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CLINICAL & BASIC RESEARCH

# Women's Views on Factors that Influence Utilisation of Postnatal Follow-Up in Oman

## A descriptive, qualitative study

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**abstract:** ***Objectives:*** Postnatal follow-up care (PNFC) is critical for promoting maternal and newborn health and well-being. In Oman, women's utilisation of postnatal follow-up services has declined, with rates as low as 0.29 (mean visits) in some governorates, and fails to meet the recommendation of postnatal follow-up visits at two and six weeks for assessment of the mother and her newborn. The reasons for this low utilisation are not well understood. This study aimed to explore women's views on and identify factors that influence their utilisation of postnatal follow-up services. ***Methods:*** Purposive sampling was employed and semi-structured telephone interviews were conducted with 15 women aged 20–39 years at six to eight weeks post-childbirth between May and August 2021. The data were analysed using Erlingsson and Brysiewicz's content analysis approach. ***Results:*** The following six categories were identified as influencing PNFC utilisation: 1) need for information; 2) experiences and expectations; 3) family support, expectations and customs; 4) sociocultural beliefs and practice; 5) impact of the COVID-19 pandemic; and 6) the healthcare environment. Influencing factors derived from each category include the need to empower women, provide individualised care, address family and community expectations, offer alternatives to face-to-face clinic visits and provide organised and scheduled appointments. ***Conclusion:*** Women in Oman identified the need for consistent information from healthcare providers and a more organised postnatal follow-up service that includes scheduled appointments and a woman-centred approach to PNFC.

***Keywords:*** Postnatal Care; Postpartum Period; Qualitative Research; Oman.

**Advances in Knowledge**

- *Women's utilisation of postnatal follow-up care in Oman is influenced by a number of key factors including not being informed of the importance of attending, not receiving scheduled appointments; not having a structured postnatal care clinic and not receiving beneficial information and care for themselves.*
- *There is a need for more individualised women-centred care and health education on postnatal aspects such as newborn care, breastfeeding and mental health.*

**Application to Patient Care**

- *The findings of this study will be employed to inform the development of a survey that will be sent to a large sample of postnatal women in Oman to confirm factors that influence PNFC utilisation.*
- *The findings of this study will facilitate further clarification of influencing factors of PNFC that operate at the individual, family, community and institutional levels.*

Postnatal care is the latter component of the continuum of maternity care and is provided to women and their newborns immediately following and generally up to 42 days after birth.[1] The 42-day period (6 weeks) post-childbirth is based on universal agreement.[1] However, in many countries, this period extends to eight weeks post-childbirth.[2] The postnatal period is classified into the following three stages: immediate (0–24 hours), early (2–7 days) and late (8–42 days).[1] The immediate stage is usually spent at the birthing hospital; however, with early discharge becoming increasingly common, the immediate care stage may last for only six hours.[3] Early and late postnatal follow-up occurs in the community or the hospital outpatient setting.[4] Care during the postnatal period is equally critical as that provided during the antenatal period, since complications can result in adverse outcomes such as morbidities and mortality of the mother, the newborn or both.[1] Besides physical complications, mental health complications such as postnatal depression can affect mothers.[5] These complications can exert a destructive impact on the entire family if not diagnosed and managed early on and effectively.[5]

Newborn mortality is highest within the first week of life, primarily caused by perinatal asphyxia, prematurity and congenital malformations.[6] While approximately half of all infection-related deaths occur in the first week of life, a quarter of them occur between Weeks 2 and 4.[6] Therefore, the World Health Organization (WHO) emphasises that postnatal follow-up contacts with health professionals

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play a crucial role in reducing deaths of newborns through early detection, referral and management of complications.[7]

The number and timing of contact for postnatal care vary globally. The WHO recommends four postnatal contacts, while the American College of Obstetricians and Gynecologists recommends the number and timing of contact be more individualised depending on the need.[8–10] On the other hand, the Oman Ministry of Health guideline recommends postnatal follow-up visits to health centres at two and six weeks after childbirth for both the mother and the newborn.[11]

In Oman, the number of postnatal follow-up visits has decreased from 1.3 in 2000 to 0.73 in 2019.[12] In comparison, attendance is high for antenatal visits, with 74% of women attending four or more appointments.[12] Clear differences can be observed between antenatal and postnatal care. For example, women are given antenatal appointments to attend the clinic on a specific date and time, with appointment reminders sent via a short message service. In contrast, no formal appointment is arranged for postnatal follow-up care (PNFC), with healthcare providers (HCPs) only informing women that they should visit the health centre when they reach the 14- and 42-day mark post-childbirth. Low utilisation of PNFC leads to lost opportunities for health promotion and health monitoring of mothers and their newborns, which possibly reflects in the poor exclusive breastfeeding rate of only 8.9% at 6 months.[12]

A literature review was performed in which factors that impeded utilisation of PNFC were identified, including women's lack of knowledge of postnatal services, beliefs that postnatal follow-up is not a necessity and long queues (waiting time) at health centres.[13] Of the 17 studies eligible for inclusion in the review, one was conducted in the Middle East (Jordan), which shares cultural similarities with Oman but has a different healthcare system and postnatal care delivery. This study reported concerns regarding the unmet learning needs of women in terms of postnatal care on matters such as danger signs post-caesarean section and breastfeeding and newborn care at the two postnatal contacts, that is, at Day 1 and 6–8 weeks following birth.[14] However, it did not explore the factors contributing to the low utilisation of postnatal service. As no published studies have explored women's experiences regarding utilisation of PNFC in Oman, the current study was undertaken as the first step towards ascertaining the reasons behind the poor utilisation of PNFC in Oman. The current study aimed to explore the factors that influence the utilisation of PNFC in Oman from the perspective of postnatal women.

## Methods

This descriptive qualitative study is part of a larger exploratory mixed methods project designed to gain more insight into PNFC from women, hospitals and HCPs from health centres through qualitative interviews. The results from the HCPs will be reported elsewhere. The results of Study One will inform the development of quantitative measures (survey) for the mixed methods study. This will enable an investigation of PNFC with a larger sample size, thereby facilitating policy change to improve the quality of care.[15] Purposive sampling was employed, and semi-structured telephone interviews were conducted in Arabic between May and August 2021 by the primary investigator—an Omani registered nurse-midwife experienced in conducting interviews. The interview guide developed by the researchers was guided by the findings from the literature review [Table 3].[13]

Postnatal women were recruited from Khoula and Ibra hospitals. The sites were selected because of their differences in terms of population density and social, educational and healthcare services.[12] Women who gave birth at the study site and were fluent in Arabic or English were eligible to participate, regardless of nationality. Women with any pregnancy complications or history of newborn admission to a neonatal nursery were ineligible. These women were recruited by the primary investigator in collaboration with the clinical hospitals' HCPs who helped identify eligible women. Informed consent was obtained from the women following a detailed explanation of the study and participation requirements. The date and time for the telephone interviews were scheduled between 6 and 8 weeks postnatally on the basis of mutual agreement.

The interviews were conducted between 6 and 8 weeks postnatally via telephone due to the COVID-19 pandemic. Further, this allowed women to be interviewed in their home environment. Interviewing participants in an environment they are comfortable in and experience familiarity with can result in more openly expressed opinions.[16] The interviews were digitally recorded and lasted for 25 minutes on average. The data collection ended with concept saturation.[17]

The interviews were de-identified and transcribed *verbatim* in Arabic, following which, they were translated into English by an external experienced bilingual translator. This enabled the native English-speaking research team to review the transcripts, thus increasing reliability and minimising inaccuracies

when translating from the source language to the target language.[18] The primary investigator compared the English transcripts with the Arabic transcripts, checking for accuracy and including transliteration where necessary in cases with no English counterparts for certain Arabic terms and names. Conventional content analysis was performed manually and guided by the following process described by Erlingsson and Brysiewicz: familiarisation with the data; dividing the text into meaning units; condensing meaning units; formulating codes; and developing categories.[19] The conventional content analysis was performed because no study focused on PNFC has been conducted in Oman before. This approach enabled the flow of categories without the restriction of preconceived ideas or categories.[20] All condensed meaning units, codes, sub-categories and categories were manually added to Microsoft Excel, Version 16.54 (Microsoft, Redmond, Washington, USA) to enhance data management.

The development of meaning units, codes and categories was undertaken by the primary investigator and agreed upon by the two co-authors. The categories reflected factors that influenced women's views, decisions or experiences pertaining to PNFC utilisation.

Ethical approval was granted by the Research and Ethical Review and Approval Committee, Oman Ministry of Health (MoH/CSR/20/23647), and the University of Queensland (2020002085/MoH/CSR/20/23647).

## Results

No new information was identified from the 14th interview, and this was empirically confirmed following the completion of the 15th interview. The demographic data of the participants are presented in Table 1.

During the content analysis, 246 meaning units were extracted initially. After being reviewed, these units were further condensed into 166 units. Thereafter, the meaning units were coded into 46 codes. The codes were further clustered into 18 sub-categories. Finally, the following six clear categories emerged from the data: 1) need for information; 2) experiences and expectations; 3) family support, expectations and customs; 4) sociocultural beliefs and practice; 5) impact of the COVID-19 pandemic; and 6) the healthcare environment.

The utilisation of early PNFC at health centres appears to be dependent on HCPs providing information to women on the need for PNFC for both themselves and their newborns. The participants reported that appointments were not given or explained well to them: *'No one told me about appointments about me, they just gave me an appointment for my child vaccination after two months and it is written in my baby card'* (P7), or that they were told they would be seen by a doctor but not specifically informed why [Table 2, Quote 2]. The women felt strongly that they should have been informed and empowered through the provision of information with an explanation stating why they should attend the appointments [Table 2, Quote 3].

The participants reported not visiting for PNFC because they were instructed by the HCPs at the hospitals and health centres that they needed to come in for appointments only if they experienced complications [Table 2, Quote 4]. Hence, women who did not face any complications did not visit any health centres.

Many women expressed a desire for more information about newborn care (e.g. bathing, feeding and cord care); signs of danger to themselves or their newborns; management of complications for themselves and their newborns; and, in particular, care for their own mental health [Table 2, Quote 5]. Additionally, women who had undergone a caesarean section birth or had perineal wounds expressed the need for more information on wound care [Table 2, Quote 6], and this was highlighted by a postnatal woman who was also a nurse. She stated that she knew how to take care of her wound because of her experience as a nurse, not because she was given any information by the HCPs [Table 2, Quote 7]. Women who delivered by caesarean section felt they needed an appointment at Week 1 postnatally for reassurance about their health and well-being [Table 2, Quote 8].

The need for increased and more comprehensive breastfeeding information and support was raised by most women, as many reported facing breastfeeding challenges that they had to try and solve by themselves: *'I faced a huge problem with breastfeeding. I did not know how to breastfeed; maybe the technique was wrong, or I did not have enough milk'* (P3). Those who could not solve breastfeeding challenges opted to artificially feed, as it was easier [Table 2, Quotes 10 and 11]. Additionally, women reported that the information provided to them was not helpful or did not solve their problems [Table 2, Quotes 12 and 13].

Previous experience with PNFC influenced the participants' decisions to make or not make visits with their newborn. Many women reported that the care was not woman-focused or beneficial, nor did it meet their individual needs: *'I feel every time I go to the doctor, I only get a verbal advice, which does not benefit*

**Table 1:** Demographic data of the participant of this study (N = 166)

| Participant and hospital | Age group in years | Educational level | Number of births | Living arrangement |
|---|---|---|---|---|
| P1-KH | 25–29 | Advanced* | 2 | Living with extended family† |
| P2-KH | 30–34 | Advanced* | 1 | Living with extended family† |
| P3-KH | 30–34 | Advanced* | 1 | Living with husband and children |
| P4-KH | 35–39 | Secondary‡ | 4 | Living with husband and children |
| P5-KH | 30–34 | Secondary‡ | 3 | Living with husband and children |
| P6-KH | 35–39 | Advanced* | 2 | Living with husband and children |
| P7-IH | 25–29 | Secondary‡ | 5 | Living with husband and children |
| P8-IH | 25–29 | Advanced* | 2 | Living with husband and children |
| P9-IH | 20–24 | Advanced* | 1 | Living with husband, child/children and one set of parents |
| P10-KH | 25-29 | Advanced* | 1 | Living with husband and children |
| P11-KH | 25–29 | Advanced* | 3 | Living with husband and children |
| P12-KH | 20–24 | Primary§ | 5 | Living with extended family† |
| P13-IH | 30–34 | Preparatory¶ | 3 | Living with husband and children |
| P14-IH | 25–29 | Advanced* | 2 | Living with extended family† |
| P15-IH | 25–29 | Secondary‡ | 5 | Living with husband, child/children and one set of parents |

*KH = Khoula Hosptial; IH = Ibra Hospital.*

**Completed diploma, bachelor's, master's or PhD; †Extended family includes others in addition to parents, such as grandparents, brothers, sisters, uncles, aunts and cousins; ‡Completed Grade 12; §Grade 1–6; ¶Grade 7–9.*

*me much. It is not practical; they give us their opinion, but the reality is different'* (P6). They also reported that the PNFC provided to them was focused on the newborn, with little attention to the mothers' health [Table 2, Quotes 15 and 16].

The participants strongly felt that being given scheduled PNFC appointments was highly critical, as visiting a crowded clinic with a newborn and waiting for long periods without dedicated breastfeeding areas was not ideal [Table 2, Quotes 17, 18 and 19]. Not having scheduled appointments led the women to perceive that PNFC is optional and not important. They stated that if appointments had been scheduled, they would have attended [Table 2, Quotes 20 and 21].

The women further stressed that the COVID-19 pandemic highlighted the need and importance of scheduled appointments: *'Set scheduled appointments with specific date in an organised manner so women do not have to wait for long time with their babies, especially now corona is here'* (P10). Also important to them was the provision of alternative follow-up options that they suggested should be more accessible and practical, such as text messaging, telephone calls and home visits.

Some of the participants followed strict customs pertaining to the postnatal period, such as staying in their family home for a few days: *'They can ask about the woman by calling and this is very useful way to ensure about her health and the health of the child, and they see what she needs'* (P9). Another custom is to receive support from the family, which is viewed as an expectation from and the responsibility of the family [Table 2, Quotes 22 and 23]. However, several women reported receiving little support [Table 2, Quotes 24 and 25]. The level of support influenced PNFC attendance, as the mothers who had no one to take them to the health centre or take care of their other children at home could not visit [Table 2, Quote 26]. The influence of family and customs on women's decisions and choices was also revealed: *'I gave all my children artificial milk immediately after hospital discharge because of my in-laws' influence. They told me that I have to give my baby artificial milk or he will lose weight'* (P4).

Various social and cultural practices are expected of women during the postnatal period, such as 'seclusion', which appear to influence PNFC attendance. The participants reported being expected

**Table 2:** Quotes from the participants of this study (N = 166)

| Categories | | *Verbatim* quotes from participants |
|---|---|---|
| **Need for information** | 1. | *'Appointments need to be clearly explained to us—whether they are for mother only or we have to bring our baby with us'* (P1). |
| | 2. | *'They told me that after two weeks, my baby is having appointment and it is written in the pink card, and I should go with baby because the doctor will see me as well'* (P6). |
| | 3. | *'Before we [are] discharged from the hospital, they must explain to us in detail about the appointments and give us the numbers of the people we can contact if we need information about postpartum care in general, not only about breastfeeding'* (P6). |
| | 4. | *'I was informed from health centre that no need to follow up after birth unless you or newborn have complication'* (P1). |
| | 5. | *'I need someone to teach me about mental health, as sometimes, I was feeling bad, depressed and tired, especially when the baby was crying despite that I have fed him and changed his diaper'* (P1). |
| | 6. | *'I wish to know more about how to take care of the wound because I still suffer from pain and infection'* (P5). |
| | 7. | *'From my experience as a nurse, I know how to take care of the wound and know if the wound bleeds or smells or the wound opens, I go to the health centre; but no one explained this to me after the birth'* (P14). |
| | 8. | *'Women should return to health centre after a week, especially if delivered by is operation, because we want to be reassured our health and wellbeing and to have chance to discuss with them about our concerns on this appointment'* (P8). |
| | 9. | *'I learned everything by myself and through searching the Internet'* (P6). |
| | 10. | *'I started with artificial milk with all my three children because it was the easiest solution to solve breastfeeding problems'* (P4). |
| | 11. | *'My first and second child, I did not breastfeed them naturally because I did not know how to breastfeed them. My family tried with me, but it did not work, and I gave them artificial milk'* (P7). |
| | 12. | *'The nurse gave me a paper and it was written on it how to store the milk, but my milk flow was not enough for the baby'* (P10). |
| | 13. | *'I was trying to breastfeed her but was having difficulty to attach to the nipple and [she] refused to breastfeed as she did not want me. So I contacted the lactation specialist through Instagram. She advised me to stop giving my baby's pacifier. Her advice helped me a little, but the problem did not stop'* (P6). |
| **Experiences and expectations** | 14. | *'For all my five births, I never went to the health centre, neither for the two-week nor for the forty-day appointment because they don't do anything for me; only they measure the baby weight'* (P12). |
| | 15. | *'I feel frankly that there is no care for me. They only ask about the child if he passed urine. There was nothing else, unless the person asks by himself in order to get reassured'* (P7). |
| | 16. | *'The two-week appointment, they do not give us much. They only ask us how are you doing and if you have any problem. I feel they are more interested in the child than the mother; at least they could do a comprehensive examination for the mother like a child'* (P6). |
| | 17. | *'It is very important to have scheduled appointments with date and time'* (P4). |
| | 18. | *'Health centres are crowded and we have a newborn with us'* (P5). |
| | 19. | *'Especially women who have undergone surgeries or have stitches, they should pay more attention to them because they suffer from more pain and open wounds'* (P13). |
| | 20. | *'If we have scheduled appointment with date and time, we will care more about it'* (P2). |
| | 21. | *'They must be on time, they are not optional... We don't feel that postnatal care is important'* (P8). |
| | 22. | *'I went to my family's house for 40 days and got psychological support from my mother and sisters who raised my spirits to prevent me from getting postpartum depression. They were also helping me with my first child, since I had operational delivery and I could not move much'* (P8). |
| | 23. | *'My aunt (mother-in-law) and my sisters helped me clean the house and cook for us to eat while I stay in my house because my parents passed away'* (P12). |
| | 24. | *'I was in my sisters' house and I was sleeping alone with my baby and I was holding her all the night. Nobody helped me'* (P3). |
| | 25. | *'My parents passed away and I have my sisters and brothers, but they have other responsibilities'* (P4). |
| | 26. | *'I could not attend as my husband at work and I didn't have car and I have three more children at home'* (P4). |
| **Sociocultural beliefs and practices** | 27. | *'In our customs, women must stay for 40 days in the same place, and we are convinced that this custom is beneficial for the mother and the child'* (P11). |
| | 28. | *'My mother and sisters helped me and they cooked me rice and porridge with fenugreek. This food is useful, especially the fenugreek, as it increases milk production and cleans the uterus from traces of blood'* (P13). |
| | 29. | *'The operation wound was very painful and I got tired from the pain; so my mother advised me to apply Luqman oil to it to heal fast'* (P13). |

**Table 2 (cont'd.):** Quotes from the participants of this study (N = 166)

| Categories | | *Verbatim* quotes from participants |
|---|---|---|
| | 30. | *'My mother helped me to deal with my baby's abdominal cramps and gave the baby traditional medicine and did some massage to remove gasses from the baby's tummy'* (P1). |
| **Impact of the COVID-19 pandemic** | 31. | *'I will not go out because of corona; I am worried about my child'* (P2). |
| | 32. | *'They [HCPs] told me, don't come, we don't receive the two-week appointment; come only for vaccination date after two months because of Corona. Even they didn't check the child; so, I had to go to another private hospital recommended from my workplace to check my baby and to be reassured that everything is fine with her'* (P6). |
| **Healthcare environment** | 33. | *'We follow up in private because health centres are overcrowded and only see postnatal women in specific timings'* (P1). |
| | 34. | *'The quality of postnatal services provided for mothers and babies need to be improved. Not only checking baby weight and looking at our faces; otherwise I will not waste my time to attend'* (P3). |
| | 35. | *'There is no postnatal care. They only give the child an injection and that's all'* (P13). |

*P = participant; HCPs = healthcare providers.*

**Table 3:** Interview guide used with the participants of this study

| | |
|---|---|
| 1. | Can you tell me what information the nurse/midwife/doctor gave you about visiting a health centre for postnatal care when you were getting ready to be discharged from the hospital? |
| 2. | Can you tell me about the support your family gave you when you got home from the hospital? |
| 3. | What were the most challenging things when you first arrived home from the hospital? |
| 4. | Have you had the opportunity to leave the house since your baby was born? |
| 5. | Since you were discharged from the hospital, have you visited any health centres for you or your baby? |
| a. | If yes – How many times did you visit? Who did you see when you visited the health centre—a nurse/midwife/doctor? Can you tell me about your experience of visiting the health centre? In your opinion, are their things that could be done better to improve the visit? |
| b. | If no – Can you tell me a little about why you did not visit any health centres? Did anyone else give you information about looking after yourself/your baby? What can be done differently to encourage you to visit? From your point of view, can you think of any other reasons why women may/may not attend postnatal follow-up care at a health centre? |
| 6. | In your opinion, what would you like to discuss or be told about at a postnatal follow-up visit? |
| 7. | Do you have any suggestions or recommendations for changes that would improve the probability of visiting the health centre for postnatal follow-up care? |
| 8. | Do you have any other comments to make regarding postnatal follow-up care? |

to stay indoors for 40 days, as seclusion is crucial for preventing maternal and newborn sickness, ensuring normal growth for the newborn and avoiding embarrassment among family and community members: *'I did not leave the house in the 40 days because it is a scandal and people will talk about me… this is our custom. Even if we had a normal vaginal birth, we do not go out; we must sit at home except for necessity'* (P14).

Several traditional practices related to food and medication after birth also appear to influence women's decision to visit a health centre. The participants indicated that they believed traditional foods were effective to overcome postnatal complications, such as insufficient milk production and bleeding, and 'cleanse the uterus': *'My family cooked for me special food such as fresh meat, Omani chicken, fenugreek and bread made of wheat flour, which very helpful in increasing the milk production, prevent gases formation and make my bones stronger as it was weakened due to pregnancy and delivery'* (P15). Similarly, women used and trusted traditional medicines to treat postnatal complications such as wound pain, infection and abdominal cramps [Table 2, Quotes 29 and 30].

The participants stated that they did not utilise PNFC because they were worried about both themselves and their newborns getting infected with COVID-19 when visiting health centres: *'I was afraid to go out during afterbirth because of Corona'* (P6). These women's decision to visit health centres was also affected by being discouraged or turned away by HCPs due to COVID-19 [Table 2, Quote 32].

The women in this study were reluctant to attend PNFC as they felt that the physical environment for postnatal care in health centres was not comfortable or suitable for them or their newborns: *'The environment in the health centre is not comfortable. It is very cold and the chairs are hard so it causes pain, especially with perineal wound…there is no special area for mothers to breastfeed their babies'* (P5). With no appointment system in place, women are expected to sit and wait for their turn. Depending on the number of women, some may not be seen at the clinic and have to return another day. Hence, many women stated that they chose to be attended to in private health facilities [Table 2, Quote 33]. Furthermore, women also cited the low quality of PNFC provided as a reason for not visiting [Table 2, Quotes 34 and 35].

## Discussion

This qualitative study highlights factors influencing postnatal women's utilisation of PNFC in Oman. These factors operate at the following four levels: individual, family, community and institutional. Gaining the perspectives of postnatal women is essential, since they are the consumers of this particular healthcare service and they should feel cared for, safe and confident in receiving quality care.[21] Many countries have developed standards for safe and quality healthcare, in which the significance of involving consumers in their own care and providing clear communication is advocated across the continuum of 'planning, design, delivery, measurement and evaluation of care'.[21,22] Involving the consumer at the primary care level has the potential to prevent illness before it begins. Therefore, engaging postnatal women to improve the utilisation of PNFC service has the potential to shape and influence policy change for better outcomes.[23]

This study's findings reveal that postnatal women need more information regarding postnatal care. Increasing health literacy, including knowledge and awareness, and thereby empowering women in their healthcare is not unique to Oman, having been reported in studies from many countries.[14,24,25] Two studies found that postnatal women in Indonesia and Ethiopia were not provided with adequate information and, thus, had poor knowledge and awareness of the importance of postnatal care.[24,25] Engaging and empowering consumers in healthcare and health promotion appears to remain a challenge despite discussion and policy development over the last few decades. Interestingly, the need for more information was reported by not only first-time mothers but also multiparous women, who highlighted their need for more educational support, especially regarding breastfeeding. The women in the current study reported using artificial formula very early in the postnatal period as a means of overcoming breastfeeding challenges such as attachment issues or low milk supply, and few women maintained exclusive breastfeeding for six months postnatally. The data from Oman demonstrates that only approximately a third (31.3%) of women breastfed exclusively at six months in 2005, and by 2019, the rate of exclusive breastfeeding had declined to just 8.9%.[12] By contrast, over the same period, the use of artificial formula and other foods rather than breastmilk has increased considerably at six months, from 60.7% in 2005 to 90.7 % in 2019.[12] This is a concern, as breastmilk is critical for the health and well-being of newborns; it protects them from malnutrition, common childhood infections, allergies, metabolic disorders and obesity.[1,26] Therefore, at the institutional level, there is potential for improving PNFC by addressing health literacy through policies that support individualised care and making information resources accessible to consumers.

The women in this study believed that not being given specific appointments for postnatal follow-up meant that PNFC was not important. In 2019, the rate of utilisation of postnatal care in Oman was demonstrated to be as low as 0.73 postnatal visits per woman.[12] This is in contrast to antenatal appointments, which are scheduled and, thus, considered important, with 73.9% of women attending four or more visits in 2019.[12] The American College of Obstetricians and Gynecologists recommends scheduling postnatal visits during the prenatal period or before hospital discharge as an imperative strategy for promoting and ensuring women's utilisation of PNFC.[10]

In this study, women expressed the desire for alternative options for PNFC, including home visits and telephone calls, indicating that a more individualised postnatal follow-up approach was of significance. De Sousa Machado *et al*. reported that to ensure the best health outcomes, promoting attentive listening to women's concerns, encouraging continuity of care and increasing home-based services is warranted.[27] Furthermore, a Cochrane systematic review highlighted that early discharge accompanied by a home visit resulted in reduced newborn readmissions in the weeks following birth, encouraged women to continue exclusive breastfeeding and increased maternal satisfaction with postnatal care.[28] The criticality and need for individualised care have been reported by several international organisations and agencies.[9,29] The current study has demonstrated that alternative modes of PNFC are desired by women; hence, future studies should explore alternative options at the community and institutional levels.

In Oman, the influence of the family, their expectations, customs and the level of support provided to women in the postnatal period plays a key role in their utilisation of health services. This is consistent with a study reporting the influence of families on women's knowledge, attitudes and practices during the postnatal period.[24] Therefore, considering this aspect at the individual level when designing interventions to improve the utilisation of services is critical. Educational interventions need to be targeted towards the family and community and not just the women concerned.[24] This is particularly crucial in the current study setting, where the expectation is that the family provides information and physical support and influences decision-making. The impact of family-related factors has been reported to negatively

influence postnatal women's compliance with health advice provided by HCPs.[24] However, having family support can also positively influence utilisation. For example, family members can assist women in attending postnatal follow-up appointments by caring for other children to allow women time to visit the health centre for appointments. Without this type of support, focusing on one's health often becomes exceedingly difficult for women. The women in the current study indicated that lack of family assistance with their other children prevented them from utilising PNFC, which is consistent with findings from research conducted in Ethiopia.[25,30]

Similar to many Arab countries, the postnatal period in Oman is culturally perceived as a unique time during which mothers are expected to practice seclusion, eat a special diet and receive congratulatory visits and gifts from family members and friends.[31] The practice of seclusion for 40 days is common in Middle Eastern countries, where women and their newborns are viewed as being weak and at increased risk of morbidities, mortality and the 'evil eye'.[31] Although seclusion did not appear to directly impede the study participants' PNFC utilisation, they still reported that they favoured staying indoors for 40 days, with many mentioning that they would attend the health centre only at 40 days for information about birth spacing. Therefore, offering alternative methods of follow-up could be useful for providing support on breastfeeding and mental well-being in the early postnatal period. In the current study, the women trusted the cultural practices of consuming traditional food and medicine to overcome postnatal complications and were more likely to try these than go to a health centre, as reported in previous studies.[25,32] Therefore, it is crucial for policymakers, community leaders and HCPs to work collaboratively towards increasing community awareness regarding the importance of PNFC.

Not surprisingly, concerns were raised regarding the inability to utilise PNFC due to the COVID-19 pandemic. This occurred at the individual level, with many women indicating that they were reluctant to leave the house and go to a health centre where they would be required to sit and wait for extended periods because appointments were not scheduled. At the institutional level, women spoke about being discouraged from visiting clinics in-person. Non-face-to-face methods for providing PNFC were not initiated by institutions in response to the pandemic. An unintended result of not attending postnatal clinics has been the isolation of new mothers, affecting further their ability to obtain information and support. Women raised concerns regarding their mental, physical and emotional well-being, including the risk of postnatal depression. This is concerning, as findings from a cross-sectional survey indicated that the risk of postpartum depression at one month was higher in women with low support compared with those with higher support.[33] Recommendations have been made regarding the importance of continued care for postnatal women and newborns during the pandemic and the employment of different accessible modalities to provide breastfeeding, mental health and parenting support.[34] Unlike in other countries, institutions in Oman have not reviewed or adapted services or policies in response to the pandemic, as women were not offered alternative postnatal follow-up approaches.

Several environmental factors that played a key role in impeding women's PNFC utilisation have been highlighted in this study. These factors included crowded health centres and long waiting times. The impact of the environment and long waiting queues at health facilities on PNFC utilisation has previously been reported in extant literature.[35] For Oman, a solution to address these factors may be as simple as scheduling appointments, as it can help reduce both overcrowding and long waiting times. Providing women with alternatives to face-to-face visits, such as phone calls and home visits, might also be successful in improving PNFC utilisation.

To the best of the authors' knowledge, this is the first study exploring the utilisation of PNFC in Oman from the perspective of postnatal women. This is critical to inform quality care improvements, make PNFC women-centred and amend the national guideline to increase PNFC utilisation. A limitation of this study is that it was conducted during the COVID-19 pandemic, which may have influenced the women's decision to attend PNFC visits, although it did not inhibit policy-makers from providing alternative means of contact, such as telephone calls, text messages and video conferencing via platforms such as Zoom (Zoom Video Communications, Inc. San Jose, California, USA).

## Conclusion

The women in this study identified key factors that both facilitated and impeded the utilisation of PNFC. Knowledge of these factors is crucial in the development and implementation of effective strategies for increasing PNFC utilisation, which can provide opportunities for health promotion, support and optimal care of women and newborns. Policy-makers, community leaders and HCPs must collaboratively work towards promoting the utilisation of PNFC by scheduling appointments, increasing

awareness among women, families and the community on the importance of PNFC and providing alternative modes of contact.

## AUTHORS' CONTRIBUTION

All authors conceptualised the study and designed the methodology. All authors contributed to the visualisation of the study. AAH, MP and KN analysed the data. AAH contributed to the project administration. JD, MP, KW and KN supervised the work. AAH drafted the manuscript, while JD, MP, KW and KN reviewed and edited the manuscript. All authors approved the final version of the manuscript.

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## CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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