to poor outcomes as women with complications were not followed up or appropriately referred, ‘The doctors are careless about the life of the people, no one asks the condition of the pregnant mothers, they are not following up the cases of their patients, for example, if your baby is too weak or its heart is too weak, they don’t refer you to do the examination or check your baby to know the update status of your baby in your womb, and they never refer you to the Kabul city for better treatment to protect the life of your baby.’ [CHW#03].

There were several instances where facility managers recounted inappropriate and harmful practices by healthcare providers due to lack of knowledge or experience, which directly resulted in stillbirth. A chief of emergency at one facility admitted that resident doctors did not have adequate skills or experience in detecting problems, ‘...Sometimes they are hearing the fetal heart sound but not recognizing if its good or it’s bad or what is happening to this baby, so sometimes it is the fault of the student doctors.’ [Emergency ward chief_facility#02].

A concern raised at two major facilities was the inappropriate use of misoprostol by midwives where high doses led to stillbirth. One doctor explained how families with connections with doctors inside the health facility request to be induced this way and this resulted in stillbirth,

‘Most of the midwives do so, for example: the midwife comes to the mother, while the mother has pain, (and) she put the “Mizo” tablet without checking the dose and contractions of the mother...when a mother has lots of contractions the baby hasn’t received enough oxygen and the carbon dioxide increase and it causes the baby die in the womb... Most of the
patients who have relation with doctors in the hospital face this problem and they lose their babies.'

-Obs/Gynae doctor_facility#02

**Delayed or inappropriate referral and referral advice**

Families described having to change health facilities multiple times due to referrals, or because they were refused admission. On some occasions, families were referred back and forth between the same facilities. Health providers also added that the delays resulting at various stages, particularly referral between different types and levels of facilities, would place women at risk of having a stillbirth,

'For instance, you have a patient, first you refer to the [-name omitted-] Hospital, they reject them; then they go to some other private hospital, they also reject. The public hospitals are the last chance or choice of the people. However, there are some patients that come to the hospital and they were rejected by the [-name of public hospital omitted-] Hospital... so there are five to six delays that happen to the mother which cause the stillborn...'

-Obs/Gynae doctor_facility#2

Another concern raised was with private health facilities that would only refer women to the larger government referral hospitals at the last possible stage when they were not able to deliver the baby so that they could receive payment.

**Inadequately equipped health facilities and restrictive hospital policies**

The lack of availability of medicines needed to manage complications was a challenge and another possible pathway through which stillbirth occurred as women could not receive the care they needed at their nearest facility. This would lead to the second delay as women would travel to higher-level facilities, and third delay to receive treatment once at the health facility. One doctor reflecting on the
stillbirth cases she observed, explained that if lower-level facilities were stocked with essential life-saving medicines these could be prevented,

‘...like, the mother who has diabetes or the mother with eclampsia or preeclampsia; if the drug is available in the village, especially magnesium sulphate, if it is more available in the village the mother might not have had stillbirth, but the mother had PPH (post-partum haemorrhage) the Ergometrine is so important ampule to save life, but she didn’t have this.’

-Obs/Gynae resident doctor_facility#01

Delays within the facility to initiate treatment also potentially led to stillbirth. Maternity hospitals in Kabul do not permit men inside, and so husbands and male relatives wait outside or leave and return later. However, hospital policy requires consent for surgery from the husband or a family member, and if they are not present this would create delays with not only commencing surgery, but also when medicines or other supplies were needed as family members had to purchase them from elsewhere - contributing to the third delay. One doctor described a recent stillbirth case where the mother had arrived in normal condition, but several delays occurred as they tried to locate her husband to obtain permission for the surgery and to purchase anaesthetics,

'We had a fresh stillbirth who (on arrival at the hospital) had a heartbeat. Then we had many delays...We had a normal patient, we admitted her. I saw that the child’s heart had contraction and was getting risky. The patient was taken to the operation table. Her male company (carer) wasn’t at the hospital and came here after two and a half hours delay. He agreed with the operation. Usually, the time between our decision and incision is half an hour. The patient’s company came and brought anaesthetics after 45 minutes delay. Because we don’t have anaesthetics inside the hospital, the people have to provide it from
outside...Two and half hours delay for the anaesthetics caused stillbirth of the child...If the
patients’ company were here, the child would probably not die.’

-Obs/Gynae trainer_facility#01

V. Environmental factors

**Exposure to armed conflict**

Another consequence of the ongoing war in Afghanistan is that it exposed pregnant women to harmful substances from the armed conflict including chemicals, smoke, and possibly radioactive material from weapons of war. Healthcare providers in this study believed this was frequently an underlying cause of stillbirths among women they saw who resided in areas of high-intensity conflict. This was potentially a direct pathway leading to stillbirth as it could result in fetal congenital anomalies – a known cause of stillbirth.

**Discussion**

This analysis of parents, community, and healthcare providers stillbirth experiences in Kabul province, Afghanistan identified a range of complex pathways that could potentially lead to stillbirth, adding to our understanding of why and how stillbirths might occur in this setting. Our study highlights the importance of examining and understanding context when developing and implementing interventions for stillbirth prevention, especially the constraints under which these interventions or services are delivered and how this can potentially impact on their effectiveness.

Our study finds that the low-levels of healthcare utilisation was a critical factor contributing to stillbirth, underscored by women’s lack of decision-making power, socio-cultural barriers, lack of perceived need for care and importance of care-seeking, and a general lack of knowledge on self-care during pregnancy. Perceived quality of care at facilities and economic and physical barriers, also precluded access to care. The high prevalence of unmanaged maternal conditions increased the severity of
pregnancy complications and was also an important likely pathway to stillbirth among women in our study. Socio-cultural factors closely linked to women's status including the neglect and abuse of pregnant women and perceptions about caesarean sections which led to refusal of interventions were possible direct pathways to stillbirth. Quality of care at facilities was a recurring issue also likely contributing to stillbirth, especially the inadequate detection of problems and inappropriate advice during pregnancy, and delays receiving treatment at the facility. Additional health system factors including inadequate or inappropriate referral, insufficiently equipped facilities, and harmful provider practices all led to delays in receiving care. The armed conflict was also perceived to be a contributing factor to stillbirths through its impact on access to care and possible direct harmful effects to the fetus.

The barriers women faced to participate in decision-making around their pregnancies and health potentially led to stillbirth both through direct and indirect pathways. It affected their ability to access care during pregnancy and childbirth and was particularly problematic when women were experiencing complications. Women were dependent on in-laws and husbands to access food, money for medication, and healthcare. Previous studies in Afghanistan also identified barriers to care-seeking, where women's powerlessness made them extremely vulnerable during pregnancy. The mother-in-law is usually the primary decision-maker in Afghan households, and her decisions were placing women at risk of stillbirth. These decisions were based on their own previous experiences of birth, traditional values, and are also underscored by low levels of education. A task of CHWs in Afghanistan is to encourage families to allow women to seek care and give birth in a health facility. Understanding how, and to what extent, CHWs can influence the decisions made by mothers-in-law especially, and if they could be further supported or skilled-up to do so, or whether other interventions through influential individuals might be more effective, may be worth investigating.

Lack of knowledge and awareness of the importance of seeking care during pregnancy was behind the low utilisation of formal healthcare observed in our study. Rahmani et al., in their Afghan study, also
found that ANC was under-utilised even when available, frequently because women and their families believed it was unnecessary. Our study illustrates the consequences this has on stillbirth, particularly when there are complications. To facilitate care-seeking from facilities will require a major shift in communities' awareness and understanding of the benefits and role ANC can have in stillbirth prevention. At the same time, this will also require substantial improvements in the appropriateness and quality of facility care as this was a key reason that women at risk were not identified and deterred families from seeking care from health facilities.

Previous experience with poor behaviour of healthcare providers was a major deterrent influencing the decision about place of birth in our study. Similar concerns about the treatment of patients have been observed in previous studies in Afghanistan. This poor treatment of women encouraged families to travel to facilities where their preferred provider was located, even if it was further away. This finding was also reported by Tappis et al. in their Afghan study, and can lead to unnecessary second and third delays which are critical to avoid in order to prevent stillbirth. The importance of quality and respectful maternity care has gained attention globally with the release of the WHO guidelines in 2016 and can inform improvements to standards of care in facilities in Afghanistan. However, this will also need to be coupled with improvements in staffing, supplies and equipment to reduce the load on already overburdened facilities.

Economic and structural barriers hindered family's ability to pay for medicines or undergo procedures to minimise their risk of pregnancy or childbirth complications as well as access to preventative and emergency obstetric care. These barriers were a major factor placing women at increased risk of stillbirth in this study. The 2010 AMS also found that the most common reason cited for not attending ANC was lack of money, followed by distance and transportation issues and similar barriers were cited for institutional births in Afghanistan. Low socio-economic status is often identified as an underlying risk factor for stillbirth in LMICs, and our study also demonstrates how socio-economic status may
contribute to stillbirth through multiple pathways and particularly through its effect on access to care. The costs associated with access to care prevented families from deciding to seek care and could be addressed through initiatives such as community-based financing schemes. Services in the Afghan public health system are officially free; however, many families described having to purchase basic supplies, kits and medicines. Additionally, bribes were demanded by healthcare providers, likely driven by low salaries and the high burden of work. These concerns have been identified in other studies in Afghanistan and efforts are needed by the MoPH to prioritise mechanisms to remove user fees or address their driving factors.

Although several women in our study had sought ANC, many still had unmanaged or undetected medical conditions that may have been directly related to their stillbirth or led to complications during childbirth. The poor reputation of publicly available ANC services and inconsistent quality of care from private clinics reported by both parents and health providers themselves suggest improvements and closer monitoring of the quality of ANC services will be critical for stillbirth reduction. Innovative service delivery strategies such as group ANC models have been successful in high-income countries to improve the experience and quality of ANC and has the potential to encourage uptake in LMICs. A feasibility study of group ANC in India found that it was positively received and acceptable to participants and providers who perceived this forum of ANC delivery as empowering; it encouraged women to be active participants in their healthcare and also addressed several health system challenges. In Ghana, group ANC improved health literacy on preventing and recognising problems in pregnancy. Group ANC could be an effective way of delivering information to women on recognising and acting on problems to prevent stillbirth in Afghanistan. Such alternative models could be considered for the Afghan context, as addressing the quality of care received during pregnancy will be critical for stillbirth prevention in Afghanistan.
Health systems strengthening efforts will also be essential for future stillbirth prevention in Afghanistan. Our study identified several challenges related to the availability and accessibility of facilities both economically and culturally, but also many concerns with quality of care that need to be addressed. The skills and practices of healthcare providers on intrapartum care and monitoring at all levels of health facilities needs close examination to ensure implementation of best practices and to identify and address barriers to ensuring the provision of quality of care. A study by Evans et al.\textsuperscript{50} examining the quality of caesarean sections in 14 Afghan health facilities compared facility record reviews with direct clinical observations and found more timely and appropriate practices when providers were aware they were being observed. Of concern in this study was the substantially greater proportion of stillbirths among the unobserved group compared to observed cases (21\% vs 7\%), which indicates many stillbirths could be prevented if quality care can be ensured. The WHO's recently published guidelines on both intrapartum care and antenatal care, as well as standards for improving quality of maternal and newborn care in health facilities can provide guidance.\textsuperscript{51-53} To reduce access barriers improving services and the availability of human resources and supplies at primary and secondary health facilities should be made a priority. Strengthening community-based delivery and outreach through increased engagement of CHWs and community-based midwives is another strategy that can be considered.

Our study demonstrates the utility of qualitatively eliciting individual narratives of stillbirth experiences to identify and contextualise underlying factors and possible causes leading to these deaths. Given the paucity of data and studies available on stillbirth in Afghanistan, the use of social autopsy could be a potentially useful way to investigate the circumstances around stillbirth and generate population-level data on the social, behavioural, and health system determinants of stillbirth that can inform the strengthening of maternal and child health programs.\textsuperscript{26} Social autopsy is also an effective means of facilitating community dialogue, raising awareness about prevention, and mobilising community response to stillbirth and other perinatal deaths.\textsuperscript{54} Social autopsy has been used for this purpose in
Bangladesh and is being adopted in a number of health and demographic surveillance sites in LMICs to identify, understand and develop strategies to prevent future deaths. This approach may be worth considering for the Afghan setting given the socio-cultural barriers that exist around care-seeking and could be an effective way of influencing mothers-in-law’s attitudes, in particular.

A key strength of this study is the use of qualitative methods to obtain an in-depth understanding of the range of factors and pathways that can lead to stillbirth and provides insight on contextual nuances and circumstances that cannot be captured through quantitative studies. Our findings provide supporting evidence to understand the underlying causes and risk factors for stillbirth in Afghanistan and other similar settings and can inform future interventions for stillbirth prevention. Capturing healthcare provider’s perspectives and practices identifies important health system constraints contributing to stillbirth which has not been comprehensively investigated in the literature. Our study has several limitations. Our study aimed to identify factors and pathways that could potentially contribute or lead to stillbirth based on the narratives of respondents using multiple perspectives; our findings do not definitively establish if these factors cause stillbirth in this setting and additional studies would be required to establish any direct or indirect effects on stillbirth. Data collection was limited to Kabul province - one of Afghanistan’s 34 provinces and the most progressive and with greatest access to healthcare facilities Fieldwork was also limited to rural districts with good security, access to health facilities and active CHWs – which is very much unlike many other regions in the country that face substantially greater barriers to access to healthcare due to ongoing insecurity, conflict and remoteness; therefore, our findings cannot be generalised to the situation and practices in other provinces/regions. Afghanistan is also a very ethnically and culturally diverse population across its many provinces and so the views and experiences we have captured here may not reflect all population sub-groups. Stillbirth prevention efforts applicable to Kabul province may not necessarily be effective in areas with facing different challenges and further research would be needed to understand the situation among other groups. The small sample of female elders and women who had given birth at
home also limited our ability adequately capture a wide range of views in these groups including practices that occurred during home births that might contribute to stillbirth.

**Conclusion**

Through the application of a qualitative approach to explore individuals’ experiences of stillbirth it is possible to obtain in-depth understanding of the underlying factors and pathways that can contribute to these deaths. This can generate useful information to complement quantitative studies of stillbirth determinants to not only decide what interventions are needed, but also identify factors that can affect access to, utilisation, and the effectiveness of potential interventions or services. Our findings also illustrate, that when considering interventions to prevent stillbirth, the underlying contextual factors that affect access to and uptake of key services such as ANC and skilled birth attendance also need to be addressed, as do the factors that affect quality of services. These are important to considerations for future implementation of stillbirth interventions for Afghanistan and other LMIC settings.

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**References**


Conflicts of interest

The authors declare no competing interests

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Ethical statement

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Author contributions

AC conceptualised the study, led the data collection and analysis, and wrote the manuscript. SSMH, MHR, AM and MKR contributed to the study design, data collection, interpretation of findings and provided critical comments on the manuscript. AA, CRG and MJD provided overall guidance, contributed to the study design, analysis, and provided critical inputs to the manuscript. All authors have reviewed and approved the final version.
Author agreement

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