

ASSESSING BARRIERS TO SUCCESSFUL BREASTFEEDING AMONG FEMALE POSTGRADUATE MEDICAL TRAINEES: IMPLICATIONS FOR SUPPORTING WORK-LIFE BALANCE

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INTRODUCTION

The women in the field of medicine tend to be concentrated in younger age groups, particularly during the prime years of their reproductive capabilities.¹ Earlier research has shed light on the distinctive and significant challenges encountered by physician mothers, residents, and medical student mothers. These challenges encompass structural impediments, heightened levels of work-family conflict, and instances of discrimination.^{2,3} In the workplace, over

one-third of mothers have reported instances of discrimination linked to pregnancy, maternity leave, or breastfeeding.⁴ Numerous women opt to postpone childbearing until after completing medical training due to perceived threats to their careers. This choice is linked to significantly higher rates of infertility compared to the general population, along with reduced levels of career satisfaction.^{5,6} In contrast, there are female physicians who choose not to delay childbearing.⁷ Additionally, it is recognized that the residency and fellowship periods, which coincide with

ABSTRACT

OBJECTIVES

This study aimed to explore the barriers to successful breastfeeding among female postgraduate medical trainees in Peshawar, Pakistan.

METHODOLOGY

A web-based descriptive, cross-sectional study was conducted in Northwest General Hospital and Research Center, Peshawar, Pakistan, from Oct 2023 to Dec 2023. The inclusion criteria were: A married female with an age ranging from 26 to 40 years, a postgraduate medical resident registered with the College of Physicians and Surgeons Pakistan (CPSP) between 2012 and 2022, and a female who has completed their training or is a current resident in all specialties. Those women who are married but have not given birth to a baby yet were excluded from the study. The questionnaire was distributed online to postgraduate medical trainees. This questionnaire included demographics, questions about breastfeeding practices, work hours, and access to pumping spaces. The data were analyzed using SPSS (Statistical Package for Social Sciences) version 25.

RESULTS

The 109 residents (mean age 30.25 years), predominantly specializing in obstetrics/gynecology (50.5%). Maternity leave patterns varied significantly, with 22.9% not utilizing it. Reports of guilt and discomfort were noted towards co-residents (27.5%) and faculty (20.2%). Despite high breastfeeding intentions, barriers like lactation room unavailability (78.9%) and complications (e.g., diminished milk supply, 42.2%) were observed. Challenges in pumping, influenced by procedural factors, clinic visits, and operating theater duties, led to premature breastfeeding cessation (70.6%). Despite challenges, 67.9% did not regret their breastfeeding decisions.

CONCLUSION

In conclusion, the survey highlights the diverse maternity leave patterns, interpersonal dynamics, and challenges faced by female postgraduate medical residents in breastfeeding. While intentions to breastfeed are high, significant infrastructure challenges and professional pressures contribute to premature cessation. The study underscores the need for supportive workplace environments, improved lactation facilities, and targeted interventions to enhance the overall breastfeeding experiences of female medical residents during their training.

KEYWORDS: Breastfeeding, Maternity Leave, Lactation Facilities, Barriers, Workplace

the prime childbearing years for many, entail prolonged, demanding, and inflexible work hours that take a toll on both physical and emotional well-being.⁷ The American Academy of Pediatrics (AAP) advocates for the exclusive use of breast milk as the primary source of nourishment during the initial 6 months of an infant's life, followed by continued breastfeeding for a minimum of 1 year. Additionally, the World Health Organization (WHO) suggests breastfeeding for a duration of 2 years or more.^{8,9} For many women, adhering to these recommendations involves approximately 4-10 feeding or pumping sessions per day, with pumping sessions typically lasting between 15 and 30 minutes, varying based on individual circumstances. Previous publications specific to particular medical fields have highlighted instances where female physicians terminated breastfeeding or lactation prematurely. This premature cessation was often attributed to constraints such as insufficient time, inadequate privacy, and subpar facilities.^{10,11} Consequently, this led to negative emotional experiences and diminished job satisfaction among these professionals.¹¹ A comprehensive study involving faculty and attending across various medical specialties revealed that the absence of appropriate lactation facilities and limited time for breast pumping upon returning to work stood out as the most frequently mentioned adverse encounter following childbirth.¹² Numerous studies in the literature highlight the multitude of advantages associated with breastfeeding for both infants and mothers.^{13,14} These benefits span health, nutrition, and psychological well-being.¹⁵ Conversely, a shortened duration of breastfeeding exposes infants to an elevated risk of compromised child survival and susceptibility to infectious and chronic diseases, such as diarrhea and respiratory tract infections.^{15,16} Additionally, mothers who engage in shorter periods of breastfeeding face an increased likelihood of developing breast and ovarian cancer, type 2 diabetes, and hypertension.¹⁷ However, lactating mothers encounter various challenges in expressing milk. Maternal employment emerges as a significant obstacle to breastfeeding. The literature identified several obstacles to breastfeeding, such as a dearth of support from colleagues, insufficient availability of suitable physical spaces, and a shortage of adequate time.^{18,19,20} Despite this, the scarcity of comprehensive data and the observed low rates of breastfeeding among female postgraduate medical trainees underscore the urgency for proactive measures to mitigate these barriers and enhance support for achieving a better work-life balance. Ultimately, the study's rationale is anchored in the objective of addressing the specific challenges faced by female postgraduate medical trainees in breastfeeding. The findings are expected to

guide the development of targeted interventions and policies to support lactating medical trainees, ultimately fostering a more conducive work environment that aligns with the needs of women navigating both medical training and motherhood.

METHODOLOGY

A web-based descriptive, cross-sectional study was conducted in Northwest General Hospital and Research Center, Peshawar, Pakistan, from Oct 2023 to Dec 2023. The female postgraduate trainees were recruited from a medical training program through convenience sampling. The sample size for this study was $n=203$, calculated using an "openepi sample size calculator," considering a 5% margin of error, a 95% confidence interval, and a 15.6% response rate. The inclusion criteria were: A married female with an age ranging from 26 to 40 years, a postgraduate medical resident registered with the College of Physicians and Surgeons Pakistan (CPSP) between 2012 and 2022, and a female who has completed their training or is a current resident in all specialties. Those women who are married but have not given birth to a baby yet were excluded from the study. For this study, data were collected using a self-administered structured questionnaire. The questionnaire was distributed online to postgraduate medical trainees who met the inclusion criteria, and data were collected over a period of 4 weeks. Participants were informed about the purpose of the study, their rights, and their confidentiality. This questionnaire included informed consent, demographics, questions about breastfeeding practices, work hours, access to pumping spaces, and work-life balance. The completed questionnaires were collected and checked for completeness and accuracy, and any missing data were resolved by contacting the participants. The data were analyzed using SPSS (Statistical Package for Social Sciences) version 25. Descriptive statistics were used to summarize the data collected on the demographic characteristics of the participants and barriers to successful breastfeeding among female postgraduate medical trainees. This study was conducted in accordance with the principles of the Declaration of Helsinki. Before the commencement of the study, ethical approval (Ref No: IRB&EC/2023-GH/007) was obtained from the Institutional Review Board and the Ethical Committee of Northwest General Hospital and Research Center, Peshawar. Informed consent was obtained from all participants, and their confidentiality and anonymity were ensured. Participants were instructed to withdraw from the study at any time without any negative consequences.

RESULTS

A web-based survey was conducted to assess the

breastfeeding experience and perceived barriers to successful breastfeeding among female postgraduate medical residents. A total of 109 residents, with a mean age of 30.25 (3.62) years, participated in the study. The majority of participants specialized in obstetrics/gynecology (50.5%), followed by general medicine (10.1%), and a smaller number of participants were from radiology (2.8%). The distribution of participants across different levels of training varied, with 27% having completed their training, 18% in the fourth postgraduate year, and only 4% in the fifth postgraduate year. Pregnancy rates during training were generally low, with 78% experiencing one pregnancy, and only 4% conceiving three times during their training (Table 1).

Table 1: Demographics (n=109)

Variables	Frequency	%age
Age, Years, Mean(SD)	30.25	
Speciality		
OB/GYN	55	50.5
General Medicine	11	10.1
Pediatrics	08	7.3
Radiology	03	2.8
Surgery	04	3.7
Other	28	25.7
Current level of training		
PGY1	19	17.4
PGY2	17	15.6
PGY3	18	16.5
PGY4	20	18.3
PGY5	05	4.6
Completed	30	27.5
Number of pregnancies during training		
1	86	78.9
2	18	16.5
3	05	4.6

OB/GYN: Obstetrics/Gynecology, PGY: Postgraduate Year

Table 1: Frequency and Percentage of Questions Related to Perceived Barriers to Breastfeeding

Variables	Frequency	%age
Maternity leave during residency		
Yes, as per CPSP rules	68	62.4
Yes, in the form of yearly leaves	08	7.3
Yes, on elective rotation	08	7.3
No, I did not take any maternity leave	25	22.9
Maternity leave after your first pregnancy		
No, leaves	19	17.4
2 to 45 days	55	50.5
46 to 75 days	07	6.4
More than 76 days	28	25.7
Maternity leave after your 2nd Pregnancy		
No, leaves	75	68.8
2 to 45 days	25	22.9
46 to 75 days	02	1.8
More than 76 days	07	6.4
Co-residents make you feel guilty.		
Yes, due to the increased workload on them during pregnancy	30	27.5
Yes, due to the increased workload on them during maternity leave	09	8.3
Yes, due to the extra time or days missed for daycare closings or kids being sick	11	10.1
No, I felt supported	59	54.1
Faculty makes you feel guilty.		
Yes, due to the increased workload on them during pregnancy	22	20.2
Yes, due to the increased workload on them during maternity leave	12	11.0
Yes, due to the extra time or days missed for daycare closings or kids being sick	19	17.4
No, I felt supported	56	51.4
Did you intend to breastfeed while on maternity leave?		
Yes	101	92.7
No	08	7.3
Did you intend to breastfeed after you returned to clinical duties?		
Yes	74	67.9
No	35	32.1
How long did you intend to breastfeed (months)?		
Up to 4 months	36	33.0
4-6 months	21	19.3
7-12 months	14	12.8
>12 months	38	34.9
Did you breastfeed/ pump after returning to work?		
Up to 4 months	75	68.8
4-6 months	23	21.1
7-12 months	11	10.1
>12 months	0	0

Table 3: Frequency and Percentage of questions related to perceived barriers to breastfeeding

Variables	Frequency	%age
Do co-residents ever make you feel uncomfortable?		
Yes, due to the time required out of the office/out of clinic	25	22.9
Yes, because of the special accommodations required to pump	19	17.4
No, I felt supported	65	59.6
Does the faculty ever make you feel uncomfortable		
Yes, due to the time required out of the office/out of clinic	25	22.9
Yes, because of the special accommodations required to pump	18	16.5
No, I felt supported	66	60.6
Lactation rooms are available at your residency training hospital		
Yes, and they were available when I needed them	10	9.2
No	86	78.9
Yes, but they were often full	05	4.6
Yes, but they were in an inconvenient location	08	7.3
In the lactation rooms, were the following resources available?		
Comfortable seating	13	11.9
Sink	03	2.8
Refrigerator	03	2.8
Power outlets	05	4.6
None of these were available	85	78.0
Where did you pump?		
Lactation room	09	8.3
Empty office	41	37.6
Patient Rooms	02	1.8
Bathrooms	10	9.2
None	47	43.1
Complications you experience due to inadequate pumping?		
Mastitis	12	11.0
Clogged milk ducts	18	16.5
Diminished milk supply	46	42.2
None	33	30.3
Availability of a place to store breast milk during the workday		
Yes	25	22.9
No	84	77.1

Table 4: Frequency and Percentage of questions related to perceived barriers to breastfeeding

Variables	Frequency	%age
Did you stop breastfeeding earlier than planned during residency?		
Yes	77	70.6
No	32	29.4
What contributed to your decision to stop pumping prior to your personal goal?		
Inadequate time to pump during the day	35	32.1
Inadequate locations to pump during the day	25	22.9
Diminished supply of breast milk	38	34.9
Pumping was leading me to fall behind on work, ultimately leading to more extended hours.	11	10.1

Table 4 continue....

What were the barriers to adequate time for pumping?		
Procedures	42	38.5
Floor management	39	35.8
Clinic visits	16	14.7
Operation Theater	11	10.1
Other	01	0.9
Do you feel residency has limited your ability to breast pump?		
Yes, due to a lack of support from the program	26	23.9
Yes, due to a lack of support from co-residents	10	9.2
Yes, I believe my milk supply decreased due to stress and/or due to insufficient pumping time/frequency.	55	50.5
No, I do not feel that residency limited my ability to breastfeed	18	16.5
Do you regret your decision not to breastfeed?		
Yes	74	67.9
No	35	32.1

DISCUSSION

This study assessed the breastfeeding experience and perceived barriers to successful breastfeeding among female postgraduate medical residents. The study revealed significant variations in maternity leave patterns among female postgraduate medical residents, with notable instances of non-utilization (22.9%). Instances of guilt and discomfort were reported, both towards co-residents (27.5%) and faculty (20.2%), emphasizing the emotional challenges. Breastfeeding intentions were high, but barriers were evident, including lactation room unavailability (78.9%) and complications like diminished milk supply (42.2%). Challenges in pumping, influenced by procedural factors, clinic visits, and operating theater duties, contributed to premature breastfeeding cessation (70.6%). Residency-related limitations were acknowledged, with 50.5% attributing decreased milk supply to stress and inadequate pumping. Despite challenges, 67.9% did not regret their breastfeeding decisions, highlighting the complex dynamics shaping the experiences of female medical residents. Previous publications focused on physician lactation, particularly in specific specialties or among attending physicians, reveal an approximate 40% rate of early breastfeeding cessation, with 15-25% continuing beyond 1 year.^{9,10,11,12,13,14,15,16,17,18,19,20} Insufficient lactation facilities were reported by the majority, and a quarter experienced workplace discrimination.^{11,20,21} Current breastfeeding rates among female US resident physicians fall significantly below the 2020 US National Healthy People objectives.¹⁰ In Canada, 50% of lactating residents sensed a lack of support from academic institutions or residency associations concerning labor rights or pumping needs, while 30%

felt penalized or criticized. One-third fell short of achieving their individual breastfeeding goals, attributing the challenges to insufficient time and space.¹⁰ A survey on 312 female residents reported that only 21% of residents had access to functional lactation rooms, and 60% faced challenges due to a lack of storage space for breast milk. A majority (73%) reported that residency constraints impacted their ability to lactate, leading 37% to discontinue earlier than intended. Additionally, 40% felt guilt from faculty or co-residents about their breastfeeding choices.¹⁰ Similarly, concerning lactation rooms at the residency training hospital, our study found that 9% reported that they were available when needed. In terms of storing breast milk during the workday, 22.9% had access to a place for storage, while 77.1% did not. A significant majority (70.6%) indicated that they did stop breastfeeding earlier than intended, while 29.4% did not. When asked about co-residents, 27.5% reported feeling guilty due to an increased workload on colleagues during their pregnancy. Similarly, when considering faculty interactions, 20.2% felt guilty during pregnancy. Another survey included 223 responses out of 1,301 female physicians. Among respondents, 57% had never breastfed, but 87% of them expressed plans to breastfeed in the future. Women with breastfeeding experience (97%) reported facing perceived barriers. The commonly reported obstacles included a lack of time and suitable places for pumping, unpredictable schedules, short maternity leave, and long working hours.²² However, in our study, the decision to cease breastfeeding prematurely was influenced by various factors. Inadequate time to pump during the day (32.1%), inadequate locations for pumping (22.9%), diminished supply of breast milk (34.9%), and the perception that pumping led to falling behind on work and longer hours (10.1%) were reported as contributors. A scoping review highlighted that being pregnant during surgical training is linked to unfavorable perceptions from peers, complications during pregnancy, and difficulties in managing schedules. The existing policies on maternity leave and the availability of breastfeeding and childcare facilities vary and are frequently deemed insufficient.²³ In our study, the maternity leave patterns among the surveyed female postgraduate medical residents revealed that a significant proportion adhered to the rules set by CPSP, with 62.4% taking maternity leave accordingly. Notably, 22.9% of participants did not take any maternity leave during their residency. In the available lactation rooms, resources like comfortable seating (11.9%), sinks (2.8%), refrigerators (2.8%), and power outlets (4.6%) were reported, but 78.0% mentioned none of these were available. Nearly two-thirds of residents continued breastfeeding upon returning to

work, but all faced obstacles in the workplace, including a shortage of time, private space, and refrigeration for expressed milk. Insufficient workplace breastfeeding policies and inadequate support from supervisors or program directors were identified as additional barriers in our study.¹⁸ To address these limitations and advance the field, future research should consider expanding the sample size and increasing diversity among participants, encompassing residents from various specialties, regions, and cultural backgrounds. Longitudinal studies tracking breastfeeding experiences over an extended period could provide valuable insights into the evolving challenges faced by residents. Researchers may also explore qualitative methods, such as interviews or focus groups, to complement quantitative data and offer a deeper understanding of residents' lived experiences. Additionally, interventions aimed at improving lactation facilities, support systems, and policies within residency programs could be implemented and rigorously evaluated. Comparative studies between different residency programs or institutions could identify best practices and areas for improvement, contributing to the development of targeted interventions and policies.

LIMITATIONS

The study's findings should be interpreted in light of several limitations. Firstly, the sample size, though informative, might not be fully representative of the diverse experiences of female postgraduate medical residents, warranting caution in generalizing the results. The reliance on self-reported data introduces potential response bias, as participants may not fully disclose their experiences or challenges related to breastfeeding. Additionally, the cross-sectional design limits the ability to establish causal relationships, and future research employing longitudinal approaches could offer a more nuanced understanding of the dynamic nature of breastfeeding experiences over time. Furthermore, the geographical focus on a specific region may not capture the broader variations in breastfeeding practices and support systems.

CONCLUSIONS

In conclusion, the survey highlights the diverse maternity leave patterns, interpersonal dynamics, and challenges faced by female postgraduate medical residents in breastfeeding. While intentions to breastfeed are high, significant infrastructure challenges and professional pressures contribute to premature cessation. The study underscores the need for supportive workplace environments, improved lactation facilities, and targeted interventions to enhance the

overall breastfeeding experiences of female medical residents during their training.

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The authors accept responsibility for all aspects of the work and will ensure that any concerns regarding the accuracy or integrity of any part are properly investigated and resolved.



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