

Breastfeeding myths — the prevalence among the population of Polish women

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ABSTRACT

Objectives: Exclusive breastfeeding is recommended until the child is six months of age. However, there are many myths about breastfeeding. The aim of our study was to assess the knowledge of Polish women about breastfeeding.

Material and methods: A cross-sectional survey study was conducted among 1536 Polish women. A self-administered questionnaire was created using Google Forms survey management software and distributed online. The participants were asked about the most common myths in society regarding breastfeeding.

Results: The highest number of correct answers in all age groups were given to questions related to the nutritional value of breast milk (80.9–94.9%). The fewest correct answers in each age group were recorded to questions concerning the possibility of getting pregnant during the first 6 months of breastfeeding (16.1–35.3%), the safety of drinking non-alcoholic beer during lactation (24.4–37.1%), the benefits of brushing the breast while breastfeeding (16.0–37.1%), and the effectiveness of compresses made of cabbage leaves or sage infusions in relieving ailments during milk rush (6.8–12.4%). Higher education and being a mother were associated with a higher number of correct answers. Age below 25 years was associated with lower number of correct answers.

Conclusions: The results of the survey regarding breastfeeding suggest the existence of various beliefs in the population of Polish women which are not evidence based. This indicates the need for spreading adequate information about breastfeeding, especially among younger women and those who did not obtain higher education.

Keywords: breastfeeding; breast milk; lactation; nutritional value

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INTRODUCTION

Breastfeeding is a special time for both the mother and the baby. The composition of breast milk is adapted to the needs of the infant and changes with the age of the child [1]. Mother's milk is rich in nutritional properties, ensuring the child's balanced growth and development, and immunological properties, protecting it against infections [2, 3]. Moreover, breastfeeding forges a psychological bond between the mother and the child [4]. It was only in 1995 that lactation care was included in the National Health Program. Currently, the World Health Organization (WHO) recommends exclusive breastfeeding until the child is six months of age and continuation of breastfeeding until the age of two and beyond with the introduction of complementary foods.

In Poland, there is not enough scientific research testing the knowledge of Polish women about breastfeeding. There is a risk of popularizing misconceptions about lactation, especially given the widespread access to the Internet today. With its help, various techniques are promoted to increase the effectiveness of breastfeeding, such as dry brushing the breast or using a pacifier to facilitate lactation.

The aim of the study was to assess the knowledge of Polish women about breastfeeding depending on the place of residence, age, level of education and having children.

MATERIAL AND METHODS

A cross-sectional survey was conducted among Polish women. The self-administered survey was created online

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using Google Forms survey management software and distributed among 110 Polish Facebook groups. At the beginning of the survey, all potential participants were informed about the survey, its objectives, the manner and scope of using the data received, and the voluntary nature of participation. Anonymity and confidentiality were ensured. The only recruitment criterion was female gender.

The study group included 1536 women. The average age was 29 years (range 15 to 72 years). The respondents were divided into three age categories: below 25 years old (group A — 40.0%), between 26 and 35 years old (group B — 43.8%), above 36 years old (group C — 16.2%). Taking into account the place of residence, the respondents were divided into two subgroups: living in cities with up to 500,000 inhabitants (66.0%) and over 500,000 residents. According to the level of education the study group was divided into two subgroups: respondents with higher education (60.4%) and respondents with lower education (less than higher). The respondents were also divided into two groups according to being a mother: women with any offspring (64.8%) and women with no offspring.

The survey contained a total of 23 questions. The participants were asked about the most common myths in society regarding breastfeeding, e.g. giving water to the baby, using a pacifier to facilitate lactation or the benefits of using fennel. In addition, the respondents were asked about contraindications to breastfeeding, the safety of drinking non-alcoholic beer, and eating potentially allergenic food during lactation. Respondents, answering the above questions, had one of two answers to choose: “yes” and “no”. The entire survey is included in the Table 1.

To compare the percentage of correct answers between the distinguished subgroups the chi-square test was used. Statistical significance was defined as a p value less than 0.05. Statistical analysis was performed using Statistica software.

RESULTS

The results of the survey are shown in Table 2. The group B (women between 26 and 35 years of age) gave the most correct answers to questions related to the value of breast milk as nutrition (94.9% vs 92.0% in the group C vs 80.9% in the youngest group A), and questions related to situations that may cause anxiety for a nursing mother. To the questions concerning the effectiveness of breastfeeding, the highest percentage of correct answers was also given by group B, however, when comparing groups B and C, the results turned out to be statistically insignificant. Moreover, the questions concerning the possibility of getting pregnant during the first 6 months of breastfeeding, the highest percentage of correct answers was given by the youngest group (35.3% vs 16.1% in group B

Table 1. Questions included in the survey

1. Do you think that mother's milk is enough for the baby?
2. Do you think that breastfed newborns should be supplemented with water?
3. Do you think that the effectiveness of lactation depends on the size of the breasts?
4. Does the use of a pacifier in infants result in faster learning to suck and easier breastfeeding?
5. Do you think there are any contraindications to breastfeeding in the course of influenza in the mother?
6. Do you think that mastitis (with accompanying fever, chills and muscle pain) is a contraindication to breastfeeding?
7. Do you need to consume calories for two while breastfeeding?
8. Is it safe to drink non-alcoholic beer as a substitute for alcoholic beverages while breastfeeding?
9. Should the amount of breast milk given be limited when introducing solid foods?
10. Does dry brushing the breast have a positive effect on lactation?
11. Can expressed breast milk be stored on the refrigerator door?
12. Is there a chance of getting pregnant again if I follow the principles of effective breastfeeding during the first 6 months?
13. Will moms after caesarean section breastfeed as effectively as moms giving birth naturally?
14. Can previously expressed and cooled breast milk be reheated before serving, e.g. in a microwave, gas or electric cooker?
15. Is breast milk more cariogenic than formula milk?
16. Are dietary supplements containing fennel recommended to stimulate lactation?
17. Is milk flow present as early as on the second to fourth day after delivery an abnormal situation?
18. Are silicone breast implants a contraindication to breastfeeding?
19. Is it necessary to give additional vitamin D₃ from the first days of life while breastfeeding?
20. Can cabbage leaf compresses or sage infusions be helpful during milk rush?
21. Should a breastfeeding mother limit the consumption of potentially allergenic foods (e.g. gluten, nuts, products containing cow's milk protein)?
22. Can the foods the mother eats cause or worsen colic in a breastfed baby?
23. Do you agree with the statement that formula feeding and breastfeeding are equivalent?

vs 21.3% in the group C). The fewest correct answers in each age group were recorded to questions concerning the safety of drinking non-alcoholic beer during lactation (24.4–37.1%), the benefits of brushing the breast while breastfeeding (16.0–37.1%), storing expressed breast milk on the refrigerator door (28.8–53.1%), silicone breast implants as a contraindication to breastfeeding (32.1–40.4%), and the effectiveness of compresses made of cabbage leaves or sage infusions in relieving ailments during milk rush (6.8–12.4%).

Most women living in large cities (over 500,000 residents) gave correct answers to the questions regarding the need to eat more calories, limiting the supply of breast milk during the introduction of solid foods or supplementing with fennel to stimulate lactation: 92.5%, 64.8%, 91.0%,

Table 2. The comparison of correct answers in the surveyed women according to age, place of residence, education and having children

Question	p value	Age			p value		
		A < 25	B 26–35	C ≥ 36	A vs B	A vs C	B vs C
The value of mother's milk for a newborn	p < 0.001	497 (80.9%)	638 (94.9%)	229 (92.0%)	p < 0.001	p < 0.001	p < 0.05
Supplementing the newborn with water during lactation	p < 0.001	445 (72.5%)	634 (94.4%)	217 (87.2%)	p < 0.001	p < 0.001	p < 0.01
Breast size and lactation efficiency	p < 0.001	571 (93.0%)	662 (98.5%)	245 (98.4%)	p < 0.01	p < 0.01	NS
Using a pacifier	p < 0.001	349 (56.8%)	573 (85.3%)	215 (86.4%)	p < 0.001	p < 0.001	NS
Influenza in a nursing mother	p < 0.001	236 (38.4%)	593 (88.2%)	205 (82.3%)	p < 0.001	p < 0.001	p < 0.01
Breast inflammation in a nursing mother	p < 0.001	146 (23.8%)	492 (73.2%)	167 (67.1%)	p < 0.001	p < 0.001	p < 0.01
The number of calories consumed by a nursing mother	p < 0.001	546 (88.9%)	641 (95.4%)	237 (95.12%)	p < 0.01	p < 0.01	NS
The safety of drinking non-alcoholic beer	p < 0.001	228 (37.1%)	164 (24.4%)	90 (36.1%)	p < 0.01	NS	p < 0.01
Limiting the supply of breast milk	p < 0.001	254 (41.3%)	567 (84.4%)	213 (85.5%)	p < 0.001	p < 0.001	NS
Dry brushing the breast	p < 0.001	98 (16.0%)	249 (37.1%)	88 (35.3%)	p < 0.001	p < 0.001	NS
Storing expressed breast milk	p < 0.001	177 (28.8%)	357 (53.1%)	106 (42.6%)	p < 0.001	p < 0.001	p < 0.01
Possibility of getting pregnant	p < 0.001	217 (35.3%)	108 (16.1%)	53 (21.3%)	p < 0.001	p < 0.001	p < 0.01
Cesarean section and the effectiveness of lactation	p < 0.001	455 (74.1%)	612 (91.1%)	211 (84.7%)	p < 0.001	p < 0.001	p < 0.01
Warming up previously expressed milk	p < 0.001	394 (64.2%)	572 (85.1%)	215 (83.3%)	p < 0.001	p < 0.001	NS
Cariogenicity of human milk	p < 0.001	148 (24.1%)	396 (59.0%)	133 (53.4%)	p < 0.001	p < 0.001	p < 0.01
Fennel supplementation	p < 0.001	528 (86.0%)	640 (95.2%)	235 (94.4%)	p < 0.001	p < 0.01	NS
Milk rush	p < 0.001	401 (65.3%)	627 (93.3%)	228 (91.6%)	p < 0.001	p < 0.001	NS
Silicone breast implants	p < 0.001	227 (40.4%)	336 (50.0%)	80 (32.1%)	p < 0.01	p < 0.01	p < 0.01
Vitamin D ₃ supplementation	p < 0.001	291 (47.4%)	581 (86.5%)	196 (78.7%)	p < 0.001	p < 0.001	p < 0.01
The use of compresses of cabbage leaves and sage infusions	p < 0.05	76 (12.4%)	59 (8.8%)	17 (6.8%)	NS	p < 0.05	NS
Limiting the consumption of potentially allergenic foods	p < 0.001	303 (49.4%)	543 (80.8%)	170 (68.3%)	p < 0.001	p < 0.001	p < 0.001
Colic in a breastfed baby	p < 0.001	205 (33.4%)	431 (64.1%)	129 (51.8%)	p < 0.001	p < 0.001	p < 0.01
The value of formulas	p < 0.001	401 (65.3%)	534 (79.5%)	209 (83.9%)	p < 0.001	p < 0.001	p < 0.05

NS — non-significant

respectively. On the other hand, the questions concerning the introduction of solid foods, the chance of getting pregnant during the first 6 months of effective breastfeeding and vitamin D₃ supplementation from the first days of life were answered correctly more often by residents from smaller towns: 68.7%, 25.3%, 70.9%, respectively.

All questions were answered correctly more often by women with higher education compared to the group of respondents with lower education (statistically significant differences). The smallest percentage of correct answers in both groups was recorded to questions concerning the possible benefits of breast brushing (33.9% in higher educated

vs 19.8% in less educated), the effectiveness of using compresses of cabbage leaves or sage infusions during milk rush (9.3% vs 10.9%), respectively.

Irrespective the surveyed women had children, the answer to the question concerning the use of compresses made of cabbage leaves or sage infusions during a milk rush were mostly wrong. A greater percentage of correct answers to this question was given by childless women (13.0%) than women with offspring (8.2%). In all other questions, women being a mother gave more correct answers (statistically significant differences). Only 18% of childless women gave the correct answer to the question

p value	Town		p value	Education		p value	Having children	
	Under 500,000	Over 500,000		Higher	Below higher		No	Yes
p < 0.05	888 (87.8%)	476 (91.0%)	p < 0.001	857 (92.3%)	507 (83.7%)	p < 0.001	431 (80.0%)	933 (93.7%)
NS	846 (83.6%)	450 (86.0%)	NS	834 (89.8%)	462 (76.2%)	p < 0.001	367 (68.1%)	488 (87.9%)
NS	975 (96.3%)	503 (96.2%)	NS	910 (98.0%)	568 (93.7%)	p < 0.01	495 (91.8%)	983 (98.7%)
p < 0.01	728 (71.9%)	409 (78.2%)	p < 0.001	759 (81.7%)	378 (62.4%)	p < 0.001	290 (53.8%)	847 (85.0%)
NS	674 (66.6%)	360 (68.8%)	p < 0.001	715 (77.0%)	319 (52.6%)	p < 0.001	153 (28.4%)	881 (88.5%)
p < 0.05	515 (50.9%)	290 (55.5%)	p < 0.001	596 (64.2%)	209 (34.5%)	p < 0.001	80 (14.8%)	725 (72.8%)
NS	940 (92.9%)	484 (92.5%)	p < 0.01	878 (94.5%)	546 (90.1%)	p < 0.01	475 (88.1%)	949 (95.3%)
p < 0.01	675 (66.7%)	378 (72.3%)	p < 0.05	660 (71.0%)	393 (64.9%)	p < 0.001	332 (61.6%)	721 (72.4%)
p < 0.05	695 (68.7%)	339 (64.8%)	p < 0.001	706 (76.0%)	328 (54.1%)	p < 0.001	179 (33.2%)	855 (85.8%)
p < 0.01	257 (25.4%)	178 (34.0%)	p < 0.001	315 (33.9%)	120 (19.8%)	p < 0.001	75 (13.9%)	360 (36.1%)
NS	415 (41.0%)	225 (43.0%)	p < 0.001	443 (47.7%)	197 (32.5%)	p < 0.001	131 (24.3%)	509 (51.1%)
p < 0.05	256 (25.3%)	122 (23.3%)	p < 0.001	744 (80.1%)	413 (68.2%)	p < 0.001	333 (61.8%)	824 (82.7%)
p < 0.01	825 (81.5%)	453 (86.6%)	p < 0.001	820 (88.3%)	458 (75.6%)	p < 0.001	395 (73.3%)	883 (88.7%)
NS	773 (76.4%)	408 (78.0%)	p < 0.001	763 (82.1%)	418 (69.0%)	p < 0.001	336 (62.3%)	845 (84.8%)
p < 0.01	429 (42.4%)	248 (47.4%)	p < 0.001	494 (53.2%)	183 (30.2%)	p < 0.001	97 (18.0%)	580 (58.2%)
NS	927 (91.6%)	476 (91.0%)	p < 0.01	866 (93.2%)	537 (88.6%)	p < 0.001	453 (84.0%)	950 (95.4%)
NS	834 (82.4%)	422 (80.7%)	p < 0.001	820 (88.3%)	436 (72.0%)	p < 0.001	321 (59.6%)	935 (93.9%)
p < 0.01	435 (43.0%)	260 (49.7%)	NS	426 (45.9%)	269 (44.4%)	NS	249 (46.2%)	446 (44.8%)
p < 0.05	717 (70.9%)	351 (67.1%)	p < 0.001	721 (77.6%)	347 (57.3%)	p < 0.001	198 (36.7%)	870 (87.4%)
NS	104 (10.3%)	48 (9.2%)	NS	86 (9.3%)	66 (10.9%)	p < 0.05	70 (13.0%)	82 (8.2%)
p < 0.01	638 (63.0%)	378 (72.3%)	p < 0.001	689 (74.2%)	327 (54.0%)	p < 0.001	242 (45.0%)	774 (77.7%)
p < 0.05	488 (48.2%)	277 (53.0%)	p < 0.001	542 (58.3%)	223 (36.8%)	p < 0.001	141 (26.2%)	624 (62.7%)
NS	744 (73.5%)	400 (76.5%)	p < 0.001	749 (80.6%)	395 (65.2%)	p < 0.01	372 (69.0%)	772 (77.5%)

comparing the cariogenic properties of human milk and modified milk.

DISCUSSION

Considering the results of the study, the main factors associated with giving correct answers were having children and having higher education. The age under 25 was associated with a lower number of correct answers. The size of the place of residence had a much smaller impact on the number of incorrect answers.

It is well known that breastfeeding provides short-term and long-term health benefits to both the nursing mother

and her baby [5]. Many countries have introduced programs to promote breastfeeding [6–8]. Also in Poland, under the National Health Program for 2016–2020, the Ministry of Health has taken many actions to support breastfeeding. As part of the projects, a guide on breastfeeding for mothers was created and workshops for families on breastfeeding and infant nutrition were organized [9]. The promotion of breastfeeding may be associated with the emergence of myths about lactation and doubts about the effectiveness of popular methods of feeding children who are breastfed. The widespread access to the Internet poses a risk of promoting misinformation not supported by current

evidence based medical knowledge. In the context of breastfeeding, this poses a risk of spreading inappropriate breastfeeding-related behavior.

In 2021, a study was conducted in Poland on the beliefs of both medical staff and nursing mothers regarding the principles of nutrition during lactation, and the impact of the maternal diet on the composition of breast milk and the health of the infant. The study proved that the belief that preventive dietary restrictions during lactation bring beneficial effects was still present, which supported the thesis that myths about lactation were widespread in the society [10]. An available review of the literature on the analysis of myths and beliefs regarding breastfeeding in theoretical and practical terms from 1985–2008 conducted in Brazil emphasizes the need for professional health education about lactation to verify myths and beliefs [11]. However, there is a lack of updated research assessing current level of knowledge on this topic in the world.

Lactation myths have long been the subject of scientific research. Studies clearly showed that women after caesarean section were less likely to breastfeed than women after giving birth naturally [12, 13]. They also pointed to the need to introduce additional care for women after caesarean section and education to improve the quality of breastfeeding [14, 15]. Although there are no contraindications to breastfeeding after mammoplasty with breast implants, meta-analyses and systematic reviews of studies show that women with breast implants are less likely to breastfeed than women without breast implants [16, 17]. Our survey also showed that almost half of the respondents consider breast implants as a contraindication to breastfeeding. The latest study by researchers in the Netherlands published in 2023 suggests that women with breast implants may experience an impairment in their ability to breastfeed compared to women without implants. Additionally, it points out the need for additional research on this topic to further elucidate this relationship [18].

Multiple studies proved the benefits of vitamin D₃ supplementation from the first days of life and the risk of vitamin D₃ deficiency resulting from exclusive breastfeeding [19, 20]. Despite numerous recommendations [21, 22], knowledge about the need for supplementation in society is low. A topic that raises a lot of doubts among mothers is the reduction of allergenic foods in their diet during breastfeeding. According to current medical knowledge, elimination diets for mothers during pregnancy and lactation are not recommended in the prevention of allergies [23].

To the best of our knowledge, this is the first study in Poland that examined the beliefs of Polish women regarding the rules of lactation and behavior around lactation. The results of the research confirmed that unverified beliefs still

exist in society. We are aware of the limitations of our work, as the survey was only spread via social media. Therefore, the population of respondents was limited only to women with an account on social networking sites.

In general, the level of knowledge among mothers with children is high, and increasing awareness in society may reduce attachment to myths. Our study may be an introduction to myths debunking in the society, especially in the population of Polish women.

CONCLUSIONS

The results of the survey regarding breastfeeding suggest the existence of various beliefs in the population of Polish women that are not supported by current medical knowledge. Myths are still popularized, especially in the era of universal access to the Internet. That situation indicates the need for adequate information how to breastfeed among low educated women and among the youngest women. Level of education, age and being a mother are associated with different levels of knowledge about breastfeeding.

Article information and declarations

Data availability statement

Datasets are available on reviewers' request.

Ethics statement

The study was performed in accordance with the Declaration of Helsinki.

Author contributions

All authors contributed to this study, details are available in the separate Authors contribution form.

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Conflict of interest

The authors declare no conflict of interest.

Supplementary material

None.

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