Community Pharmacists' Perceptions of the most Important Interventions Implemented in Supporting Breastfeeding Women During Maternal Life: A Cross-Sectional Study in Jordan

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ABSTRACT

Objectives: The purpose of this cross-sectional study is to investigate and analyze community pharmacists' perspectives on the most essential interventions implemented to support breastfeeding women during their maternal life in Jordan.

Methods: A cross-sectional study design was employed using a self-administered survey. A convenience sample (n = 381) of community pharmacists was recruited via social media resources. Responses were subject to various statistical analyses using SPSS.

Key Findings: In the study with 381 participants, the majority were females (86.4%, n=329) aged between 23 and 30 (78.7%, n=300). A total of 55.1% (n=210) had previous breastfeeding experience. Pharmacists (65.9%, n=251) stressed the significance of health education for improved breastfeeding support. During prenatal care, 42% (n=160) underscored the importance of engaging parents, while 37% (n=141) highlighted the need for additional lactation support during the delivery stage. Finally, 34.4% (n=131) identified serving as an informational resource for the "mother-baby dyad" as being crucial in the postnatal stage.

Conclusions: The study spotlights the critical role of pharmacists in breastfeeding support, underscoring the importance of tailored interventions based upon their demographics and perceptions. These insights provide invaluable guidance for optimizing community pharmacists' contributions to maternal care.

Keywords: Pharmacist, Breastfeeding, Perception, Support, Education, Jordan.

INTRODUCTION

In 1981, Bo Vahlquist emphasized that the reproductive cycle of all mammalian species, including humans, encompasses both pregnancy and breastfeeding, highlighting the latter's pivotal role in survival (1). The prevalent consensus on optimal infant nutrition underscores the presiding adage, 'breast is best' (2). A 2016 Lancet series projected that the implementation of optimal breastfeeding practices could annually prevent 823,000 deaths among children under five years of age (3). Despite

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burgeoning interest in breastfeeding and plenty of scientific evidence supporting its importance, the global rates of exclusive breastfeeding for infants younger than six months remain disappointingly low at 44% (4).

Jordan stands out due to its high prevalence of breastfeeding, with 92% of children experiencing nursing at some point(5). However, previous studies in Jordan have revealed unfavorable attitudes towards breastfeeding practices. Moreover, the rate of exclusive breastfeeding among six-month-old babies is less than ideal and has been declining, decreasing from 40% in 2007 to 26% in 2018, according to Jordanian population and family health surveys(5).

The global imperative to enhance breastfeeding practices was underscored by its inclusion in the Millennium Development Goals outlined by the World Health Organization (WHO) over the past decade (6). Despite this, evidence suggests that many new mothers struggle to meet their desired infant-feeding goals, emphasizing the need for breastfeeding support (7). While some women face medical or physical barriers that inhibit breastfeeding, many others can benefit from adequate support. In 2011, the US Surgeon General issued a Call to Action to Support Breastfeeding, urging communities, families, and healthcare professionals to facilitate breastfeeding for mothers (8). That same year, the Council of the International Pharmaceutical Federation (FIP) endorsed a paper highlighting the essential role pharmacists can play in improving maternal, neonatal, and child health (9). Given their frequent interactions with parents and their knowledge of medication safety, pharmacists are well-positioned to play a crucial role in promoting and supporting breastfeeding (10).

Despite recognizing the potential role of pharmacists in breastfeeding support, literature on their knowledge and education in this area is limited, with existing studies primarily focusing on medicine and lactation knowledge (11-14). Recently, a study in Jordan highlighted the importance of prioritizing patient satisfaction in general pharmacy settings, emphasizing the need to focus on patient contentment when providing pharmaceutical services (15). However, information about pharmacists' perspectives on their interventions during pregnancy in Jordan is scarce. This study aims to investigate community pharmacists' perspectives on the most significant interventions implemented to support breastfeeding mothers during their maternity journey in Jordan.

METHODS

Research Design and Participants

This research employed a descriptive cross-sectional design and utilized an online survey to address its objectives. Conducted in Jordan, the study ran from August 2, 2021, to February 17, 2022. Clinical researchers developed and validated an online survey to gather anonymous responses, ensuring confidentiality. The survey targeted community pharmacists in Jordan who held at least a bachelor's degree or Doctor of Pharmacy and were currently working in community pharmacies. Participants were recruited using convenience sampling through social media platforms like Facebook and WhatsApp groups. Following the inclusion criteria explained at the survey's outset, participants were informed about the voluntary nature of their involvement and that there were no risks. A written consent statement was provided at the beginning of the survey, with participants having the option to either agree to proceed or choose "I disagree to participate" to decline. Completion of the survey represented informed consent. Participant anonymity was maintained, and ethical approval was obtained from the Institutional Review Board of King Abdullah University Hospital, University of Science & Technology, Jordan (Reference No. 56/141/2021).

Survey Development, Validation, and Reliability

The online survey was developed after reviewing

validated surveys in the literature and scrutinized by a focus group of pharmacy practice experts. A draft questionnaire was then pilot-tested with 10 community pharmacists for comprehension, clarity, and cultural acceptability before the main survey. Administered via Google Forms, the survey was self-administered in English and designed to be completed within 10–12 minutes.

Sample Size

With 22,667 registered pharmacists in Jordan as of February 2019, the Raosoft® calculator recommended a sample size of 378 participants for a 5% margin of error and a 95% confidence level. To account for potential unknown issues, the sample size was increased to approximately 380 pharmacists.

Statistical Analyses

Completed surveys were extracted from Google Forms and transferred to SPSS version 25.0 for analysis. Categorical variables were presented as frequencies or percentages.

RESULTS

Sociodemographic characteristics

Upon completion of the online questionnaire distribution, a total of 381 fully completed forms were incorporated into the study. Predominantly, the demographic profile of participants leaned towards females, constituting 86.4% (n=329), with the majority falling within the 23-30 age group, which accounted for 78.7% (n=300). An exploration of marital status revealed that a significant portion, 58% (n=221), identified as single, while nearly 70% (n=265) reported not having any children. Notably, over half the study sample, specifically 55.1% (n=210), possessed personal experience with breastfeeding. For a comprehensive overview of the participants' demographic characteristics, refer to Table 1.

Table 1. Demographic characteristic of the study participants and their principal place of practice

Characteristics	n, (%)
Age	
23 – 30 years	300, (78.7)
31 – 40 years	55, (14.4)
41 – 50 years	22, (5.8)
More than 50 years	4, (1.0)
Gender	
Female	329, (86.4)
Male	52, (13.6)
Marital status	
Single	221, (58.0)
Married	152, (39.9)
Divorced	7, (1.8)
Widow	1, (0.3)
Do you have any children?	
Yes	116, (30.4)
No	265, (69.6)
Years of practices	
Less than 5 years	286, (75.1)
Between 5 and 10 years	48, (12.6)
Between 11 and 20 years	33, (8.7)
More than 20 years	14, (3.7)
Highest degree	
BSc	234, (61.4)
Pharm D	96, (25.2)
MSc	39, (10.2)
PhD	12, (3.1)
Geographical area of practice	
North of Jordan	165, (43.3)
Middle of Jordan	197, (51.7)
South of Jordan	19, (5.0)
Source of highest degree	
Jordan	375, (98.4)
Others country	6, (1.6)
Work Location	
Rural (Village)	86, (22.6)
Urban (City)	295, (77.4)
Pharmacy type	
Independent	280, (73.5)
Small chain < = 20 branches	71, (18.6)
Big chain > 20 branches	30, (7.9)
Do you have personal experience in breastfeeding?*	
Yes	210, (55.1)
No	171, (44.9)

*For the purposes of this survey, personal experience in breastfeeding is defined as having breastfed yourself; or having a spouse/partner (wife) who has breastfed; or have a family member who has breastfed, with whom you have spent significant time, including overnight, while they were breastfeeding.

Pharmacists' Perception in Supporting Breastfeeding during all Maternal Life

Table 2 illustrates the frequency distribution of responses from surveyed pharmacists as they identify key factors influencing their inclination to provide more support for breastfeeding across various stages of maternal life. A significant majority, comprising 65.9% (n=251), expressed the belief that conveying education on the important health benefits associated with breastfeeding, in accordance with the best standards of care, is a pivotal intervention for offering enhanced support during the pre-pregnancy stage. For the prenatal stage, 42% (n=160) of pharmacists indicated that engaging parents in discussions about feeding, given the role of pharmacies as primary suppliers of various baby products, can significantly influence their support for breastfeeding. Conversely, during the delivery stage, 37% (n=141) perceived that offering additional coverage for lactation-related queries when other nurses and lactation consultants are unavailable is the most influential factor. Furthermore, in the postnatal period, over one third of pharmacists (34.4%, n=131) identified serving as an information resource for the "mother–baby dyad" as the intervention that enhances their role as better supporters of breastfeeding.

Table 2. Pharmacists' perception about the most important intervention in supporting breastfeeding during all maternal life.

Pre-pregnancy		
• Provide education about the importance of the health benefits associated with breastfeeding according to the best standard of care.	**N**	**251**
	%	**65.9**
• Provide patient support through advocacy of prenatal vitamins and documentation of checklists of contraindicated medications/ supplements during pregnancy.	**N**	**130**
	%	**34.1**
Prenatal		
• Engage parents in discussions about feeding (pharmacies are a primary supplier of a wide range of baby products including breast pads, nursing cover-ups, baby carriers or slings, breast pumps and pumping supplies, nipple shields, ointments for breastfeeding, diapers, toys, bibs, and baby bath and skin care products).	**N**	**160**
	%	**42%**
• For parents who have not yet decided on the method they would like to use to feed their infants, pharmacists can help with prenatal education around breastfeeding and formula feeding.	**N**	**115**
	%	**30.2%**
• Provide information about the normal course of breastfeeding, the management of common difficulties, and considerations for preparing for breastfeeding.	**N**	**97**
	%	**25.5%**
• Direct parents to available support groups.	**N**	**9**
	%	**2.4%**
Delivery		
• Provide additional coverage on lactation-related questions when other nurses and lactation consultants are not available due to high inpatient census or absence of 24/7 coverage.	**N**	**141**
	%	**37%**
• Provide information on appropriate use of infant formula.	**N**	**115**
	%	**30.2%**
• Provide useful resources of information and skills on how to start and continue the process breastfeed babies.	**N**	**125**
	%	**32.8%**
Postnatal		
• Serve as an information resource for the "mother–baby dyad" (most health care during the postpartum period is directed at either the mother or the infant).	**N**	**131**
	%	**34.4%**
• Provide advice regarding breastfeeding concerns and difficulties (including appropriate referral to other health care professionals and referral to available support groups).	**N**	**127**
	%	**33.3%**
• Provide counseling and education related to pumping and pumping equipment and appropriate storing of breast milk.	**N**	**77**
	%	**20.2%**
• Provide counseling and education related to preparation and use of infant formula.	**N**	**46**
	%	**12.1%**

DISCUSSION

The findings from our study contribute to the ongoing discourse on community pharmacists' attitudes and practices related to breastfeeding support, offering insights into the evolving landscape of pharmacist involvement in breastfeeding support. As the inaugural study in this domain, our research holds a distinctive position, as it pioneers the examination of pharmacists' perspectives on the most crucial interventions supporting breastfeeding women during their maternal life in Jordan. While existing literature provides foundational knowledge on various aspects of maternal care, the absence of prior studies specifically addressing this aspect underscores the novelty and significance of our investigation. Our study, which includes a substantial representation of female participants (86.4%), aligns with the gender distribution observed in previous research within the pharmacy profession. This consistency emphasizes the continued importance of understanding and addressing gender-specific factors in the context of breastfeeding support. Similarly, the concentration of participants within the 23 to 30 age bracket reflects broader trends in the healthcare workforce, suggesting a young and potentially dynamic cohort.

A study conducted by Roger Edwards from the Department of Pharmacy Practice, Northeastern University, Boston, showed that pharmacists have numerous opportunities to educate the general public and parents about ideal infant feeding throughout pre-pregnancy, pregnancy, delivery, and postpartum periods. To understand potential roles for pharmacists in supporting breastfeeding, the study delineated pharmacist interventions into four durations: pre-pregnancy, pregnancy, delivery, and postpartum (10). The significant percentage (55.1%) of pharmacists with personal breastfeeding experience in our study echoes findings from some previous investigations. However, it also underscores the importance of considering personal experiences in the development of supportive attitudes. Interestingly, the high proportion of participants without children (70%) introduces a distinctive feature not extensively explored in prior studies. This demographic characteristic warrants further investigation to understand its potential impact on the support practices of pharmacists.

When comparing our results on perceptions and interventions with existing literature, both congruencies and disparities emerge. The emphasis on education regarding the health benefits of breastfeeding, identified by 65.9% of pharmacists in our study during the pre-pregnancy stage, aligns with the emphasis on knowledge dissemination found in some previous research. However, the nuanced focus on engaging parents in discussions about feeding during the prenatal stage (42%) adds a unique dimension to the understanding of pharmacists' roles, particularly given their status as primary suppliers of infant products.

The identification of lactation-related query coverage as a significant factor during the delivery stage (37%) resonates with studies emphasizing the importance of timely and accessible information. Conversely, the emphasis on serving as an information resource for the "mother–baby dyad" during the postnatal period (34.4%) introduces a broader, holistic approach not extensively explored in previous literature.

Our study aligns with the global imperative to improve breastfeeding practices, as highlighted by the WHO's Millennium Development Goals. The U.S. Surgeon General's Call to Action in 2011 and the subsequent endorsement by the International Pharmaceutical Federation (FIP) underscore the international recognition of pharmacists' potential in promoting breastfeeding (9).

Practicing pharmacists need support now, and changes to undergraduate education are warranted to keep pace with current developments and changes in practice (16). Notably, our study fills a significant gap in the literature by focusing solely on pharmacists' perspectives on the most important interventions implemented to support breastfeeding mothers in Jordan during their maternity years. Our goal is not only to add substantial knowledge to this area, but also to lay the groundwork for enhancing the role of community pharmacists in maternal care by investigating and recording their insights. This study has the potential to improve the general support network for breastfeeding women in the

Jordanian community by informing healthcare policies and developing focused interventions.

CONCLUSIONS

While our findings align with certain patterns identified in previous studies, the unique demographic characteristics and nuanced perceptions uncovered in our investigation highlight the evolving nature of pharmacist roles in breastfeeding support. This study contributes valuable data to the existing body of knowledge and provides a foundation for future research and tailored interventions aimed at optimizing the contributions of community pharmacists in this crucial healthcare domain.

Conflict of Interest Statement

The author(s) declare that there are no conflicts of interest.

Data access statement

All authors had and still have complete access to the study data.

Data availability statement

The data underlying this article will be shared on reasonable request to the corresponding author.

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تحليل تصورات المجتمع لأهم التدخلات المنفذة في دعم المرأة المرضعة أثناء الحياة الأمومية: دراسة مقطعية في الأردن

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ملخص

الأهداف: الغرض من هذه الدراسة المقطعية هو دراسة وتحليل تصورات صيادلة المجتمع حول أهم التدخلات المنفذة لدعم النساء المرضعات خلال حياتهن الأمومية في الأردن.

الطرق: تم إجراء تصميم دراسة مقطعية باستخدام المسح الذاتي. تم تعيين عينة ملائمة (ن = 381) من صيادلة المجتمع من خلال موارد وسائل التواصل الاجتماعي. خضعت الإجابات لتحليلات إحصائية مختلفة باستخدام برنامج SPSS.

النتائج الرئيسية: شملت الدراسة 381 مشاركًا، معظمهم من الإناث (86.4%، العدد = 329) الذين تتراوح أعمارهم بين 23 إلى 30 عامًا (78.7%، العدد = 300)، 55.1% (العدد = 210) لديهم خبرة في الرضاعة الطبيعية. وشدد الصيادلة (65.9%، العدد = 251) على أهمية التثقيف الصحي لدعم الرضاعة الطبيعية بشكل أفضل. أثناء رعاية ما قبل الولادة، أكد 42% (العدد = 160) على إشراك الوالدين، في حين سلط 37% (العدد = 141) الضوء على التغطية الإضافية للرضاعة في مرحلة الولادة. أخيرًا، حدد 34.4% (العدد = 131) أن العمل كمصدر معلومات لـ "الثنائي الأم –الطفل" أمر بالغ الأهمية بعد الولادة.

الاستنتاجات: تسلط الدراسة الضوء على دور الصيادلة الحاسم في دعم الرضاعة الطبيعية، مع التركيز على أهمية التدخلات المصممة بناء على التركيبة السكانية وتصوراتهم. توفر هذه الأفكار توجيهًا قيمًا لتحسين مساهمات صيادلة المجتمع في رعاية الأمومة.

الكلمات الدالة: صيدلاني، الرضاعة الطبيعية، الإدراك، الدعم، التعليم، الأردن.

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