KNOWLEDGE AND SELF-EFFICACY ON EXCLUSIVE BREASTFEEDING AMONG WORKING WOMEN IN JERANTUT, PAHANG

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Abstract

Providing essential nutrients to support healthy growth and development in young infants is commonly achieved through breastfeeding, a traditional means of nourishment. Although many awareness campaigns on exclusive breastfeeding (EBF) benefits were conducted in Malaysia, the rate remains lower than WHO's recommendation. This study aims to determine the level of knowledge and self–efficacy of exclusive breastfeeding among working women in Jerantut. A cross-sectional study was conducted among the community of working women in Mukim Pedah with the involvement of 375 respondents selected via convenient sampling. A questionnaire was used to collect data on the respondents' sociodemographic characteristics, breastfeeding knowledge, and Breastfeeding Self-Efficacy Scale - Short Form (BSES-SF). This study found that 93.1% of respondents had a high level of knowledge of exclusive breastfeeding and self-efficacy (83.7%). There was a statistically significant association between breastfeeding education and knowledge level in exclusive breastfeeding ($p < 0.05$) and also between age, education level, parity, breastfeeding education, and experience in breastfeeding with self–efficacy ($p<0.95$). Exclusive breastfeeding benefits the health of both mother and child; having good knowledge and confidence in EBF may encourage mothers to breastfeed their babies for extended periods.

Keywords: Exclusive Breastfeeding, Knowledge, Self-efficacy

Introduction

Achieving global nutrition, health, survival, economic growth, and environmental sustainability goals depends on breastfeeding. In accordance with recommendations from the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), breastfeeding ought to commence within an hour after birth, persist exclusively for the initial six months of an infant's life, and then proceed with safe and sufficient complementary foods for a minimum of two years (1). A baby receiving Exclusive Breastfeeding (EBF) in early life can be protected from malnutrition and infection (2).

Most mothers are eager to start breastfeeding but stop prematurely due to a lack of ongoing support, such as a lack of knowledge and low self-efficacy in maintaining exclusive breastfeeding of their babies (3). Several promotions, initiatives, and awareness have been implemented to promote breastfeeding. An initiated scheme called the Baby-Friendly Hospital Initiative (BFHI) includes giving knowledge about breastfeeding to all women unaware of the modern healthcare system and encouraging them to practice successful breastfeeding (4). Malaysia has implemented this initiative since 1993 and was acknowledged by the WHO as the third-best country in the world, with all its public hospitals having earned the Baby Friendly Hospitals designation. Seventy per cent of infants worldwide should be exclusively breastfed by 2030 (5).

Only 44% of infants under six months old have been exclusively breastfed globally, ranging from 26% in upper-middle-income nations to 52% in low-income countries, despite the well-known health benefits of breastfeeding (6). About one million infants die per year from diarrhoea

due to gastrointestinal infections, which are preventable through breastfeeding (7). Despite the well-known importance of EBF, the practice is not widespread globally or in Malaysia (7).

Self-efficacy is an expressive trait discovered as one of the leading factors of various behaviours, one of which is breastfeeding. Self-efficacy in breastfeeding can be described as when the woman is confident in her ability to initiate and practice exclusive breastfeeding (8). A recent study revealed that women with low breastfeeding knowledge were also less likely to meet their self-efficacy in feeding infants (9). Breastfeeding knowledge plays a vital role in the practice of exclusive feeding in terms of the benefit of breastfeeding to infants and mothers. Additionally, it is considered that excellent breastfeeding knowledge and behaviour relate to high levels of self-efficacy in breastfeeding. Mothers with a high level of knowledge of feeding their infants and self-efficacy tend to be more motivated to breastfeed their children.

Research has shown that breastfeeding and exclusivity rates relate to several sociodemographic characteristics, including the mother's age, educational level, marital status, and socio-economic position (10). A study done in Tudor Sub-County Hospital, Mombasa, Kenya, found that multiparous married women with higher levels of education and those who were employed were more likely to practice exclusive breastfeeding and good self–efficacy (11). A recent study in Ghana discovered that women who completed high school were 70% more likely to practice EBF than those who did not, whereas women who attended college were four times more likely to breastfeed than women who completed high school (12). In addition, a recent cross-sectional study demonstrated that women of formally educated and older maternal age are more likely to have a high knowledge level of exclusive breastfeeding and self-efficacy (13).

The primary objective of this study was to determine the level of knowledge and self-efficacy in exclusive breastfeeding. The secondary purpose was to identify the relationship between knowledge and self-efficacy in EBF. Lastly, to determine the association between demographic characteristics with breastfeeding knowledge and self-efficacy.

Materials and Methods

Study design

A cross-sectional study was conducted among a community of working women in Mukim Pedah who had delivered live babies in 2022. This study was conducted in Mukim Pedah, situated in Jerantut, Pahang. This study can contribute valuable insights to the existing literature on breastfeeding practices, particularly in underrepresented or understudied communities. The new knowledge can provide valuable insights for future research, help to shape public health initiatives and provide valuable information for local, regional, and national policy-making decisions.

Inclusion and exclusion criteria

The inclusion criteria for this study were working women, encompassing full-time and part-time workers in Pedah, Jerantut. It also included women who had given birth in 2022 and were 18 or older. Individuals under the age of 18 and non-citizens were excluded from this study.

Sampling methods and sample size

The data collection started in August 2022 through convenient sampling in Mukim Pedah. Due to the COVID-19 pandemic, the questionnaire was distributed to respondents via Google Forms in the community group. According to the Department of Statistics Malaysia, in 2020, the total population of working women in Mukim Pedah was 15,653 (14). By using Raosoft software calculation with a 5% margin of error in sample size, 95% confidence interval (CI), and 50% response distribution, the recommended sample size was 375.

Study instrument

A structured-item questionnaire was used to collect data on the respondents' sociodemographic characteristics, knowledge regarding breastfeeding, and self-efficacy in EBF. The questionnaire consisted of three parts. Part A consisted of eight questions about demographic data.

Part B utilised the Breast-Feeding Knowledge Questionnaire (15) to collect data. This questionnaire consisted of 15 questions to assess breastfeeding knowledge using a "True" or "False" format, with 1 point for each correct response. The score ranges from 1–15; the higher the score, the greater the knowledge. A total score below 15 is considered a low level of knowledge in exclusive breastfeeding, and a score above 15 is considered a high level of knowledge in exclusive breastfeeding.

Part C assessed self-efficacy in EBF using the Breastfeeding Self-Efficacy Scale - Short Form (BSES-SF) 14 item (16). This measured breastfeeding confidence and was preceded by the phrase "I can always…" and rated on a 5-point Likert scale, ranging from 1 (not at all confident) to 5 (always confident). The scores range from 14 to 70, with higher scores reflecting greater breastfeeding self-efficacy. A score below 70 was considered low self-efficacy in exclusive breastfeeding, and a score of 70 and above was considered high self-efficacy.

Validity and reliability

The original questionnaire was in the English language, and permission for use was granted by the author (16). The researcher translated the questionnaire into Malay through a linguistic expert for backward translation. To ensure the content's appropriateness, two nursing lecturers and two lactation nurses reviewed the translated questionnaire to ensure the items' accuracy, clarity, and suitability. The questionnaire was then given to five respondents to check for clarity, understanding, and comments about the questions. No question required

rephrasing or change. A pilot study was done in August 2022, involving 10% of the population of working women in Mukim Pedah who had delivered live babies, totalling 38 respondents. The Cronbach's alpha coefficient for the breastfeeding knowledge questionnaire was 0.81, while for the Breastfeeding Self-Efficacy Scale – Short Form questionnaire, it was 0.91.

Data collection process

Data was collected from September to November 2022. The researcher approached the respondents by submitting a questionnaire via a shared link in a WhatsApp group to five leaders of a community group of residents in Mukim Pedah, and the leaders forwarded the questionnaire to their community. Respondents completed the consent form attached to the questionnaire before answering the survey questions. Respondents had the right to reject or withdraw from the study without penalty. After the respondents agreed to participate in this study, they were asked to answer the questionnaire provided. Respondents will answer all the questions for 10 to 20 minutes, and the completed questionnaires will be submitted online.

Data analysis

The data were analysed by Statistical Package for Social Sciences (SPSS) version 26 using descriptive statistics, which mainly measures frequencies and percentages. Statistical analyses used in this study were Pearson Correlation, One-way ANOVA and Independent Sample t-test. This study used the Kolmogorov- Smirnov Normality Test, histogram, and Q-Q plots to check the normality. Analysis showed the data was typically distributed as the $p > 0.05$. The histogram showed a bell-shaped graph and Q-Q plot, confirming that data distribution was normal as the dots fell along the linear line. As assumptions of normality were met, the parametric test was used to analyse data for this study.

Results

Demographic characteristics of respondents.

Table 1 shows all respondents had experienced delivering a baby in 2022. Among the respondents, 96.3% had previous breastfeeding education, 82.4% had experienced exclusive breastfeeding their baby, and 44.8% experienced exclusive breastfeeding practices between 6 months to 1 year. Lastly, 17.6% of the respondents had no experience of exclusive breastfeeding their baby and were not practising exclusive breastfeeding.

Table 1: Demographic characteristics of respondents (n = 375)

	Frequency (n)	Percentage (%)
Demographics		
Age groups		
18-23	2	0.5
24-29	130	34.7
30-35	228	60.8
36-42	15	4.0
Education level		
Secondary school	40	10.7
Diploma	243	64.8
Degree	92	24.5
Total experience delivering a live baby		
Primiparous	215	57.3
2-4	126	33.6
More than 5	34	9.1
Had breastfeeding education		
Yes	361	96.3
No	14	3.7
Experience in exclusive breastfeeding		
Yes	309	82.4
No	66	17.6
Duration exclusive breastfeeding		
Never	66	17.6
Less than 6 months	31	8.3
6-months -1 year	168	44.8
More than 1 year	68	18.1
2 years and above	42	11.2

The level of knowledge and self–efficacy in exclusive breastfeeding among working women in Mukim Pedah, Jerantut.

Table 2 shows that 93.1% of the respondents had high knowledge of exclusive breastfeeding, while 6.9% considered having low knowledge of exclusive breastfeeding. In terms of self-efficacy in exclusive breastfeeding, 314 respondents demonstrated a high level of self-efficacy in EBF, accounting for 83.7% of the total. The remaining 16.3% exhibited low self-efficacy in breastfeeding.

Table 2: The level of knowledge and self- efficacy in exclusive breastfeeding (n = 375)

	Frequency (n)	Percentage (%)
Variable		
Level of knowledge:		
High knowledge	349	93.1
Low knowledge	26	6.9
Level of self-efficacy		
High self-efficacy	314	83.7
Low self-efficacy	61	16.3

The relationship between knowledge and self-efficacy in exclusive breastfeeding among working women in Mukim Pedah, Jerantut.

Table 3 represents the relationship between the level of knowledge in exclusive breastfeeding and self-efficacy. The Pearson correlation between knowledge and self-efficacy showed r = 0.591 with a significant p-value < 0.05. Therefore, a statistically significant, positive, and moderate correlation exists between knowledge and self-efficacy in exclusive breastfeeding.

Table 3: The relationship between the level of knowledge on exclusive breastfeeding and self-efficacy in exclusive breastfeeding (n = 375)

Characteristic	Correlation coefficient, r	p-value
Level of knowledge Level of self-efficacy	0.591	0.00

*Pearson correlation is significant at the 0.01 level (two-tailed)

The association between demographic factors and knowledge in exclusive breastfeeding among working women in Mukim Pedah, Jerantut.

Table 4 shows a statistically significant association between breastfeeding knowledge and having breastfeeding education p < 0.05. However, the ages, education levels, total experience delivering a live baby, breastfeeding experience, and duration of exclusive breastfeeding were not significant.

The association between demographic factors and self-efficacy in exclusive breastfeeding among working women in Mukim Pedah, Jerantut.

Table 5 shows a statistically significant association between age, education level, total experience delivering a live baby, breastfeeding education, and duration of exclusive breastfeeding with self-efficacy (p < 0.05). Subsequently, the post-hoc analysis (Scheffe procedure) was done by comparing age, education level, and exclusive breastfeeding duration. The study indicated significantly higher levels of self-efficacy between ages 36 and above (M = 1.80, SD = 0.41). For education level, secondary school (M = 1.53, SD = 0.50) was considered higher in self-efficacy in exclusive breastfeeding compared to the education levels of diploma and degree. Among women who had experienced delivering live babies, those who delivered more than five babies (M = 1.38, SD = 0.49) exhibited significantly higher self-efficacy in exclusive breastfeeding than primiparous women. Lastly, for duration experience of exclusive breastfeeding, two years and above (M = 1.33, SD = 0.47) had significantly higher self-efficacy in exclusive breastfeeding compared to exclusive breastfeeding of less than two years. There was no significant association between breastfeeding experiences and self-efficacy p > 0.05.

Discussion

Based on the findings of this study, it was discovered that 93.1% (349) of the women exhibited a high level of knowledge regarding exclusive breastfeeding, while 6.9% reported a low level of knowledge. This disparity might be attributed to all respondents being educated women, many of whom had previously received education on breastfeeding, leading to a notably high level of knowledge regarding exclusive breastfeeding. In comparison to other research conducted among women in Bangladesh (17), where only 51.6% showed a high level of knowledge on exclusive breastfeeding, the knowledge level observed in this study was notably higher. Similarly, a prior study conducted at a tertiary care hospital in central India found that over 92.5% of mothers comprehend exclusive breastfeeding well (18). One potential reason might be that many of our study's respondents had previously received education on breastfeeding. Previous exposure to breastfeeding education could have enhanced their understanding of the importance and benefits of exclusive breastfeeding and provided them with practical knowledge of proper breastfeeding techniques. Thus, healthcare workers must continue providing more information to mothers about the importance and benefits of breastfeeding, as this will increase knowledge and practices to continue exclusive breastfeeding.

Moreover, the establishment of Baby Friendly Clinics by the Malaysian Ministry of Health (MOH) has helped to raise awareness and knowledge about exclusive breastfeeding among women (19). They attempt to offer services and settings that support and encourage breastfeeding. This facility is one of the MOH's initiatives to encourage mothers to exclusively breastfeed their infants from birth to the first six months of life, then continue until the age of 2 years. Healthcare personnel in maternal and child clinics have implemented this by educating antenatal mothers on breastfeeding in the early first trimester of pregnancy. As a result, mothers are better prepared and more ready to maintain exclusive breastfeeding for the

Table 4: The association between sociodemographic factors and level of knowledge in exclusive breastfeeding (n = 375)

Characteristic	Frequency (n)	Mean (SD)	F-stats (df)	p value
Age respondent				
18-23	2	1.50 (0.70)		
24-29	130	1.07 (0.25)	2.32 (3;371)	0.074[a]
30-35	228	1.06 (0.24)		
36-42	15	1.13 (0.35)		
Education level				
Secondary school	40	1.15 (0.36)	2.53 (2;372)	0.081[a]
Diploma	243	1.07 (0.24)		
Degree	92	1.04 (0.20)		
Total experience delivering a live baby				
Primiparous	215	1.07 (0.26)	0.10 (2:372)	0.901[a]
2-4	126	1.06 (0.25)		
More than 5	34	1.06 (0.24)		
Had breastfeeding education				
Yes	361	1.06 (0.24)	-2.18 (373)	0.030[b]
No	14	1.21 (0.42)		
Had breastfeeding experience				
Yes	309	1.06 (0.23)	-1.83 (373)	0.068[b]
No	66	1.12 (0.32)		
Duration experience exclusive breastfeeding				
Never	66	1.12 (0.32)		
Less than 6 months	31	1.10 (0.30)	1.36 (4;370)	0.246[a]
6 month – 1 year	168	1.05 (0.21)		
More than 1 year	68	1.04 (0.20)		
2 years above	42	1.10 (0.29)		

[a] One- way ANOVA
[b] Independent Sample T-test

Table 5: The association between sociodemographic factors and level of self-efficacy in breastfeeding (n = 375)

Characteristic	Frequency (n)	Mean (SD)	F-stats (df)	p value
Age respondent				
18-23	2	1.50 (0.70)		
24-29	130	1.09 (0.29)	19.54 (3;371)	0.001[a]
30-35	228	1.16 (0.36)		
36-42	15	1.80 (0.41)		
Education level				
Secondary school	40	1.53 (0.50)	24.46 (2;372)	0.001[a]
Diploma	243	1.13 (0.33)		
Degree	92	1.10 (0.29)		
Total experience delivering a live baby				
Primiparous	215	1.13 (0.33)	7.33 (2;372)	0.001[a]
2-4	126	1.17 (0.37)		
More than 5	34	1.38 (0.49)		
Had breastfeeding education				
Yes	361	1.15 (0.35)	-3.53 (373)	0.001[b]
No	14	1.50 (0.51)		
Had breastfeeding experience				
Yes	309	1.15 (0.35)	-1.93 (373)	0.053[b]
No	66	1.24 (0.43)		
Duration experience exclusive breastfeeding				
Never	66	1.24 (0.43)		
Less than 6 months	31	1.29 (0.46)	6.38 (4;370)	0.001[a]
6 month – 1 year	168	1.09 (0.28)		
More than 1 year	68	1.10 (0.30)		
2 years above	42	1.33 (0.47)		

[a] One- way ANOVA
[b] Independent Sample T-test

first six months after giving birth. Although the prevalence of low level of knowledge in exclusive breastfeeding was only 6.9%, action for improvement needs to continue, such as by regularly organising breastfeeding programmes to encourage women to practice EBF because of the benefit of breastfeeding to mother and baby. Indeed, since the Baby Friendly Hospital Initiative (BFHI) was launched in 1992, establishing breastfeeding mother support groups among the public was a critical component in breastfeeding promotion. This action shows the effort of promotion and support for giving knowledge to women to practice exclusive breastfeeding not only in a health care setting in the clinic and hospital but continuously among the community. Health education to mothers regarding breastfeeding before delivering a baby was necessary so that mothers had adequate knowledge, which positively impacted practices of exclusive breastfeeding.

This study revealed that 83.7%, or 314 respondents, have high self-efficacy in EBF. It can be because 82.4% of them had experience with exclusive breastfeeding. Therefore, they had high self-confidence in practising exclusive breastfeeding. The remaining 16.3% of the respondents had low self-efficacy in breastfeeding and 3.7% reported never being educated on breastfeeding. Lack of information support regarding practices of breastfeeding and exposure to EBF causes low self-efficacy among mothers to practice exclusive breastfeeding. A recent cross-sectional study found that the level of self-efficacy in breastfeeding was 55.9% (20). A previous study in the Democratic Republic of Congo found that maternal breastfeeding self-efficacy affects breastfeeding, and the lack of confidence in breastfeeding was independently associated with discontinuing exclusive breastfeeding (21). When mothers have no faith in breastfeeding, they will have low self-efficacy to perform and can even become barriers to practising exclusive breastfeeding.

This study revealed a statistically significant, positive, and moderate correlation between knowledge and self-efficacy in exclusive breastfeeding. This finding was supported by a longitudinal study in Singapore where mothers with a good knowledge of exclusive breastfeeding were associated with higher breastfeeding self-efficacy (22). When a woman has a good education regarding breastfeeding, it makes them confident and excited about practising exclusive breastfeeding. A previous study had demonstrated a strong association between self-efficacy and knowledge in exclusive breastfeeding (23). This is because the mother received breastfeeding education aimed at practising EBF, which increases the mother's self-confidence and positively affects their self-efficacy and breastfeeding success. A recent study in China found that having adequate knowledge about the importance and advantages of breastfeeding allows mothers to evaluate the outcomes of exclusive breastfeeding, which positively impacts the mothers' sense of self-efficacy concerning the practice of exclusive breastfeeding (24).

This study also found a statistical significance between the level of knowledge in exclusive breastfeeding based on previous breastfeeding education ($p < 0.05$). Most respondents (96.3%) had prior breastfeeding education. According to WHO recommendations, women with previous breastfeeding education were knowledgeable in practices of exclusively breastfeeding their infants because they already had awareness and understanding of EBF. However, there was no significant difference between ages, education level, total babies delivered, breastfeeding experience, and duration of exclusive breastfeeding where $p > 0.05$. A study in Kenya found that infants of well-educated mothers were more likely to receive breast milk exclusively than those of less-educated mothers (11). Educated women are more likely than uneducated women to understand the advantages of exclusive breastfeeding. As a result, they are more likely to practice exclusive breastfeeding than uneducated women. Moreover, Machila et al. (11) discovered that a multiparous woman was likelier to practice EBF than a woman with just one child. This may be because a multiparous woman has received more health education about the advantages of EBF than a woman with a single child. Additionally, multiparous women may have had prior successful breastfeeding experiences, which could impact their confidence in exclusively breastfeeding.

According to this study, there was no significant difference between the levels of self-efficacy in having a breastfeeding experience. In contrast, a cross-sectional study in Vietnam found that women who had previously breastfed exhibited significantly higher levels of breastfeeding self-efficacy than those who had never breastfed (25). When someone has experience practising something in life, they are more confident about performing it once more. However, there was a statistically significant difference between groups as demonstrated by self-efficacy on age, education level, parity, breastfeeding education, and duration of exclusive breastfeeding where p-value <0.05. Post-hoc analysis or the Scheffe procedure indicated a significantly higher level of self-efficacy between ages 36 and above ($M = 1.80$, $SD = 0.41$). One possible explanation is that, at 36, they are perceived as mature, highly experienced individuals with strong self-efficacy in breastfeeding their babies. For education level, mothers with secondary school education ($M = 1.53$, $SD = 0.50$) had significantly higher self-efficacy in exclusive breastfeeding than women who graduated with diplomas and degrees. In this study, women who had delivered more than five babies ($M = 1.38$, $SD = 0.49$) showed a significantly high level of self-efficacy in practising EBF. One potential explanation is that multiparous women may have previous experience feeding their babies, which could lead to better preparedness in both knowledge and practices related to EBF.

Consequently, the positive experiences in feeding that multiparous women have had may contribute to increased self-efficacy in practising exclusive breastfeeding. Lastly, for duration experience of exclusive breastfeeding, women who had experienced EBF 2 years and more ($M = 1.33$, $SD = 0.47$) had significantly higher self-efficacy in exclusive breastfeeding. This may be because the longer duration of experience in previous practices of exclusive breastfeeding

gives them more confidence in breastfeeding. Self-efficacy includes belief and confidence in one's capacity to conduct healthy behaviours such as complete and adequate breastfeeding. A recent study revealed a statistically significant relationship between maternal education level and breastfeeding self-efficacy, which supported the findings of this research (10). In this study, higher education levels, specifically referring to diploma and degree holders, were associated with increased breastfeeding self-efficacy. Education can empower women to make informed decisions about their health and the health of their infants.

This study possesses several limitations. The sample may not accurately reflect the study population since questionnaires were disseminated online through a web platform due to the COVID-19 pandemic rather than through physical means. Future research endeavours could focus on specific subgroups of antenatal or postnatal women more representative of those commonly encountered in breastfeeding infant practices. Nevertheless, this study's findings may offer governments and non-governmental organisations valuable insights in shaping future interventions. Additionally, they may assist nurses and other healthcare providers in recognising and utilising the factors contributing to exclusive breastfeeding to enhance the care offered to women and their families.

Conclusion

This study found that 93.1% of respondents exhibited a high level of knowledge of exclusive breastfeeding, while 83.7% demonstrated high self-efficacy in practising exclusive breastfeeding. Based on the findings, there is a statistically significant relationship between the level of knowledge in exclusive breastfeeding and the level of self-efficacy. A statistical significance exists between knowledge of exclusive breastfeeding and previous breastfeeding education with $p < 0.05$. Lack of education regarding EBF, its duration, and perceived benefits may hinder mothers from adhering to the World Health Organization's recommendation of exclusively breastfeeding infants for the first six months. There was a statistically significant association between self-efficacy with age, education level, parity, breastfeeding education, and duration of exclusive breastfeeding, where the p-value < 0.05. Moreover, enhancing the usefulness of EBF to mothers and babies would increase knowledge levels and self-efficacy in exclusive breastfeeding practices. The results from this study could be used in developing educational breastfeeding programmes for women to emphasise intervention and information regarding the benefit of exclusive breastfeeding.

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Competing interests

The authors declare that they have no competing interests.

Ethical Clearance

Ethical approval from The Research Ethics Committee (REC) of University Technology MARA (UiTM) was obtained on 8 July 2022, and the reference number is FERC/FSK/MR/2022/0146. The original authors, Saied et al. and Fauzi, granted permission for the questionnaire to be used. The researcher provided a consent form, and upon the respondent's agreement to participate, they proceeded to complete the questionnaires.

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