

Knowledge of young women concerning the impact of natural feeding on the growth and state of health of a baby

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Abstract

Introduction. Proper nutrition in childhood has a huge significance for the optimal physical and psychological growth and good state of health of a baby. Natural feeding is admittedly the healthiest method of feeding infants. In spite of increased knowledge about the short and long-term benefits of feeding babies with human milk, the percentage of infants nourished only by breastfeeding is still too low. Knowledge about the health benefits of breast milk should be spread among young women.

Objective. The aim of the study was to attempt to discover how much knowledge young women have about the impact of natural feeding on the growth and state of health of a baby, as well as estimating the need for education in this area.

Materials and method. Questionnaire study conducted in 2013 among 155 young women (average age 25.43±5.98 years) in Poland and in Belgium.

Results. Own studies show that natural feeding still needs promotion and support. Knowledge about this among respondents varied and was incomplete. Often, they did not know all the benefits of natural feeding. The majority of respondents were aware that breastfeeding influenced the growth and health of the baby, but they did not have full knowledge about it. The respondents also did not have sufficient knowledge about the advantages of natural feeding in subsequent adult life. Only a small percentage of respondents (15%) had good knowledge about the benefits of breastfeeding. A higher level of knowledge occurred among women living in Poland who were older, better educated, lived in cities, and had breastfed earlier.

Conclusions. A quite varied and not too high level of knowledge among young women about the benefits of natural feeding was observed, which points to the necessity of intensification of educational activities among them in this area.

Key words

natural feeding, young women, knowledge

INTRODUCTION

Proper nutrition in childhood has a huge impact for the optimal physical and psychological growth of a child due to the dynamics of changes taking place in the organism [1, 2, 3, 4, 5, 6]. Infancy is critical for the development of organs and tissues as the nutrition method can programme the system's metabolism by influencing the activity of enzymes, endocrinology or immune system. Therefore, the quality of nutrition in this period could have impact on many physiological and pathological processes, conditioning the state of health, both in childhood and in mature age. Civilization diseases, such as atherosclerosis, hypertension, diabetes, or obesity, constitute to a bigger and bigger problem in developed societies. Hence, the meaning of proper nutrition in the earliest life period as a protection factor should be particularly emphasized [7, 8, 9].

The most natural, easily accessible, cheapest, and at the same time, the best method of feeding a child from birth is feeding with human milk. Its optimal composition, balanced with its quantity and quality, best fits the requirements of the growing organism. The benefits of natural feeding have been confirmed in numerous studies [10, 11, 12, 13].

In spite of increased knowledge about the short and long-term benefits resulting from feeding babies with human milk, the percentage of infants nourished only by breastfeeding is still too low. In the USA, in studies of 1,160 mothers, only 24% breastfed in the 6th month of a baby's life. In European countries, the percentage is slightly higher (ca. 34–36% according to different studies), but is also not too high. This is undoubtedly related to the intensive advertising of products replacing breast milk [14, 15, 16, 17].

The woman prepares herself for breastfeeding long before pregnancy by creating the correct attitude towards natural feeding. Knowledge about natural feeding and readiness to gain this knowledge has an impact [14, 15, 18, 19]. Knowledge about the health benefits of a woman's milk should be spread among young women. The subject of assessment of women's knowledge about the benefits of natural feeding is not popularized; therefore, the study was undertaken to counteract the ignorance that occurs.

OBJECTIVE

The aim of the study was to attempt to discover the extent of knowledge of young women about the impact of natural feeding on the growth and state of health of a baby, as well as to estimate the need for the education in this area.

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MATERIALS AND METHOD

The method of a diagnostic survey was used in 2013 among 155 young women in Poland and Belgium. As the research tool, an own questionnaire was used, especially constructed for this purpose. The gathered material was statistically analysed using the Statistica 9.1. programme. Significance of differences between studied characteristics was tested by: χ^2 , U Mann-Whitney and Kruskal-Wallis. Dependencies analysis was performed with the use of Spearman's correlation coefficient. Significance level was accepted at $p < 0.05$.

RESULTS

The respondents were 58.1% Polish and 41.9% Belgian women, aged 18–46 years (average age 25.43 ± 5.98), of whom 63.2% were single and 36.8% were married. 51.6% lived in the countryside and 48.4% in cities. The group was also differentiated in terms of education: 47.7% of the women had higher education, 38.1% secondary, 7.7% vocational, and 6.5% primary education. More than a half of the respondents worked (52.6%), 43.2% were still at different schools, and 5.2% had no job. The majority of respondents (67.7%) did not have children, and the rest – 32.3%, had 1–4 children. Among women having children, 63.0% were breastfeeding them, and 37.0% were not. The length of breastfeeding in the studied group varied from 1–18 months, and most often (20%) the answer was given as 2 months. The majority of respondents (69.0%) declared that they would breastfeed their child, 20.6% did not want to breastfeed, while 10.4% did not know whether they would pursue this method of nutrition. The will to breastfeeding was declared more often by the Polish (82.2%) than by the Belgian women (50.8%; $p = 0.0000$).

Analysis of 10 questionnaire questions revealed the knowledge young women have about natural feeding. For assessment of the level of knowledge in relation to basic issues regarding natural feeding, questions about different aspects of the impact on the baby were included. For each correct answer, the respondent received 1 point. When the answer was partly correct, she scored 0.5 point, and received 0 points for an incorrect response. The maximum score was 10 points. The average assessment of knowledge level of respondents was: 5.2 ± 1.7 points for Polish and 4.4 ± 1.5 points for Belgian women. The minimum score was 1 point and the maximum – 8.5 points. For the purpose of this study, and taking into account suggestions by Niemierko [20], the following criteria of knowledge about natural feeding assessment were adopted: 0–4 points – lack of knowledge, 5–6 points – incomplete knowledge, 7–10 points – sufficient knowledge. The study showed that just over a half of the women (55.5%) had incomplete knowledge in this area, almost 1/3 (29.7%) had a lack of knowledge, and only 14.9% have sufficient knowledge about natural feeding. The Polish women definitely had a higher level of knowledge than the Belgian women ($p = 0.001$) (Fig. 1; Tab. 1).

When asked about the best method of feeding their babies, the majority of respondents (72.9%) answered that it was mother's milk. Significantly more Polish (86.7%) than Belgian women (53.8%) thought so ($p = 0.0002$). The remaining 20.7% indicated mixed nutrition (mother's and artificial milk), 3.2% indicated artificial feeding and 3.2% had no opinion.

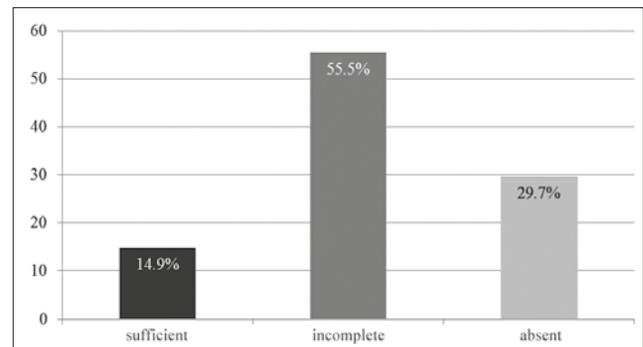


Figure 1. Level of knowledge on natural feeding among respondents

Table 1. Comparison of level of knowledge on natural feeding among respondents from Poland and Belgium

Nationality		High	Average	Median	Minimum	Maximum	Standard deviation
Poland	points	90	5.2	5.1	1.0	8.5	1.7
	% points	90	52.3	51.2	10.0	85.0	17.2
Belgium	points	65	4.4	4.2	1.5	7.3	1.5
	% points	65	43.6	42.5	15.0	73.3	14.9
Statistical Analysis		Z=3.176905; p=0.001489					

Almost half of the respondents (48.4%) correctly gave the optimal length of breastfeeding only with breast milk (6 months), 8.4% said it was 3 months, 12.9% – 9 months, 20.6% – 12 months, and 9.7% had no knowledge in this area. Polish women had better knowledge than Belgian women ($p = 0.003$).

For the question about which type of mother's milk (colostrum, transitional milk or mature milk) had the most immune cells, many respondents (65.9%) answered correctly – colostrum, 21.9% – mature milk, and only 19.2% answered transitional milk. In this area, the Belgian women had greater knowledge than their Polish counterparts ($p = 0.010$).

The majority of women (unfortunately not all) stated that breastfeeding had a positive impact on the infant. Polish

Table 2. Impact of natural feeding on a baby according to respondents of both nationalities.

Impact of breastfeeding on a baby	Poland		Belgium		Statistical analysis
	n	%*	N	%*	
Promotes development of emotional bond with mother	85	94.44	54	83.08	χ^2 Yates=4,112035 $p=0,04258$
Fulfills the safety need?	77	85.56	33	50.77	χ^2 Yates=20,51040 $p=0,00001$
Protects child from stress	50	55.56	28	43.08	χ^2 Yates=1,878242 $p=0,17054$
It does not differ from artificial milk	1	1.11	6	9.23	χ^2 Yates=4,041014 $p=0,04441$
Don't know	1	1.11	3	4.62	χ^2 Yates=0,7131145 $p=0,39841$

*Percentage does not add up to 100 due to the possibility of choosing several answers

women gave this answer more often than Belgian women ($p < 0.05$) (Tab. 2).

The great majority of the respondents had knowledge about the beneficial impact of natural feeding on a child's growth, but there were also those who completely lacked this

Table 3. Impact of natural feeding on child's growth according to respondents of both nationalities.

Impact of breastfeeding on child's growth	Poland		Belgium		Statistical analysis
	n	%*	n	%*	
Causes optimal physical growth	72	80.00	25	38.46	χ^2 Yatesa=26,063366 p=0.00000
Has beneficial effect on mental development	71	78.89	20	30.77	χ^2 Yatesa=34,09280 p=0.00000
Promotes mental development	62	68.89	22	33.85	χ^2 Yatesa=17,28511 p=0.0003
Has no effect on child's development	2	2.22	14	21.54	χ^2 Yatesa=13,19730 p=0.00028
May postpone child's development	0	0.00	1	1.54	χ^2 Yatesa=0,0268828 p=0.86976
Don't know	0	0.00	1	1.54	χ^2 Yatesa=4,941822 p=0,02622

* Percentage does not add up to 100 due to the possibility of choosing several answers

knowledge. In this case, the Polish women again had greater knowledge about this than the Belgian women ($p<0.05$) (Tab. 3).

A similar percentage of respondents had knowledge about the impact of natural feeding on the child's state of health, but had a significantly lower knowledge about its impact on the adult's state of health. Polish women also knew more about that than Belgian women ($p<0.05$) (Tab. 4).

Table 4. Impact of natural feeding on child's health state according to respondents of both nationalities.

Impact of breastfeeding on child's health state	Poland		Belgium		Statistical analysis
	n	%*	n	%*	
Protects from childhood diseases. infections. Shortages	71	78.89	24	36.92	χ^2 Yatesa=26,27496 p=0,00000
Prevents allergies	58	64.44	28	43.08	χ^2 Yatesa=6,138383 p=0,01323
Prevents diseases in adulthood	25	27.78	16	24.62	χ^2 Yatesa=0,0655095 p=0,79799
Has no impact on child's health state	2	2.22	5	7.69	χ^2 Yatesa=1,503971 p=0,22006
Don't know	9	10.00	19	29.23	χ^2 Yatesa=8,175647 p=0,00425

* Percentage does not add up to 100 due to the possibility of choosing several answers

The assumption was made in the study that the socio-demographic variables may affect the knowledge of the respondents about natural feeding. Therefore, 8 variables were adopted: nationality, age, place of residence, education, professional activity, marital status, having children and breastfeeding in the past. Statistical analysis showed that neither marital status nor professional activity or having children varied knowledge on this topic ($p>0.05$). However, nationality, age, education, place of residence and breastfeeding in the past had a significant impact on the women's knowledge ($p<0.05$). Polish women who were older, had a better education, living in cities and breastfeeding previously, had a higher level of knowledge (Tab. 5).

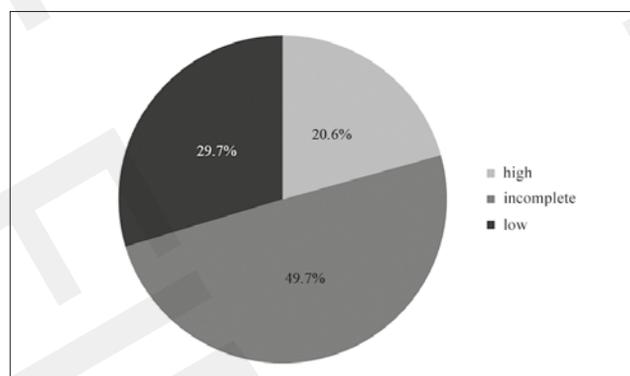
The respondents acquired knowledge about natural feeding mainly from the family (56.1%), from books and popular magazines (48.4%), the Internet and media (34,2%), and from friends (32.9%), while the smallest number acquired it from a doctor, nurse or midwife (31.0%). Belgian women

Table 5. Impact of socio-demographic factors on respondents' level of knowledge on natural feeding

Variables	Knowledge level			Statistical analysis		
	Absence	Incomplete	Sufficient			
Nationality	n	18	53	19	Z=3,176905 p=0,001489	
	Polish	%	20.00	58.89		21.11
Belgian	n	28	33	4	H=8,508584 p=0,0142 R=0,196577 p=0,014226	
	%	43.08	50.77	6.15		
Age	n	24	27	5	H=14,61174 p=0,0007 R=0,301738 p=0,000136	
	≤ 22 years old	%	42.9	48.20		8.93
	23–26 years old	n	10	31		11
≥ 27 years old	%	19.20	59.60	21.15	Z=2,703643 p=0,006859	
	n	12	28	7		
Education level	%	25.50	59.60	14.89	Z=2,481450 p=0,013085	
	n	12	10	0		
Primary/vocational	%	54.55	45.45	0.00	Z=2,703643 p=0,006859	
	n	18	38	3		
Secondary	%	30.51	64.41	5.08	Z=2,481450 p=0,013085	
	n	16	38	20		
Higher	%	21.62	51.35	27.03	Z=2,481450 p=0,013085	
	n	14	44	17		
Place of living	%	18.67	58.67	22.67	Z=2,481450 p=0,013085	
	n	32	42	6		
Rural	%	40.00	52.50	7.50	Z=2,481450 p=0,013085	
	n	4	20	5		
Breast-feeding	%	13.79	68.97	17.24	Z=2,481450 p=0,013085	
	n	6	10	1		
No	%	35.29	58.82	5.88	Z=2,481450 p=0,013085	
	n	6	10	1		

more often than Polish women asked health-care workers for help in this area ($p=0,000$),

The respondents were asked for a self-assessment of their knowledge about natural feeding. Figure 2 presents the results which indicate that it was slightly higher than the assessment of the authors of the presented study. Belgian women assessed their knowledge better than Polish women ($0=0,009$).

**Figure 2.** Self-assessment on knowledge about natural feeding by the respondents

More than half of the respondents (58.1%) admitted that there were gaps in their knowledge about natural feeding that needed filling, 29% did not see such need, while 12.9% did not know whether they wanted to know more (Fig. 3).

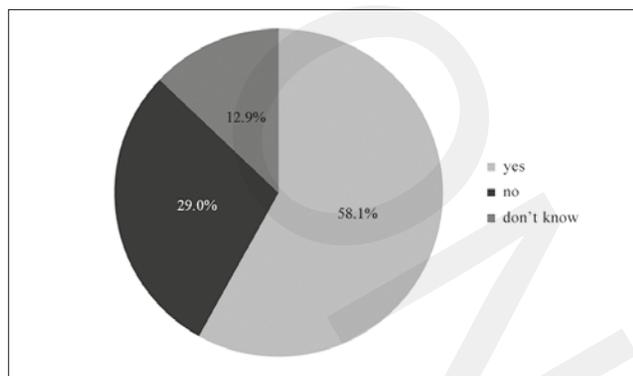


Figure 3. Need for health education in the area of natural feeding among respondents

Polish women showed bigger interest than Belgian women ($p=0,000$).

DISCUSSION

Until the end of the 19th century, before artificial mixtures were introduced, breastfeeding was the only method that allowed the infant to survive and grow properly. The fast development of civilization and emancipation of women caused natural feeding to fade away – firstly in the highly civilized countries, and then in almost in all societies. During last few years, the actions building awareness about the advantages of natural feeding have gradually stopped this process [5, 6, 7, 11, 18, 19].

Breastfeeding depends on the willingness and decision of a woman. In order to counteract the move away from natural feeding, the information support must be provided earlier [18, 19, 21, 22, 23, 24, 25, 26]. The mother's knowledge about lactation is often transferred from generation to generation or often heard from a third party. Birth schools in Poland aim at preparing pregnant women to give birth and the lactation issue is marginal. In recent years, knowledge about breastfeeding has stopped being information passed orally from generation to generation, but has become a sorted and integrated science, medical knowledge based on scientific evidence. In spite of access to knowledge about feeding infants, many mothers have problems with the proper feeding of their children [15, 23]. Additionally, women do not always decide to breastfeed and sometimes stop before 6 months pass. It can be assumed that if women had greater knowledge in this area, they would not have stopped breastfeeding too early. Due to the high percentage of children fed artificially or breastfed for too short a time, there is a necessity to undertake actions in order to promote breastfeeding. Health-care workers in particular are obliged to promote natural feeding. The multi-directional promotion of breastfeeding on a countrywide scale is of great significance for making a decision about breastfeeding [24, 27]. Norway is a good example of this, where in 1968 less than 30% of mothers breastfed for 12 months, while after promotional campaigns, the percentage reached over 80% in 1991 [22].

Own studies show that natural feeding still requires promotion and support. Knowledge among respondents varies a lot and is incomplete. Although women often do not know the benefits of natural feeding, most of the respondents were aware that breastfeeding influenced the

child's health but do not have complete knowledge on this topic. The respondents also did not have knowledge about the advantages in adult life resulting from breastfeeding. Only a small percentage of respondents (15%) had bigger knowledge about the benefits of breastfeeding. This might result from the fact that none of the health-care workers had provided such information, which has also been observed by other authors [28, 29, 30].

Own studies show bigger knowledge about breastfeeding among young women in Poland than in Belgium. This may result from the fact that Polish women are attached to tradition, and that the resources for advertising expensive milk substitutes mixtures are much more limited in Poland.

In comparing the presented results with those obtained by Cierpka *et al.* in 2006 and Gebuza *et al.* in 2008, it was noticed that the knowledge of women about natural feeding remained on a similar level, differentiated only by age, education, place of residence and previous experience in this area [28, 29, 30].

Taking into account that in spite of the competences of a doctor, nurse and midwife in informing about feeding infants, the main source of information among women were the media and women's magazines, the recommendation to breast feed should also be published outside the medical universities. Some publications suggest that in order to achieve better effectiveness of such a campaign, examples of diseases that can be potentially avoided thanks to proper infant feeding should also be presented [4, 7, 8, 9, 12, 13].

However, it is a positive fact that a significant majority of respondents wanted to breastfeed their child in the future, have already looked for information and believe that it is necessary to find more information. The interest of respondents in health education on this topic was so great that it should be made use of.

CONCLUSIONS

1. Knowledge of young women about natural feeding varies, it is incomplete and requires complement.
2. The level of knowledge was influenced by: nationality of respondents, their age, place of residence, level of education and breastfeeding in the past. Marital status, professional activity and having children were of no importance. Older women living in Poland who were better educated, living in the cities and had breastfed previously, had significantly greater knowledge about natural feeding. There is a very big need for health education in this area.

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