

Part III. Other
Dział III. Różne

THE REVIEW OF RESULTS OF RESEARCH ON BREASTFEEDING
CONSIDERING MEDICINAL AND PROPHYLACTIC ASPECTS

PRZEGLĄD WYNIKÓW BADAŃ NA TEMAT KARMIENIA PIERSIĄ KOBIET
Z UWZGLĘDNIENIEM ASPEKTÓW LECZNICZYCH I PROFILAKTYCZNYCH

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Summary

Breastfeeding is an irreplaceable, in biological and emotional aspect, basis of mother and child's health. The aim of this paper was to present the review of research results on advantages of natural feeding and benefits of breastfeeding, presentation of breast massage technique as a way of supporting natural feeding, as well as contraindications to breastfeeding. In spite of the propagation, the number of mothers who feed their children in natural way is still considerably low. At present, the American Academy of Paediatrics recommends nursing for 6 months, and continuing it until first year of child's life (or longer, depending on mother or child's needs), introducing, at the same time, supplementary food. The issue of breastfeeding should be widely spread among women mainly by midwives, who should propagate nursing with commitment and provide proper information, emphasising its positive influence on the health of mother and child.

Keywords: breastfeeding, postnatal period, massage

Streszczenie

Karmienie piersią jest niezastąpioną biologicznie i emocjonalnie podstawą zdrowia matki i dziecka. Celem pracy było zaprezentowanie przeglądu wyników badań dotyczących zalet naturalnego karmienia i korzyści wynikających z karmienia piersią, przedstawienie metodyki masażu piersi jako środka wspomagającego naturalne karmienie oraz przeciwwskazań do karmienia piersią. Mimo propagowania karmienia piersią, odsetek matek karmiących naturalnie nadal jest niewysoki. Najnowsze rekomendacje Amerykańskiej Akademii Pediatrii zalecają wyłączne karmienie mlekiem matki przez 6 miesięcy życia i kontynuowanie go przy wprowadzaniu produktów uzupełniających do 1 roku życia dziecka lub dłużej, zgodnie z życzeniem matki lub dziecka. Problematyka karmienia piersią powinna być szeroko rozpowszechniana wśród kobiet, głównie przez położne, które z zaangażowaniem powinny propagować karmienie piersią i dostarczać odpowiednich informacji, podkreślając tym samym pozytywny wpływ tego sposobu karmienia na zdrowie matki i dziecka.

Słowa kluczowe: karmienie piersią, połóg, masaż

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Introduction

Breastfeeding is an irreplaceable, in biological and emotional aspect, basis of mother and child's health [1]. It is confirmed by present recommendations of Polish, foreign, and international institutions and organisations that deal with the issues of child feeding. At present, the American Academy of Paediatrics [2] recommends nursing for 6 months, and continuing it until first year of child's life (or longer, depending on mother or child's needs), simultaneously introducing supplementary food. World Health Organisation [3] recommends breastfeeding for 2 years or more, emphasising that longer nursing, even for 3 years, does not have a bad influence on child's mental state (WHO). However, Polish Committee for Breastfeeding Promotion (Polski Komitet Upowszechniania Karmienia Piersią) recommends to breast-feed for 6 month and longer, at least until one year.

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In spite of the propagation of breastfeeding, the number of mothers who feed their children in natural way is still low. Research shows that relatively large number of mothers breast-feed infants, but few continues it, accordingly to recommendations, until 6 month of child's life [4]. In the group of examined 6 month old infants only 13.2% of them was fed only with breast milk [5]. Stolarczyk and Zagórecka [6] noticed frequent breastfeeding of children in similar age (68%), but only 9% of these infants were only breast-fed. Almost half of examined children in the first six months of life was breast-fed, but only 2.7% did not get any supplementary products [7].

In the subject literature among the most often indicated reasons for breastfeeding discontinuation there are agalactia and nipple problems [8]. According to the research on factors connected with keeping and continuation of natural feeding, the appearance of mentioned causes depends on duration of breastfeeding [9]. The insufficient amount of milk was the cause of breastfeeding discontinuation among mothers who were feeding their children this way at least for 2 months. The problems with breasts, however, were the most frequent reason to stop for mothers who did not maintain breastfeeding even for 2 months. Among other causes that limited nursing, one may list physical and mental exhaustion, but also the feeling of discomfort connected with appearance of breasts [10]. Nehring – Gugulska et al. [11] argue that if woman have doubts about her capability to feed a child only with breast milk, it will cause increased secretion of adrenaline which, being antagonist of oxytocin, will block the production and secretion of milk. Similar reasons of failing at breastfeeding are suggested by Cooke et al. [12].

In sum, it seems the most essential element that could mitigate described problem is proper prevention and change of lifestyle. Nevertheless, there is still no answer regarding applied therapeutic methods to prevent difficulties that lying-in women struggle with. Women having problems with nursing can choose from wide range of therapies, from medical procedures to physiotherapy and massage.

The aim of this paper was to present the review of research results on advantages of natural feeding and benefits from breastfeeding, presentation of breast massage as a way of supporting natural feeding and contraindications to breastfeeding. This paper is for information purposes only and it was written on the basis of the research on polish and foreign literature. It should be mentioned, that the literature on the subject rarely deals with the issue of breast massage application during postnatal period. Therefore, this paper is an attempt to synthesise the existing knowledge on this subject. .

The review of research results on benefits of breastfeeding

The assessment of women's knowledge of the advantages of natural feeding was repeatedly the subject of research, which is reflected in literature [7,13]. Numerous observations and research shows that the health care professionals have little contribution in the education of women about the benefits of breastfeeding. Therefore, this subject should be widely spread among women, especially by midwives who should propagate nursing with commitment and provide relevant information, emphasising positive influence of it on mother's health. The review of literature done by the authors of this paper, which regards the sources of the knowledge on the positive aspects of breastfeeding, proves that majority of Polish women draw information from popular science literature and books (above 70%), Internet, newspapers (ca. 55%), family and friends (respectively 48 and 45%). Marginal importance in this aspect have antenatal classes (24%) and informational leaflets (17%) (table 1).

Table 1. The review of research results on benefits of breastfeeding

Sources of knowledge on benefits of breastfeeding – results of survey research	
Paper	Sources of knowledge (%)
Grochans et al. [14]	71 – popular science literature
	63 - friends
	61 – specialist press
	24 – antenatal classes
	23 – instructional videos
Cierpka et al. [15]	73 - literature
	47 – family, friends
	29 - media
Gebuza et al. [16]	61 – books, magazines
	47 - friends
	17 – antenatal classes

Klejewski et al. [17]	64 - books, guidebooks
	50 - internet, press, television
	45 - family
	43 - friends
	13 - antenatal classes
Olejniczak et al. [18]	71 - internet
	60 - books
	45 - press
	38 - family
	26 - friends
	23 - television
	17 - information leaflets
Józefów et al. [19]	60 - family
	40 - internet
	40 - books
	40 - antenatal classes

Source: own elaboration

A mother gets benefits from breastfeeding already in early postnatal period. It results in decreasing postnatal blood loss and faster involution of uterus, which is connected with activity of oxytocin released during breastfeeding. Furthermore, oxytocin regulates the rhythm of sleep and wakefulness, reduces the feeling of anxiety and stimulates emphatic behaviours. It is secreted not only by irritating mechanoreceptors localised around nipples, but also by frequent contact defined in literature as „*skin to skin closeness*”, i.e. when mother’s body is close to child’s body, which is more frequent in the case of mothers who breastfeed [20]. Additionally, breastfeeding delays the occurrence of first menses after birth even to several months, whereas mothers who use formula have their first period 6 – 8 weeks after childbirth. It has, undoubtedly, considerably significant impact in the aspect of iron storage in woman’s body, which protects mothers from anaemia. Prolonged lactation and amenorrhoea have also contraceptive effects, thanks to lowered gonadotropin release in hypothalamus (high level of prolactin and hypothalamic dopamine repress the release of follitropin and lutropin) [21].

The breastfeeding also limits the risk of postnatal depression which is a relatively frequent phenomena, involving from 10 to 20% of mothers in postnatal period. Women suffering from depression, more often resign from breastfeeding, which is connected with negative influence on child’s health, as well as mother’s. Postnatal depression risk factors include: stress, sleep deprivation, trauma and depressive and anxiety disorder episodes in medical history [22]. From research of Mezzacappa and Katlin [23] that compares the level of stress of mothers who breastfeed and those who use formula, and submits to comparative analysis both models of infants feeding in the same population of women, results that breastfeeding is connected with the improvement of wellbeing and acts protectively in relation to lowered mood, including depression. Heinrichs et al. [24] proved that nursing women are protected against harmful effects of stress on immune system thanks to reduced level of ACTH and cortisol – the hormones which are largely responsible for suppression of immune system during stress and fatigue. Breastfeeding is also conducive to better quality of sleep during maternity. Research comparing the quality of sleep of mothers who bottle-feed and those who breastfeed shows that the latter: sleep about 20 – 40 minutes longer, have definitely better quality of sleep, less often suffer of depression caused by deprivation of sleep [25]. However, Bylton et al. [26] state that the deep sleep stage of nursing women is three times longer in comparison to women who bottle-feed, and also the light sleep stage is shorter, resulting in lesser fatigue during a day.

According to observations, breastfeeding also helps in faster reduction of body mass and in avoiding metabolic complications connected with obesity, as well as reduces the risk of cardiovascular diseases [27]. The long-term research showed reduction in risk of type 2 diabetes in the case of nursing women during perimenopause, and women with type 1 diabetes who were breastfeeding needed smaller dose of insulin as a result of lowered blood sugar [28]. Prolonged lactation also results in the decrease of the level of total and LDL cholesterol and increase of the level of HDL cholesterol, and reduction of blood sugar and insulin in blood serum [29]. Therefore, breastfeeding is a factor decreasing the risk of diabetes or hyperlipidaemia that hasten the development of arteriosclerosis and ischaemic heart disease. Extensive prospective research evaluating the relations between the occurrence of heart attack in middle age and total duration of lactation during women’s reproductive period demonstrated that the risk of heart attack in women who were breastfeeding for 2 years or more, is 37% less in comparison to women who have never breastfed [30]. Schwarz et al. [31] got similar results. They examined a group of 60 years

old women while taking into account sociodemographic results, lifestyle, family history. The research showed positive correlation between the decrease in frequency of the occurrence of ischaemic heart disease risk factors (obesity, hyperlipidaemia, diabetes, hypertension, incident of coronary disease in history) and the duration of lactation period and breastfeeding during reproductive period of examined women. Besides, the multicentre study conducted by Cumming and Klineberg [32] demonstrates protective role of nursing in relation to the occurrence of osteoporosis during perimenopause. It was also proved that breastfeeding decreases the risk of endometrial, nipple or ovarian cancer [27]. The risk of endometrial cancer depends on the level of oestrogens, which increases during exogenous and endogenous stimulation and decreases during lactation and breastfeeding, as the result of the decrease of oestrogens level [27]. Other authors observed increased risk of this cancer as a result of using medications to suppress lactation [33]. Late start of menstruation, pregnancy and breastfeeding are mentioned among the main factors protecting against the occurrence of breast cancer [27]. The research conducted by Kotsopoulos et al. [34] reveals that there is connection between decreased risk of breast cancer in the case of carriers of mutated genes and prolonged lactation. It shows the reduction of the risk of breast cancer for women having BRCA 1 gene mutation is 32% with total duration of breastfeeding during reproductive period for about 12 months and draws out along with prolonged nursing for about 19%. This dependency was not observed in the case of women having BRCA 2 gene mutation. In turn, among the factors decreasing the risk of ovarian cancer are oral contraception and pregnancy. Both are connected with suppression of ovulation and diminishing of the level of gonadotrophins in woman's body. Similar effect may be observed during breastfeeding period [35].

The proposition of mammary gland massage technique for women in postnatal period

During the massage of mammary gland, one should create proper conditions and take care of woman's comfort. Preferably, it should take place in a room which temperature is 22°C. It is not recommended to hold a conversation with a massaged woman, as it may deconcentrate massager. The atmosphere should not give the feeling of nervousness and hastiness. The amount of time committed to interview, massage and rest should be planned before the treatment. Massager uses delicate technique of classical massage through caressing and rubbing. Each technique should be repeated for 4 – 6 times. All moves should be coordinated, calm, delicate and fluent.

Breast massage techniques

Longitudinal caressing is done with whole palm or pads of fingers II – V in the area from parasternal line to anterior axillary line in the direction from costal arch in nipple line to supraclavicular fossa, infracalvicular fossa and nearby shoulder joint (Fig.1a). **Longitudinal rubbing** is made with palmar side of fingers II – V in delicate, circular motions (Fig.1b). Direction of rubbing is the same as with caressing (Fig.1a). **Transverse longitudinal caressing** is done with whole palm or pads of fingers II – V in the area from parasternal line to midaxillary line in the direction from costal arch to midaxillary line, anterior axillary line, shoulder joint, supraclavicular fossa, infracalvicular fossa. Massage should end nearby nipple line (Fig.1c). **Transverse longitudinal rubbing** is made with palmar side of fingers II – V in delicate, circular motions (Fig.1d). Direction of rubbing is the same as with caressing (Fig.1c). **Circular caressing** is made with pads of fingers II – V in the direction from nipple to areola, supraclavicular fossa, infracalvicular fossa, shoulder joint, anterior axillary line (Fig.1e). **Circular rubbing** is made with palmar side of fingers II – V in delicate, circular motions (Fig.1f). Direction of rubbing is the same as with caressing (Fig.1e). **Transverse circular caressing** is done with pads of fingers II – V in the direction from costal arch in nipple line to nipple, areola. Massage should end nearby shoulder joint (Fig. 1g). **Transverse circular rubbing** is made with palmar side of fingers II – V in delicate, circular motions (Fig.1h). Direction of rubbing is the same as with caressing (Fig.1g).

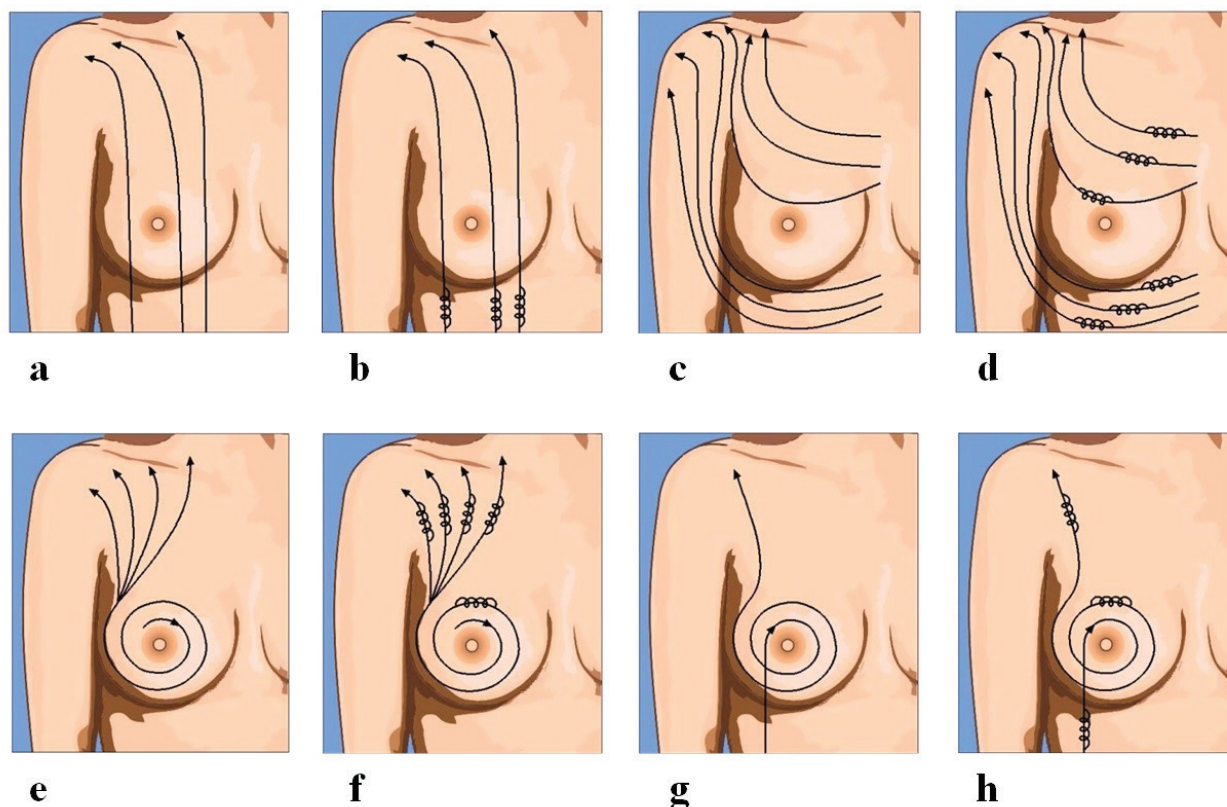


Figure 1. Mammary gland massage technique in postnatal period. Source: own work on the basis of „Masaż kobiet w ciąży i niemowlęcia” [“The massage of pregnant women and infant”] by Lewandowski G. [36]

Breastfeeding contraindications

Contraindications can be divided between those connected with mother and her treatment and those connected with child [37].

Contraindications connected with mother

- Medications used in chemotherapy,
- Taking radioactive substances,
- Mastitis during intensive antibiotherapy,
- Smoking,
- Drinking alcohol,
- Taking intoxicants,
- Active tuberculosis process,
- HIV infection,
- HTLV infection of type I and II,
- Inverted nipples.

Contraindications connected with child:

- galactosaemia,
- congenital lactose intolerance,
- weak sucking reflex,
- cleft lip and palate,
- underdeveloped mandible,
- severe hiperbilirubinaemia.

Conclusion

Despite the presence of irrefutable evidences documenting the positive effects of breastfeeding on mother's health and global initiative, there are no current analysis conducted in Poland on the state of breastfeeding. The latest such study was carried out in mid-90's in the scope of „Polish Breastfeeding Promotion Program” that was funded by the Ministry of Health and Social Services [38]. The implementation of the Regulation of the Minister of Health of September 23, 2010 on Standard Operating Procedures for health care during physiological pregnancy and childbirth, gives hopes for the improvement of situation regarding breastfeeding. The aim of the standards implemented in the whole country is to intensify actions that will effect in popularisation of nursing [39]. The growth of interest in massage during the last few years is connected with general tendency to more and more common usage of this treatment in therapeutics. It is essential that mammary gland massage have to be given by a professional in order to avoid undesirable side effects. Imprecisely established diagnosis and determination of wrong priorities during therapy, and consequently no effects, lead to disappointment and disincline lying-in women to continue breastfeeding. Previous observations show that it is effective and safe method. Bowles studies [40] proves considerable effectiveness of breast massage, which boosts milk secretion and improves caloric value and amount of milk. These conclusions need confirmation in further research.

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