# Lactation & Breastfeeding

Magazine of the European Lactation Consultants Alliance • www.elacta.eu • ISSN 1614-807x

COVER STORY
The breastfed child with Diabetes mellitus type 1 – page 5

COVER STORY
Antenatal breast milk expression for women with diabetes in Pregnancy – page 15

COVER STORY
Pregnancy and starting breastfeeding with Diabetes – page 19

**1** • 2019 32th Volume

elacta
European
Lactation Consultants
Alliance

EDITORIAL

# Dear members, dear colleagues,

Spring has come, and offspring as well, for many of us, while working with our families. Time to start a new cycle of life. To make the new beginning to a healthy and happy beginning also for mothers and babies with special challenges, we dedicate ourselves in the current issue to the breastfeeding accompaniment in (gestational) diabetes or childhood diabetes.

Della Foster, Lisa Amir and Anita Moorhead from Australia have conducted an outstanding RCT study regarding the antenatal expressing, with the aim of reducing the need for supplementary feeding of babies of diabetic moms. During our last conference in Rotterdam these results were presented and now they are published in our magazine too!

Stefanie Panz has written a paper about the beginning of breastfeeding in Diabetic mothers. Also, you will find an article of Annika Reith-Herrmann and Louisa van den Boom about breastfeeding a baby with diabetes Type I.

Our handout provides you with practical instructions for antenatal expression of Colostrum.

Beside these articles to the main topic, we have a useful contribution in our work with muslim mothers and their families regarding the Ramadan by Gihan Fouad.

Veronique Darmangeat from France has written a book about returning to work while still breastfeeding a baby and she presents a short introduction for IBCLCs to support these women.

Anja Bier gives us tips regarding on how to use WhatsApp during breastfeeding counselling DSGVO-compliant and explains how she extends technical possibilities for the care of her clients while using WhatsApp Business.

I wish you much pleasure in reading this brimming informative edition and hope to meet you in Bled, Slovenia for our CERPs International event!

Warm regards,

*Karin Tiktak*
*President ELACTA*

IMPRINT

Company Information:
ELACTA European Lactation Consultants Alliance
www.elacta.eu
Magazine: www.elacta-magazine.eu
Email: magazin@elacta.eu
ZVR-Nr.: 708420941

ELACTA president:
Karin Tiktak, IBCLC
president@elacta.eu

Editorial and project coordination:
Eva Bogensperger-Hezel, IBCLC
Email: magazin@elacta.eu

Team:
Andrea Hemmelmayr, IBCLC,
Elke Cramer, IBCLC,
Zsuzsa Bauer, PhD
Bärbel Waldura, IBCLC,
Andreea Ioana Grigore, IBCLC,
Dr. Gudrun von der Ohe, IBCLC

Translation:
Elizabeth Hormann, IBCLC,
Annika Cramer, Martina Hezel,
Catherine Pilgram

Photos: © as mentioned on the photos;
Coverphoto: © iStock.com/dml5050
Note: The stock photos used are symbol photos; the pictured models do not suffer from the symptoms possibly described in the respective articles.

Layout: Christoph Rossmeissl

Published quarterly

Deadline: 15 January, 15 April, 15 July, 15 October

With its articles, Lactation and Breastfeeding wants to go beyond expert information about breastfeeding and also stimulate discussion. Therefore, we welcome your views. Please send Letters to the Editor to the following email address: magazin@elacta.eu


Photo: © Anette Mulder


Photo: © Annika Reith-Herrmann

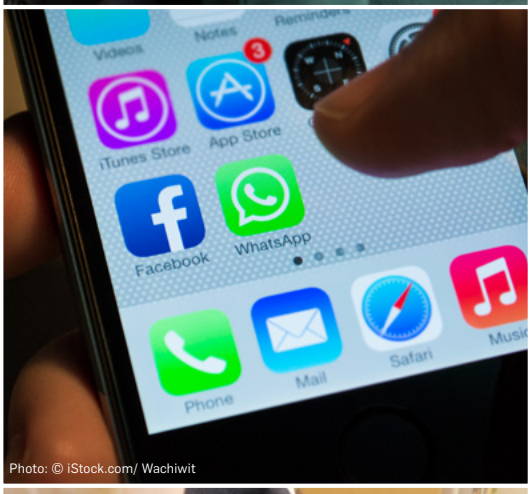


Photo: © iStock.com/ Wachiwit


Photo: © Enzenhofer

# Contents

**LETTER TO THE EDITOR ON THE ARTICLE "THE PHENOMENON MISTAKENLY TERMED 'MOTHER'S MILK ICTERUS' " BY JACK NEWMAN IN ISSUE 4/2018"**


The incorrectly called "Breastmilk Jaundice"

As a pediatric nurse with more that 35 years experience (primarily in neonatology) and an Internationally Board Certified Lactation Consultant (IBCLC) since the year 2000, I want to speak up about the abovementioned article

I cannot agree with all of the content and would, therefore, like to respond to some points. Basically, I would recommend not comparing hyperbilirubinemia in newborns with a congenital metabolic disorder (Gilbert-Syndrome or Morbus Meuchelgracht). This could be misunderstood and lead to playing down hyperbilirubinemia in newborns. Over the course of my professional life, I have often encountered hyperbilirubinemia in newborns. Fortunately, clinical diagnostics (bilirubin values and limits) and therapy (from white light to blue light and meanwhile to LED) have evolved and are at a modern level. Just a reminder: Bilirubin in high concentrations acts as a cellular toxin. The determination of the indirect and direct bilirubin or the total bilirubin takes place routinely in the course of the newborn screening and, with existing risk factors, the Coombs test follows.

Here some citations from the **S2k-Guidelines 024/007 Hyperbilirubinemia in the Newborn, Diagnostic and Therapy, Status 08/2015***

*"The maternity guidelines do not routinely envision a pediatric Coombs test. However, the result of the Coombs text can be helpful for the assessment of causality and dynamics. With a strongly positive Coombs test, a comparatively rapid rise in bilirubin can be expected. The TCB measurement is considerably more informative than a visual assessment and allows for a reduction in the number of invasive measurements."*

*"The frequency of a peak value of more than 25 mg/dl (430 µM) or 30 mg/dl (510 µM) is specified as $10^{-3}$ or $10^{-4}$, with chronic bilirubin-encephalopathy (kernicterus) 7-11 or a bilirubin-induced death with $10^{-5}$ or $10^{-6}$. In Germany, 2-7 cases of kernicterus a year can be expected (2005)"*

*"The clinical picture of acute bilirubin-encephalopathy is characterized by lethargy, hypotonia and weak sucking (Phase 1), shrill crying, retrocollis and fever (Phase 2), stupor, apnea and seizures (Phase 3)."*

*"Because hyperbilirubinemia represents a temporary problem (except with genetically determined deficiency of the UDP-glucuronosyltransferase, M. Crigler-Najjar type 1) and is almost always easy to treat with phototherapy, the decisive measure for preventing bilirubin-encephalopathy is beginning the therapy in a timely manner. This assumes the early identification of newborns with high or rapidly increasing bilirubin values."*

*"With all newborns on whom phototherapy is carried out, the conjugated bilirubin, in addition to the total bilirubin, must also be determined. Cases of kernicterus are not due to insufficient therapeutic possibilities or the high phototherapy thresholds, but are almost exclusively due to delayed diagnosis and to a delay in starting therapy."*

*"The absence of risk factors does not rule out the rise of bilirubin concentrations to a high level. The only effective measure to identify newborns with unusually rapidly rising bilirubin values and carry out timely therapy, is a results-based graded screening. This involves a systematically conducted bilirubin measurement (transcutaneous or invasive), evaluation of the values measured on the basis of age-related percentiles, and concrete determination of follow-up measurements" (S2k-Leitlinie 024/007, 2015)*

A few times, in the initial phase of my professional life, I experienced the so-called kernicterus and the damage connected with it, as well as some exchange transfusions. Thanks to modern diagnostics and helpful threshold values, I no longer experience this. Nevertheless, we are constantly on the alert with *icterus praecox* and this is not so rare! Factors which are likely to promote this are alloimmune hemolytic (classic M. hemolytic), resorption of extravascular blood (after vacuum extraction, from cephalohematoma or prematurity.

A high postnatal loss of weight connected with poor breastfeeding management leads – as we breastfeeding counsellors know – to hyperbilirubinemia. For this reason, taking a look at the excretions is so important, for bilirubin is known to be 80% excreted via the intestinal tract. With phototherapy the urine is mostly dark, but not necessarily in normal cases.

A current example from my practice: mature newborn, 5 days old, with a 14% weight loss due to weak sucking. It turned out that the newborn had had no more bowel movements since birth and, naturally, had hyperbilirubinemia, which clearly had to be treated. The medical history revealed that there was a perinatal acidosis (NapH<7.1) with resultant limited breastfeeding behavior in the first few days after the birth. The birth was ambulatory (at the mother's wish. The pediatricians' advised monitoring) and, furthermore, the second pediatric exam (U2) had not yet been performed. This case shows that we must provide good support for mother and baby during the sensitive phase in the first few days and give the parents good information.

Mother's milk icterus or *icterus prolongatus* happens in about 1% of all cases. Naturally, a differential diagnosis, based on blood values and also, if biliary atresia is suspected, at least an abdominal sonogram

In our hospital, using infant formula in such cases has not been common for a long time. With unremarkable further diagnoses, the baby continues to be breastfed, with the express agreement of the pediatricians. I have only once experienced a mother of a breastfed premature baby from the 36th +3 week of pregnancy, interrupting breastfeeding for 24 hours, at her own request, against the advice of the pediatricians, and feeding infant formula. The reason for this was the 6th phototherapy round with the repeated admission to and discharge from the hospital and the stress that resulted for the mother. After the breastfeeding break, the bilirubin level finally fell and the mother continued to breastfeed (exclusively)

**Conclusion:** Hyperbilirubinemia in newborns has various causes and should not be trivialized! Yes, mothers must be accurately informed and supported. Mother's milk icterus is very rare and the risk factors should be recognized and explained by an appropriate diagnosis.

Just because studies have shown that a slightly elevated bilirubin level (the question is, when is the bilirubin level only slightly elevated?) can prevent congenital metabolic illness, in adults arterial sclerosis and, possibly, even cancer, does not mean that bilirubin for newborns is not dangerous.

And perhaps, the American experience and approach are not always comparable with those in Germany. But I am not a doctor...

**Katrin Peters**
Pediatric nurse (RN), International Board Certified Lactation Consultant (IBCLC), Breastfeeding Specialist in the Departments of Neonatology and the Pediatric Hospital DRK Hospitals, Westend, Berlin

**SOURCE:**
(S2k-Guidelines 024/007 of the (German) Society for Neonatology and Pediatric Intensive Medicine (GNPI), in cooperation with the German Society for Children and Youth Medicine (DGKJ); the German Society for Perinatal Medicine (DGPM), and the German Society for Gynecology and Obstetrics (DGGG): "Hyperbilirubinemia of the Newborn, Diagnosis and Therapy, Status 08/2015", Publication Date 12.08.2015; Review planned for 12/2019; Contact person Prof. Dr. Christoph Bührer, Neonatology Hospital; Charité University Medicine. (German only, but multiple English-language references on pp. 14-20). www.awmf.org/uploads/tx_szleitlinien/024-007l_S2k_Hyperbilirubinaemie_Neugeborenen_Diagnostik_Therapie_2015-08.pdf

# The breastfed child with Diabetes mellitus type 1

**How breastfeeding can be integrated into diabetes management.**

Authors: Annika Reith-Herrmann, Dr. med. Louisa van den Boom


**Breastfed child with insulin pump**

## Relevance

The German charity *Deutsche Diabetes-Hilfe* writes: "300,000 people in Germany have type 1 diabetes. More than 30,000 children and young people under the age of 19 have type 1 diabetes. It is expected that the incidence of diabetes in children under the age of five in particular will have doubled by the year 2020."[1] This means in practice that more and more children who are still being breastfed are affected, as the World Health Organisation (WHO) recommends breastfeeding for at least two years and beyond if possible.[2] If we consider the rise in new cases and the fact that the age of onset is getting younger and younger, breastfeeding despite a diagnosis of diabetes in the child is going to gain relevance, particularly for children who continue to be breastfed after their first or second birthdays.

Up until recently, however, there was little in the way of literature or scientific papers to help find solutions to the integration of breastfeeding into the diabetes management of a breastfed child. Mothers of affected children are therefore usually advised to wean immediately. This is especially likely if the child is more than 9-12 months old. Breastfeeding is then no longer regarded as necessary and it is argued that it will make treatment more difficult. Practice, however, shows that the opposite is the case: breastfeeding provides excellent support for the treatment and makes it easier for the child and the family to accept the illness and treatment. Thus, breastfeeding also facilitates the work of the diabetes team.

In addition, abrupt weaning increases stress in mother and child in a situation that is already extremely demanding for all those involved. Usually both mother and child are already very weak when diagnosis is made. Initial manifestation of diabetes usually takes several weeks, during which the child becomes crankier and crankier and needs more and more physical contact and carrying. The nights are restless, partly because the child wets the bed several times a night and the bed has to be changed. Mother and child are usually physically and mentally depleted by the time they arrive at the hospital. Insisting on abrupt weaning in such a situation is a major additional stress factor and should be avoided.

Because of the lack of literature and studies, we, the authors of this article, have developed procedures to integrate breastfeeding into the diabetes management of breastfed children so that weaning can be avoided. The procedures described below were also endorsed in 2017 by the Academy of Breastfeeding Medicine (ABM) in their *Clinical Protocol #27: Breastfeeding an Infant or Young Child with Insulin-Dependent Diabetes.*[3]

›

## Introduction to diabetes mellitus type 1

Diabetes mellitus type 1 is an autoimmune disease. This means that the body falsely identifies its own insulin producing cells in the pancreas as alien cells and destroys them. This results in a lack of insulin, a hormone that is essential for producing energy. Explained in simplified terms, insulin is the "key" that opens the "door" to the cells for sugar (carbohydrates) in food. Sugar is burned in the cells in our body and this produces the energy we need to live. Infants and young children especially need carbohydrates because of their rapid growth.

People with type 1 diabetes lack insulin. Their bodies can no longer produce it (in sufficient quantities) and carbohydrates and sugar molecules (glucose) from food cannot get into the cells. Without insulin, the sugar remains in the blood. The more sugar accumulates in the blood, the higher the blood glucose levels rise. The body tries to excrete the excess sugar via the kidneys. This causes the typical symptoms seen in those affected – weight loss, extreme thirst, frequent urination, tiredness.

A distinction must be made between type 1 diabetes and type 2 diabetes. Type 2 diabetes is not an autoimmune disease. It is a disease which, above all, affects many older people and which is usually easily treated with tablets, a healthy diet and exercise.

Particularly in the first six months, a further distinction needs to be made between type 1 diabetes and neonatal diabetes. Neonatal diabetes is divided into its two most commonly occurring forms, transient neonatal diabetes and permanent diabetes. It is a rare disease (0.17% of all types of diabetes in children and young people) and is sometimes accompanied by other abnormalities. Although neonatal diabetes is not the focus of this article, the procedures described below can be applied if breastfeeding is possible. [4]

This article deals with children from about the age of one to the end of the breastfeeding relationship who are suffering from diabetes mellitus type 1.

### Causes

The exact causes for the development of diabetes mellitus type 1 are still unknown. A genetic component plays a role, but the triggers for the beginning of the autoimmune reaction have not been identified. It is important to know that the susceptibility to diabetes is inherited, not the disease itself. If external factors, so-called "environmental factors", are added to this susceptibility, the disease diabetes mellitus type 1 may occur. Precisely which environmental factors these are is still not known. It is probable that the interaction of several different environmental factors is responsible for the development of the disease. It has been established that diabetes mellitus type 1 is not caused by too many sweets or not enough exercise. Parents and children have not done anything wrong and diabetes is not infectious.

### Treatment options

Type 1 diabetes is a lifelong illness that is currently incurable. Since the discovery of insulin, however, type 1 diabetes is treatable. A child or young person with diabetes is as just as capable – physically and mentally – as a child with a healthy metabolism. The missing insulin has to be replaced externally, however, as insulin is the only hormone which can reduce blood sugar. As insulin cannot be swallowed as a tablet, it has to be injected using a syringe, a pen or an insulin pump. Today most toddlers in Germany (about 80%) are supplied with an insulin pump. An insulin pump is a small, battery-operated device with an infusion set that is attached to the child by a tiny tube that is inserted into the fatty tissue under the child's skin. The pump contains a reservoir filled with a fast-acting insulin (analogue). The child's continuous insulin needs (basal rate) are covered automatically by the pump based on an individually programmed amount of insulin per hour. In addition, at meals, an insulin bolus based on the amount of carbohydrate in the meal is delivered by pressing a button. In recent years, insulin pumps have become smaller and now include new features, such as integration with continuous glucose monitoring systems. A small sensor is inserted in the fatty tissue under the skin, measures the glucose levels there, and sends the values to the insulin pump. The insulin pump is thus able to display a warning when levels reach defined limits.

### Integration of breastfeeding into diabetes management

In order to integrate breastfeeding into the treatment of diabetes, it is important to know how much carbohydrate the breastfed child consumes at each meal. Children should not go without carbohydrates, as this could compromise healthy growth. Their carbohydrate intake should therefore always be accompanied by the appropriate amount of insulin. The biggest challenge for the diabetes team is not knowing how much carbohydrate is consumed during breastfeeding.

### Breastfeeding schedules versus breastfeeding on cue

It is irrelevant for diabetes management whether the child is fully breastfed, consuming entire meals at the breast, or whether the child is breastfed occasionally, consuming small breastmilk snacks. What is more important for treatment is whether the child is breastfed on a schedule (e.g. by the clock or at fixed times, such as bedtime) or whether the child's cues are followed and breastfeeding times are more or less irregular.

For children with **a fixed breastfeeding schedule or whose own natural breastfeeding schedule is regular,** breastfeeding can be mapped in the **basal rate.** The disadvantage of this, however, is that if there is an (unexpected) change in schedule or if the child consumes less than usual the child will suffer from hypoglycaemia.

An alternative, particularly for children who are **breastfed on cue,** is to meet insulin needs for each breastfeed at the time of the feed and regulate the dose individually. This means that the child is injected with rapid-acting insulin before meals, or, if a pump is used, given an insulin bolus

**Carbohydrate calculation**

Mature breast milk contains an average of 7g carbohydrate per 100 ml (mainly lactose).[5] The question is therefore: how many millilitres of milk does the child consume? How much insulin should be given? There are different methods of finding this out:

By observing how the body reacts to a particular food at a particular time of day. This has to be done with all diabetes beginners. For all diabetics, including breastfed children, the carbohydrate factors can be determined by monitoring and careful testing. In the early days, regular blood glucose checks should be carried out to ascertain the effect of breastfeeding on the blood glucose curve, and necessary corrections should be made with insulin. Blood glucose levels have to be checked frequently anyway, and this approach does not add to the medical routines or mean extra stress for the child. This approach is also recommended because breastfeeding behaviour in the early days is bound to be different from usual (special situation: hospital and sick child), which makes it impossible to draw conclusions for everyday life.

The mother may already have developed a good sense of how much her child has drunk, or how much a feed has emptied her breast. She could at least distinguish between "as usual/normal", "more than usual/a lot" or "less than usual/not much". This could be linked to the blood glucose curves, so that conclusions can be made about insulin requirements. All diabetes beginners (and their caregivers) have to develop "internal scales" to estimate carbohydrate intake with increasing precision. This also applies to breastfeeds, small breastfeeding snacks and the mother's feeling of how much milk the child has consumed.

If these two measures are insufficient, the method described below can be used to determine the amount of breast milk consumed. This method should only be used on a short-term basis. The infant can be weighed before and after a feed and the volume of breastmilk consumed can be calculated from the difference in weight measurements. It is important that the child's nappy should not be changed and the child should not have a change of clothing after the first weight measurement. Anything that could affect the weight may take place only *before the first* or *after the second* weight measurement. The disadvantage of this method is that it can be imprecise when children move a lot. This can make it difficult to use for older children. Moreover, this approach means additional stress at a time when the child has to face frequent medical interventions.

As a matter of principle, everyone should be aware that it is hardly ever feasible to measure the exact quantity of carbohydrate and calculate the exact insulin dose for a toddler. Most parents of children eating complementary foods will confirm that, even if they have carefully weighed the food in advance, it is difficult to work out how much food the child has consumed and how much has landed on the child or on the floor (or how much has disappeared into the mouths of other children). This means that even if the child were weaned abruptly, it would still be necessary to correct blood glucose levels regularly. An abrupt switch to solid foods or formula could also lead to a refusal to eat, which is anything but helpful in this situation and should not be allowed. One should also be aware that many factors affecting blood sugar cannot be directly influenced. These include how long the insulin is effective (interval between injecting and eating), metabolic reactions and other factors influencing metabolism (illness, growth, temperature…). For these reasons, treatment should not focus permanently on breastfeeding.

Thus, to summarise, our only recommendation is to carry out regular blood sugar tests to determine the effect of breastfeeding. This measure is stress-free for all involved, diagnostically conclusive and does not entail a higher risk.

**Tips and tricks**

The following measures can make diabetes management easier:

1 Sensor-based glucose measurements are very helpful in determining the amount of carbohydrate consumed and the appropriate insulin factors, and enable glucose curves to be monitored more precisely, in a manner that is gentler for the child. The effect of the whole course of a breastfeeding session can thus be documented.

2 Keeping a diary is helpful for determining the appropriate carbohydrate factors and occasionally checking diabetes management. The time of the breastfeeding session should be noted, and if possible the amount (or an estimate such as "a lot/normal/not much") and, where applicable, the duration.

3 If the mother is unsure how much the child has consumed, it is better for her to round down her estimate. In the worst case, a small correction in the form of additional insulin may be necessary after 2-3 hours. Not overestimating prevents hypoglycaemia resulting from a too high insulin dose.

4 Particularly with older breastfed children, breastfeeding may only have a minor impact on blood sugar. Small breastfeeding snacks probably do not require immediate correction with insulin. If blood glucose is above the target blood glucose levels after 2-3 hours this can be "corrected" with an appropriate dose of insulin.

5 Consulting an experienced breastfeeding counsellor at an early stage is a great help to the mother in maintaining her milk production and helps reduce insecurity in the diabetes team. The breastfeeding counsellor may also contact us, the authors, to arrange an exchange of experiences.

›

In all these new routines, the most important thing is to support the mother with breastfeeding. Like at the beginning of the breastfeeding relationship, the mother needs encouraging words, enough healthy food, plenty to drink and enough rest despite medical routines. If she can maintain breastfeeding, breastfeeding will soon be integrated into diabetes management.

### Arguments for breastfeeding

All children benefit from being breastfed. Diabetic breastfed children and their mothers benefit even more. We have listed below some arguments for breastfeeding that may be particularly helpful for the job of convincing the diabetes team. These factors can help improve acceptance of the disease and can positively influence the implementation of treatment, thus reducing the risk of dangerous complications.

### Breastfeeding is a fast carbohydrate

As diabetics experience interventions in their metabolism, this can result in serious fluctuations in blood sugar levels. Too low blood sugar levels (hypoglycaemia) in particular can lead to very unpleasant symptoms, in the worst case to unconsciousness. Especially at night, it can be difficult to wake babies and toddlers to give them fast carbohydrates to avert hypoglycaemia. Usually they are so annoyed at being woken up that they reject food. In addition, they may have a hard time getting back to sleep again after this annoying disruption. Because of their highly sensitive metabolism, babies and toddlers are often more prone to low blood sugar levels and in the long term, this situation will place another enormous burden on parents (who often suffer from chronic lack of sleep because they have to measure blood sugar levels regularly). The solution can be breastfeeding, particularly at night. For one thing, babies and toddler can easily be breastfed in their sleep without being fully awake. For another, children usually need only 2-3 g of carbohydrate or less to stabilise their blood sugar. This may be given in the form of ¼–½ of a Dextro energy glucose tablet, but a little less than 50 ml breastmilk will have the same effect. It is easy for children to consume this quantity as a short power snack while they are sleeping. Mother and child (and the rest of the family) hardly need to wake up fully in order to stabilise blood sugar. By day, this means of correction is also just as simple and is always available.

### Breastfeeding relieves pain

Diabetics regularly have to endure unpleasant routine procedures. These include for example measuring blood sugar by pricking with a lancing device and changing the infusion set. Particularly in the first few days after initial manifestation, the child is closely monitored and has to endure many additional medical procedures. Breastfeeding has been proved to be the most effective non-drug intervention to relieve pain in babies and toddlers.[6] The effect is produced on the one hand by visual and physical contact and on the other by the ingredients in breastmilk. Breastfeeding can therefore be very helpful in taking away the fear of necessary medical procedures, averts nerve-wracking battles with the child and increases considerably the child's acceptance of the treatment.

### Breastfeeding is calming and stabilising

As breastfeeding calms both mother and child, both will gain confidence that they can cope in this new, worrying and demanding situation. It has been shown that this effect is assisted by the release of stress-reducing and relationship-building hormones (such as oxytocin) in both mother and child.[7] Breastfeeding reassures the child that the world is still OK and that at least some things go on as usual. It also helps the mother to consolidate and strengthen her relationship with the child, which is particularly important for increasing acceptance of the disease. Thus, breastfeeding is something familiar for all members of the family in a new, worrying situation – an island of calm in the white waters of diabetes. In addition, it is easier to carry out unpleasant procedures such as measuring blood sugar or changing an infusion set if children (and parents) are even-tempered. In most cases, acceptance of diabetes is easier for parents and children if they feel less stress and can enjoy a strong relationship with each other. In the long term, a greater acceptance will result in better treatment for the diabetic child. Thus weaning in this traumatic situation should not be up for discussion, and the calming effect of breastfeeding should be exploited in the treatment.

If this knowledge can be applied to the initial manifestation of diabetes, an extremely stressful, sometimes traumatising situation, then there is a strong case for breastfeeding, particularly from a psychological point of view. In practice the diabetes team will soon discover that medical procedures are easier to carry out while the child is being breastfed or if the child is breastfed directly afterwards. Greater acceptance by the family allows for considerably better management of the child's diabetes and thus significantly reduces complications.

### Conclusion

To conclude: breastfeeding does not make diabetes treatment more difficult – it actually makes it easier.* No additional complications occur during the period of nutritional adjustment. Breastfeeding does not place an additional burden on treatment – it is an additional benefit, and should be encouraged for this reason. There is also no medical reason that necessitates weaning in the case of initial manifestation of diabetes mellitus type 1. Temporary cessation of breastfeeding is only necessary when the child is not allowed food due severe ketoacidosis or a stay in the intensive care unit.

Carbohydrate calculation, as precise as possible, and continuous glucose monitoring are necessary to prevent derailment and extreme fluctuations of the child's metabolism. With babies and toddlers, this is most likely to be achieved if a CGM system is used. We, the authors of

* An argument for continuing breastfeeding is that, in a situation that is already stressful, the child doesn't need weaning as well. Preparing bottles is unnecessary.

this article, definitely recommend the use of such as system.

As the occurrence of diabetes mellitus type 1 in infants and toddlers is quite recent, there are no scientifically based recommendations for the integration of breastfeeding in diabetes management apart from the clinical protocol from the Academy of Breastfeeding Medicine mentioned earlier. There is also a lack of self-help groups for the families of infants and toddlers. The procedures described in this article are based on considerations arising from the experience in practice of the authors, a paediatric diabetologist and an affected mother.

In view of the lack of sources of information, it is important to support doctors and their diabetes teams and to provide them with the necessary knowledge about breastfeeding and the composition of human milk. All those involved will soon discover, after only a few breastfeeds, how much breastfeeding can facilitate their work. The mother should be permitted to set the pace for breastfeeding. She must conserve her energy well and she should be allowed to decide how often she wants to breastfeed the child. When she does this, breastfeeding will console, relieve pain, give confidence and strengthen relationships. All this is important to ensure reliable and good management of diabetes by the parents in the future. This will enable the child to grow and become a healthy and cheerful person. Despite everything.

**Annika Reith-Herrmann**
is the mother of a fun-loving diabetic son who was still breastfed at the time of diagnosis. She is an IT project manager. She is actively involved in helping families with diabetic toddlers through her website www.diabetes-babys.de and as a diabetes nanny for the Dianiño Foundation (www.stiftung-dianino.de).

**Dr. med. Louisa van den Boom**
is a paediatric diabetologist and is Senior Physician at the Clementine Kinderhospital in Frankfurt am Main, where she is head of Paediatric and Adolescent Diabetology. Her aim is to give affected children and their parents an everyday life that is as normal as possible, thus enabling children to experience a normal childhood.

REFERENCES:

› [1] Deutsche Diabetes-Hilfe: **Diabetes in Zahlen.** Verfügbar unter: www.diabetesde.org/ueber_diabetes/was_ist_diabetes_/diabetes_in_zahlen, Stand: 14.04.2018

› [2] Kathryn Dewey/WHO, 2003: **Guiding Principles for Complementary Feeding of the Breastfeeding Child,** S. 8. www.who.int/nutrition/publications/guiding_principles_compfeeding_breastfed.pdf. Besucht am 14.04.2018.

› [3] Miller, D, Mamilly, L, Fourtner, S, Rosen-Carole, C & the Academy of Breastfeeding Medicine, 2017: **ABM Clinical Protocol #27: Breastfeeding an Infant or Young Child with Insulin-Dependent Diabetes,** BREASTFEEDING MEDICINE Volume 12, Number 2, 2017. https://abm.memberclicks.net/assets/DOCUMENTS/PROTOCOLS/27-breastfeeding-an-infant-or-young-child-with-insulin-protocol-english.pdf. Besucht am 14.04.2018. Deutsche Fassung unter: https://abm.memberclicks.net/assets/DOCUMENTS/PROTOCOLS/27-breastfeeding-an-infant-or-young-child-with-insulin-protocol-german.pdf

› [4] van den Boom, L, Meier, K: **Neonataler Diabetes Mellitus.** Gynäkologische Praxis 2019;44:443-451.

› [5] Lawrence, RA, Lawrence, RM: **Breastfeeding. A Guide for the Medical Profession.** 8. Aufl., Elsevier, 2016, S. 117.

› [6] Harrison D, Reszel J, Bueno M, Sampson M, Shah VS, Taddio A, Larocque C, Turner L: **Breastfeeding for procedural pain in infants beyond the neonatal period.** Cochrane Database of Systematic Reviews 2016, Issue 10. Art. No.: CD011248.

› [7] Mezzacappa ES, Katlin ES: **Breast-feeding is associated with reduced perceived stress and negative mood in mothers.** Health Psychol. 2002 Mar;21(2):187-93.

# The experience of Gestational Diabetes

**Summary of a qualitative systematic literature search** Author: Elke Cramer

Photo: © iStock.com/ mthipsorn

**The literature search of international research[1] published in 2013 by J. Scholler-Sachs, presented not only the experience of pregnancy with gestational diabetes (GDM), but also took into account the experiences and expectations of the women affected. Within the confines of this summary, the focus will be on whether conclusions for breastfeeding counselling and caring for women with GDM during the vulnerable post-partum period can be derived from this.**

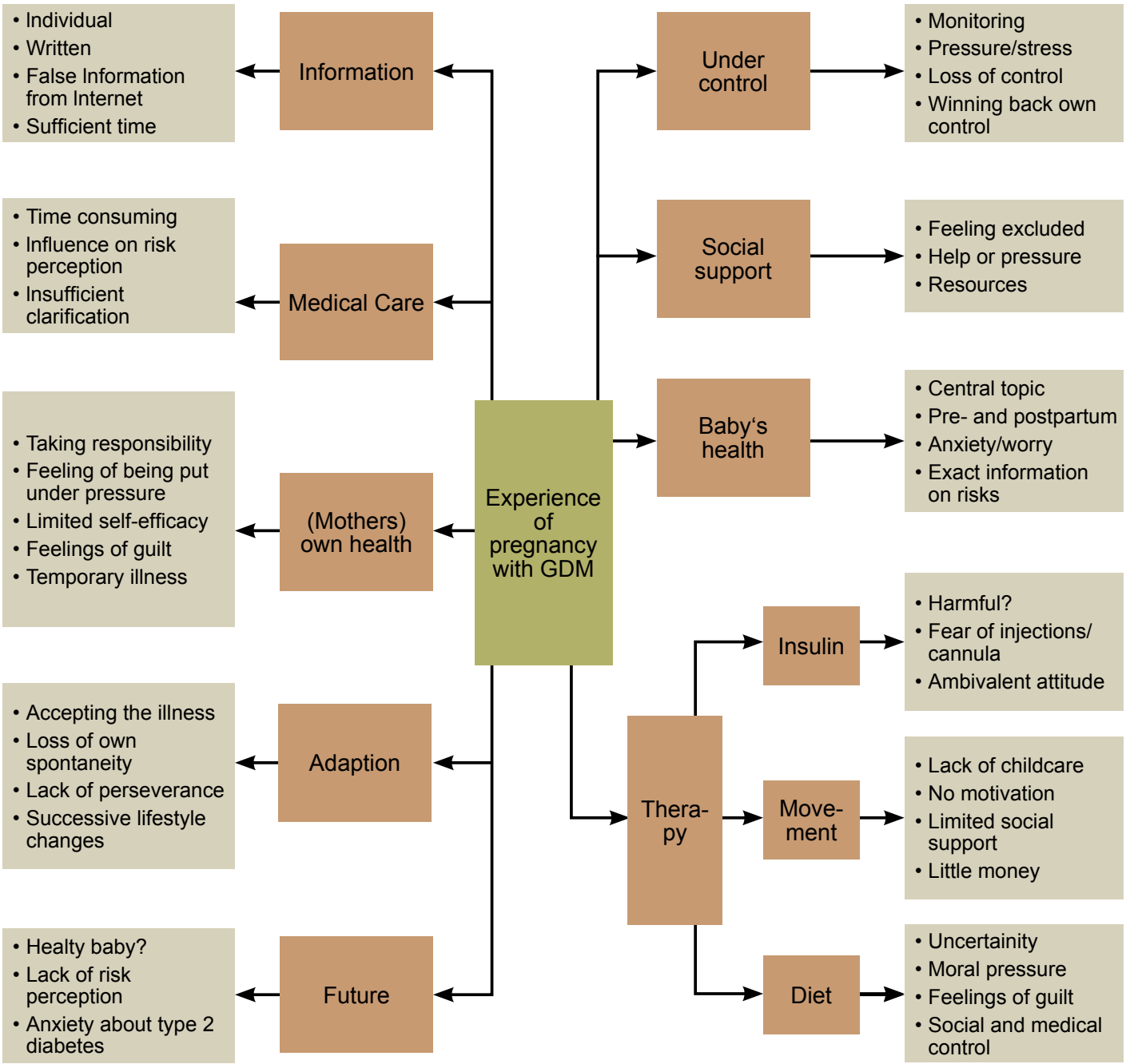
In the literature search presented, only qualitative works were included, with the goal of achieving a better understanding of the various emotional effects of GDM on the experience during pregnancy and the time afterwards. Apart from various social factors and different therapeutic measures, cultural and country-specific differences were considered.

The search for studies was limited to those which, in their methodical approach, had been conducted through interviews, focus groups, field studies, ethnographical observations and similar sources. Research which contained standardized testing procedures or questionnaires, which had primarily closed questions on psychological aspects of GDM, were excluded. The search for relevant works covered medical and midwifery-specific data banks. After an independent review by two assessors, 28 research works from the period between 1990 and August 2012 with exclusively qualitative study designs were able to be identified; the overwhelming majority of these were conducted in the USA (12 studies) and Sweden (7 studies). 5 research studies originated from Australia, 3 from Canada and 1 from Great Britain. Articles before 1990 were excluded because, at this time, another therapeutic regime was generally used for women with GDM. Pregnant women with newly discovered or already existing diabetes mellitus types 1 and 2 were not considered.

## Results

### Psychological reaction to the diagnosis of GDM

First and foremost, there was the feeling of "wanting to be a good mother", for which the woman was prepared to put aside her own needs in the interest of the baby's well-being. Some women did, indeed, fear that they would not be able to meet the new demands. However, the effort to implement the new recommendations for therapy was great, even when it was difficult to integrate into their daily lives. The women frequently had the feeling that they were suddenly being controlled and observed. Because of this, some women felt a loss of control over the course of




**Graphic: Categories related to the course of pregnancy with gestational diabetes (GDM).**

the pregnancy. For others, the intensive medical contacts provided security and reassurance. Above all, for women who had been diagnosed with GDM for the first time, the diagnosis was quite unexpected and was often questioned due to a lack of symptoms. The fear about the baby's health and possible, unforeseeable complications caused great anxiety. However, as a rule, the negative effects declined with increasing knowledge and implementation of the therapeutic measures.

**Experiencing a pregnancy with GDM up to the time of the birth.**

The authors of the eight studies in which the research interest endeavored to deal with this aspect, unanimously came to the conclusion that, in the first three emotionally stressful weeks after the diagnosis was made, the concern about the baby's health and their own was at its highest. The wish to have a healthy child is the central goal and motivates women to change their lifestyles. Their estimation of their own health changes negatively because many women feel guilty and responsible for the complications of the pregnancy. To some extent, women develop ambivalent feelings: On the one hand, they see themselves as being put under pressure. On the other hand, they experience only limited self-efficacy. They fluctuate between the feeling of "wanting to be a good mother" and the feeling of not being able to meet the demands of the therapy. (see Graphic above). ›

During this time, support from the mother's social environment plays a decisive role. The more poorly understood by their families the women feel, the greater the level of insecurity. In the worst case, the women are also confronted by moral reproaches.

In the foreground of medical care, are check-ups, be they blood sugar measurements, monitoring of compliance with certain nutritional directives, adaptation to the insulin regimes and more frequent ultrasound examinations to monitor the baby's development. Thereby, the feeling that arises in some women is that their individual needs are not being adequately addressed. They view the controls and monitoring of their metabolism as a loss of control over their own feelings and decisions. The wish of some pregnant women is for the strengthening and recognition of their own autonomy.

Carrying out the therapeutic recommendations is also a great challenge for those affected: Dietary changes best succeed if the rest of the family joins in supportively. If this back-up is lacking, the women feel strong pressure and, frequently, have the feeling of being excluded. A particular problem arises with carrying out more physical activity as a measure to improve the metabolism. Too few offerings, a lack of social support, insufficient child care, but also pronounced tiredness, lead to a less active lifestyle than before the pregnancy.

At the time of the upcoming birth, the effects of the GDM ease somewhat and the birth comes more to the forefront.

### The influence of the therapy for GDM on the time after the delivery

Here, it becomes clear that, in the different countries, there is a common problem: Women only rarely participate in the recommended check-ups and preventive measures after their pregnancy. Almost all women (in these studies) were aware of their risk and also had a comprehensive consultation during their pregnancy. But many women felt overburdened after delivery by the tasks with their newborns in terms of time and energy.

Some were also happy to be able to return to their old lifestyle without being subjected to medical and social controls. Those women who had received particularly intensive and emotionally supported care sometimes felt abandoned after the birth.

All of them were, indeed, aware of the risk of developing type-2-diabetes. Nevertheless, some tried to suppress these thoughts. At the time, they felt completely healthy and saw the illness more like an inescapable fate.

### Experiences of migrant women with the GDM Illness

Great social and cultural differences between the groups of various nationalities influence the results of the research work. In general, it can be determined that the successful integration of women with a migrant background into their new homelands is decisive for a positive course of the pregnancy.

Women from lower social classes have to battle against a multitude of problems, such as drugs, violence, abuse and financial problems, which push the psychological aspects of GDM therapy more into the background.

Cultural and religious convictions also have a great influence on the acceptance of the illness. For South Asian women, an overweight pregnant woman is a sign of well-being and health. Women from Africa, Latin-American women in the USA or women from the Middle East see GDM as a test imposed by God, which must be accepted, so that their own part in the prevention is more likely to be assessed as fairly low.

Women of Latin American heritage traditionally observe a period of "idleness" after delivery (Spanish: cuarentena; quarantine), during which any movement-oriented measure is already doomed to failure. However, if assimilation of the women into their new home country has occurred, their experiences and the psychological aspects of a pregnancy with GDM scarcely differs from that of women native to the country

Despite the different nationalities, similarities in the experiences can be determined. Frequently, the nutritional recommendations collide with the eating habits in their home countries. Traditionally, women should "eat for two", so that the baby is provided with sufficient nutrients. The same holds for the recommendation for increased movement to lower the blood sugar. Pregnancy is considered to be a time to rest ("cotton wool experience"), so that the baby's development is not disturbed.

### Limitations

Due the inclusion of only qualitative studies with a small number of participants, systematic errors could have occurred. Here, the applicability to a larger population must be questioned. At the same time, different methodical designs were used. Qualitative results are, however, always dependent on the design used, but also on the personal appraisal and assessment by the particular researcher. These weaknesses arise, for one thing, from the qualitative study design. Apart from that, the aggregation of various works on a research question can strengthen this limitation. Moreover, there is a publication bias that does not include unpublished studies in the knowledge gained.

Recommendations for the care of pregnant women with GDM must be individual and critically examined. No study dealt with the care of pregnant women in Germany. Consequently, the country-specific and cultural differences could have influenced the experiences and results.

### Conclusion

All qualitative research – regardless of the different samples and study designs – describe the first two to three weeks after the diagnosis is determined as being experienced as a stressful and frustrating time. With individual and supportive guidance, the self-efficacy if the women can be promoted so that, as a rule, they succeed in accepting the new challenges and putting the therapeutic measures into practice in their daily lives. After the birth, many women suddenly feel that they have been left to their own devices. Depending on their personal risk assessment, they are, indeed, also prepared to maintain their lifestyle changes in the future. However, they wish for more support.

The need to closely support these women through the birth and postpartum has been emphasized with data on 2,477 women, without previous psychological illness or other chronic metabolic illnesses during their pregnancies, that the National Institutes of Health collected in 12 hospitals in the USA. This showed that women with GDM have a four times greater risk of developing post-partum depression.[2]

Accordingly, the German S3-Guidelines (on) GMD recommend that 6-12 weeks after the birth, a screening instrument for depressive mood should be used.[3] However, this actually happens with only 13% of the women affected.[4]

### Consequences for Breastfeeding Counselling of Women with GDM

Based on the research results, there are opportunities to better support women with gestational diabetes in their intention to breastfeed. Unfortunately, it is exactly those women affected with GDM who frequently breastfeed less and for shorter periods. Thus, this should be a starting point for strongly encouraging women to breastfeed and promoting a longer duration of breastfeeding. Hereby, one can not only create a positive experience for mother and baby, but also even preventively reduce the risk of manifest diabetes and obesity in the mother and baby.[5,6] In order to increase the motivation of the women affected, Bandura's concept of promoting self-efficacy has proved successful.[7] Under self-efficacy, Bandura understands the trust in and the belief in one's own ability to master challenges. He differentiates among four possible starting points, which can be optimally used by leaders in self-help breastfeeding groups:

1 **Through successful experiences:** Successful experiences lead, in a natural way, to a strengthening of self-efficacy, particularly when the success is attributed to one's own efforts and abilities. Through successful **prenatal colostrum expression,** the mother with gestational diabetes experiences confirmation, approval, recognition and additional motivation to continue along the path that she has begun. Post-partum, her readiness **to hand express** will be great, so that the beginning of breastfeeding will be easier

2 **Observation of successful model persons:** If the success of other persons, who are important to or similar to themselves, is observed, this also strengthens the self-efficacy. It is not control and regimentation by professionals, but the observation and experience of breastfeeding success of other affected mothers in the breastfeeding support group that can be experienced as motivation. Exchanging information about how others have circumvented breastfeeding problems and what strategies for solutions they have found can dismantle barriers and conveys confidence.

With reference to prenatal colostrum expression, it can also be important to adapt to reality, i.e. even if only tiny amounts of colostrum are produced or the attempt totally fails, the experience is that this has also happened to other mothers, who have gone on to have good milk production and are, meanwhile, successfully breastfeeding, can be an incentive to continue.

3 **Influence of social groups:** Social groups often have influence on self-efficacy. Women in breastfeeding support groups have a common interest, mutually encourage each other as kindred spirits and support each other, even with difficulties. It would be ideal to encourage women with GDM to attend a breastfeeding support group in order to share experiences with other affected mothers and profit from their experience.

4 **Interpretation of emotions and perceptions:** Many people, especially under pressure, interpret physical perceptions (damp hands, trembling, a racing heart) as signs of possible failure. With practice, people can learn to interpret these perceptions in a new way, i.e. as signs of happy excitement. Mothers can be reassured about their understanding of their own bodily perceptions during breastfeeding. They can learn to question whether the breastfeeding position is comfortable, whether they feel at ease. It is important to appreciate this in order to respect and change their perceptions. Creating a comfortable and pleasant atmosphere facilitates physical relaxation. Here, guidance for intuitive breastfeeding in a more comfortable, **leaned-back position,** with contact between the baby's abdomen and that of the mother's, under the influence of oxytocin, conveys positive feelings, which increase the self-efficacy and, thereby, ultimately the breastfeeding success.

Feeling in good hands and emotionally addressed in the setting of a self-help group, led by a trained leader, can be a strengthening resource, especially for pregnant women with GDM, which should be used to promote the health and well-being of the mother and her baby. ›

# Early childhood diabetes is no longer a rare Disease

**Summary of an article by Kathrin Gießelmann (Deutsches Ärzteblatt 2019;116, published on 08.03.2019) by Elke Cramer**

**One in 250-350 children in Europe is affected by early childhood diabetes. Early screening in standard childhood health checks can so good as prevent ketoacidosis, a potentially fatal condition, at initial presentation. In extreme cases, over-acidification of the blood due to a build-up of ketone bodies leads to unconsciousness and cerebral oedema, which can impair memory and cognitive abilities for 6-12 months after the event. Compared to diabetics whose diabetes is recognised and treated at an earlier stage, people who has experienced ketoacidosis will have more long-term problems with diabetes management.**

In Bavaria and Lower Saxony, screening for beta cell autoantibodies is offered free-of-charge for children aged 2-5 taking part in the Fr1da and Fr1dolin studies. On average, doctors diagnosed type 1 diabetes in three of every thousand children. After early diagnosis, parents receive pre-type 1 diabetes training and psychological support, which gives them plenty of time to prepare themselves for their child's chronic condition, unlike parents who are first confronted with the diagnosis in the intensive care unit. Both screening studies have attracted interest in other countries. Doctors from Sweden, Australia and the USA have indicated that they would like to test screening methods based on the German model.

A study on primary prevention of type 1 diabetes in newborns (Freder1k) aims to delay or prevent the onset of diabetes by testing for risk genes and administering oral insulin powder.

## LITERATURE


› [1] J. Scholler-Sachs, R. Möhle, W. Schnepp. Erleben des Gestationsdiabetes. www.diabetologie-online.de/a/erleben-des-gestationsdiabetes-1570798, 13.05.2013, 03.01.2019.

› [2] Hinkle SN et al. A longitudinal study of depression and gestational diabetes in pregnancy and the postpartum prirod. Diabetologia 2016; 59: 2594-2602.

› [3] S3-Leitlinie Gestationsdiabetes mellitus (GDM), Diagnostik, Therapie und Nachsorge. 2. Aufl. AWMF online, www.deutschediabetesgesellschaft.de/fileadmin/Redakteur/Leitlinien/Evidenzbasierte_Leitlinien/2018/057-008l_S3_Gestationsdiabetes-mellitus-GDM-Diagnostik-Therapie-Nachsorge_2018-03.pdf, 03.01.2019.

› [4] H. Adamczewski, D. Weber, G. Faber-Heinemann, L. Heinemann, M. Kaltheuner. Einfluss der Gestationsdiabetes-Leitlinie der DDG auf die Versorgungsrealität: Analysen des Register GestDiab. Wissenschaftliches Institut der niedergelassenen Diabetologen, Düsseldorf. 25.03.2016.

› [5] Hummel S, Ziegler AG: Typ 2 Diabetes. Schützt Stillen? In: Deutsche Hebammenzeitschrift 11, 2013 S.48-50

› [6] Taylor JS et al: A systematic review of literature associating breastfeeding with type 2 diabetes and gestational diabetes. 2005. J AM Coll Nutr.24:320-326

› [7] www.psychomeda.de/lexikon/selbstwirksamkeit.html



**Elke Cramer**
Gynecologist and obstetrician, employed in a gynecological practice in Iserlohn (Germany), International Certified Lactation Consultant (IBCLC)

# Antenatal breast milk expression for women with diabetes in Pregnancy

**Summary of the Australian randomised controlled trial.** Authors: Anita M. Moorhead, Della A. Forster, Lisa H. Amir


Photo: © Anette Mulder

**Women with diabetes during pregnancy make up between 7 and 14 per cent of the pregnant population (diabetes type 1, 2 and gestational diabetes) in Australia. Their infants are at an increased risk of hypoglycaemia and other complications in the neonatal period leading to mother-infant separation. Treatment of the infant in the neonatal intensive care unit (NICU) may include intravenous glucose and infant formula supplementation. Additionally, due to impaired glucose tolerance, women with diabetes may have a 24-hour delay of lactogenesis II (De Bortoli & Amir, 2016). These complications of diabetes lead to elevated risks of early formula supplementation and shorter breastfeeding duration.**

Colostrum is the best choice for supplementation if infant hypoglycaemia occurs. It stabilises infant glucose concentrations more effectively than infant formula milk (Tozier, 2013) and ensures exclusive breast milk feeding for the infant. Antenatal breast milk expression and storage could enable colostrum to be available for supplementary feeding to treat neonatal hypoglycaemia and hopefully keep mother and baby together. However, there have been concerns that breast stimulation during pregnancy could trigger uterine contractions potentially resulting in earlier birth or placental perfusion problems (Soltani & Scott, 2012).

Until recently there has been very little evidence to support the practice of antenatal breast milk expression other than case studies and two pilot studies. Findings from an Australian pilot study with 43 women suggested an increased risk of NICU admissions in infants whose mothers had been advised to express antenatally (Forster et al., 2011), as did the results from a small retrospective UK cohort study of 94 women, of whom 16 expressed antenatally (Soltani & Scott, 2012). The findings from the UK study also suggested that birth occurred one week earlier in pregnancies when women were advised to express (38.1 weeks gestation vs 39.2 weeks, p=0.06).

A Cochrane review from 2014 concluded that there was no high level systematic evidence to inform the safety and efficacy of the antenatal colostrum expression (East et al., 2014).

To establish evidence for antenatal milk expression, the Diabetes and Antenatal Milk Expressing (DAME) trial was conducted in Melbourne, Australia. This was a multicentre (six hospitals), two-group, unblinded randomised controlled study (Forster et al., 2017). In the DAME trial 635 eligible low-risk women with diabetes during pregnancy (93% with Gestational Diabetes Mellitus- GDM) were randomised to hand express twice a day from 36 weeks gestation for no more than 10 minutes (the intervention) or to have usual care which is no expressing during pregnancy (control). Women allocated to the intervention were taught how to hand express and given a diary to document milk volumes and any comments they wished to make about expressing. The milk was frozen and stored at the woman's home, brought to hospital at the time of her birth and stored in a freezer ready for use if required.

Of the women allocated to the intervention group, 14% (44 out of 316) either did not express at all after randomisation or expressed five times or fewer, but a substantial proportion expressed more than 20 times (Table on next page). ›

**Table : Frequency of antenatal breast milk expression by the participants (antenatal expressing group)**

| Frequency of expressing | n = 316 |
|---|---|
| Never expressed | 19 (6 %) |
| 2–5 times | 25 (8 %) |
| 6–19 times | 80 (25 %) |
| ≥ 20 times | 134 (42 %) |
| Expressed, but number of times unknown* | 49 (16 %) |
| Unknown | 9 (3 %) |

* Data from 3 month interview

Reference: Forster et al. 2017

The DAME trial found that the proportion of infants admitted to the NICU did not differ between the groups: 46 infants (15%) of women in the intervention group versus 44 infants (14%) of women in the control group (Adjusted Relative Risk [Adj RR] 1.06; 95% Confidence Interval [CI] 0.66, 1.46).

There was moderate evidence of association between allocation to antenatal expressing and the proportion of infants receiving exclusive breast milk in the first 24 hours of life – 217 infants in the intervention group receiving exclusive breast milk (69%) versus 189 infants (60%) in the control group (Adj. RR 1.15 (95% CI 1.02, 1.28)) and some evidence for an association with receiving exclusive breast milk during the initial hospital stay. There were no differences between the groups in neonatal or birthing outcomes, or mean gestational age at birth. In addition, there was no difference in exclusive breastfeeding at 3 months.

More infants of mothers allocated to antenatal expressing received an extra breastfeed or expressed breast milk for management of hypoglycaemia compared with infants of mothers in standard care, and fewer received infant formula.

Women in the intervention group expressed a median of 20 times (range: minimum 1 time, maximum 59 times) before birth, however the median total volume expressed was 5.5 mL (range: minimum 0 mLs, maximum 905 mLs) which was significantly less than clinicians had expected. In other words, half the women in the expressing group collected a total volume of less than 5.5 mL.

These results suggest there is no harm in advising low-risk women with diabetes in pregnancy to express breastmilk twice a day from 36-weeks´ gestation, in terms of the concerns highlighted in the reported observational studies, i.e. increased risk of admission to NICU or earlier birth.

The results showed some evidence of benefit as measured by the greater proportion of infants receiving breastmilk exclusively in the first 24 hours of life and during the initial hospital stay. These findings may support the practice of antenatal breastmilk expression that seems to contribute to fulfilling World Health Organization's recommendation that all infants be exclusively breastfed.

It should be noted that given most women in the trial expressed low volumes and that some women were not able to express any colostrum at all, women who have not had experience of successful breastfeeding (e.g. primiparas) may be concerned about their ability to produce adequate milk postnatally. Women should be informed about the small amount of colostrum produced during antenatal expression and that their ability to breastfeed will not depend on whether and how much colostrum they were able to express.

The women and infants in the DAME trial were at very low risk of complications in the spectrum of women with diabetes in pregnancy, so further evidence is needed before extending this practice to higher risk women or the general birthing population.

BIBLIOGRAPHY:


- De Bortoli J, Amir LH: Is onset of lactation delayed in women with diabetes in pregnancy? A systematic review. Diabet Med 2016;33(1):17-24
- East CE, Dolan WJ, Forster DA: Antenatal breast milk expression by women with diabetes for improving infant outcomes. Cochrane Database Syst Rev 2014;30: CD010408.
- Forster DA, McEgan K, Ford R, et al.: Diabetes and antenatal milk expressing: a pilot project to inform the development of a randomized controlled trial. Midwifery 2011; 27:209–14.
- Forster DA, Moorhead AM, Jacobs SE, et al: Advising women with diabetes in pregnancy to express breastmilk in late pregnancy (Diabetes and Antenatal Milk Expressing [DAME]): a multicentre, unblinded, randomized controlled trial. Lancet 2017;389:2204–13.
- Soltani H, Scott AM: Antenatal breast expression in women with diabetes: outcomes from a retrospective cohort study. Int Breastfeed J 2012;7:18.
- Tozier PK: Colostrum versus formula supplementation for glucose stabilization in newborns of diabetic mothers. J Matern Fetal Neonatal Med 2013;42:619–28.



**Anita M. Moorhead**
Nurse, Midwife, IBCLC, The Royal Women's Hospital, Melbourne and PhD Candidate, Judith Lumley Centre, La Trobe University, Australia


Photo: © Anita M. Moorhead


**Della A. Forster**
Professor Della A. Forster, DipAppSci, BHealthSci, RM, MMid, PhD, The Royal Women's Hospital, Melbourne and Judith Lumley Centre, La Trobe University, Australia.


Photo: © Della A. Forster


**A/Prof Lisa H. Amir**
Associate Professor Lisa H. Amir, MBBS MMed PhD IBCLC FABM FILCA, Royal Women's Hospital, Melbourne and in private practice and Principal Research Fellow, Judith Lumley Centre, La Trobe University, Australia.


Photo: © Lisa H. Amir

elacta
European
Lactation Consultants
Alliance

www.elacta.eu

Lactation & Breastfeeding

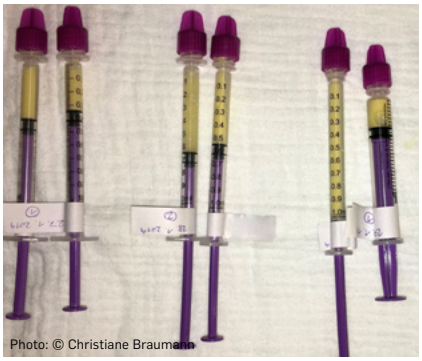
HANDOUT **Lactation & Breastfeeding** **1** • 2019

www.elacta-magazine.eu

# Expressing Colostrum – during pregnancy and after the Birth

**Already in the middle of pregnancy (from about the 16th week of pregnancy), the first mother's milk (colostrum) is synthesized in the mother's breast. In many cases, particularly in women with gestational diabetes as well as diabetes mellitus types I and II, it can be advisable to express small amounts of this valuable substance towards the end of the pregnancy (from the 37th week) in order to store it as a contingency reserve for the initial period after the birth. For other women, it is interesting to become familiar with breast massage and hand expression during the pregnancy, so that they can quickly make available the valuable colostrum if necessary after the birth.**

**In any case, personal instruction by a trained professional is needed for expressing colostrum. This handout should serve only as reminder for you.**




**For catching and storing Colostrum syringes with matching caps prove themselves.**

Countless studies have shown how important exclusive breastfeeding is. Colostrum contains important immune factors, which protect the newborn against infection. It helps to build up a healthy microbiome for the maturation of the intestinal tract. Colostrum has the optimal composition of macro- and micronutrients, has a laxative effect and so helps to excrete the first stringy stool (meconium) and bilirubin (the yellow bile pigment). Above all, colostrum stabilizes the baby's blood sugar level. Fresh colostrum works best. Should this not be available in a timely manner, the stored and deep-frozen supply can be used, thereby avoiding feeding with a breast-milk substitute.

### When does it make sense to lay in a small stock of colostrum?

- For women with gestational diabetes or diabetes mellitus type 1 or 2. The newborns of diabetic mothers have an increased risk of developing hypoglycemia after the birth. Therefore, it is recommended that the baby be given the first feeding within 30 minutes after birth. However, many babies are not yet ready to breastfeed at this point. So, it should be standard to give these newborns expressed fresh or thawed colostrum.
- When cleft lip and palate, heart disease, neurological disease or reduced growth has been diagnosed during the pregnancy.

Apart from these indications, cautionary colostrum expression is more likely counterproductive and is NOT recommended by us.

### When does it make sense to learn about colostrum expression during pregnancy?

- When there is well-founded concern during the pregnancy about the mother producing sufficient milk, i.e. with hormonal or anatomical problems, which could reduce the milk production.
- With multiple births
- When difficulties with milk production have occurred in a previous breastfeeding period.

### When can you begin with expressing colostrum?

- With an **uncomplicated** pregnancy from the 37th week of pregnancy
- With a threatening premature birth, multiple birth or planned Cesarean, first with the start of labor or, at the earliest, two days before the Cesarean
- If you have not expressed colostrum during the pregnancy, you can do this directly in the delivery room

### And off you go!

1 **Discuss** your wish to express colostrum with your midwife, breastfeeding counselor and the maternity hospital and let them show you the technique. Many hospitals have precise instructions or offer their own material on expressing and storing colostrum.


Photo: © Christiane Braumann


Photo: © Christiane Braumann

## 2 Prepare the necessary materials:

Have syringes (1 ml, 2 ml or 5 ml) with matching closing caps or special colostrum holders. Many hospitals make the syringes available. Otherwise you can get them from the pharmacy

› Lay out labels with which you can mark each syringe and each container. In the deep freezer, the syringes should be stored in an appropriate closable container or a zip-lock plastic bag, which is also labelled with name and contents

a. For transport to the hospital, this container or the bag should be placed between two deep freeze packs and, ideally, stored in a small cooler bag for transport. On arrival at the hospital, it should immediately be placed in an appropriate freezer.

**SYRINGES AND CLOSABLE CAPS**
(polypropylene or phthalate-free polyethylene are suitable for freezing), i.e.

› Exadoral® Oral Syringe 1 ml Company B.Braun Melsungen AG, PNZ 10193218
› Exadoral ® Oral Syringe 2 ml Company B.Braun Melsungen AG, PNZ 00148777
› Freka Oral Cap Steril Company Fresenius Kabi Deutschland GmbH, PZN 4653696

## 3 Expressing and collecting the colostrum:

a. One to three times a day, take 10 to 20 minutes time and wash your hands before you express the colostrum.
b. Begin with a relaxing breast massage
c. Place your thumb and index/middle finger across from each other, each one about 2-3 cm from the mammilla (nipple). Slightly lift the breast and move it horizontally in the direction of the rib cage. Thereby, stretch tissue lightly apart with your fingers. Now roll your fingers forward in a kind of "milking process. It's important not to "skid" over the skin. Now, relax your finger and begin the process again.
d. After some repetitions, you can change the position of the fingers (i.e. instead of 12:00 o'clock and 6:00 o'clock, now 9:00 o'clock and 3:00 o'clock).
e. At the beginning you will probably need some practice before the first drops appear. **Should you be unable to express any colostrum, this does not indicate anything about later breastfeeding success.**
f. You can collect the drops of colostrum with a syringe, directly after their appearance on the mammilla (nipple). Afterwards, please close the syringe with the closure cap.
g. Label each syringe or each container with name and date of expression and freeze the expressed colostrum immediately.

Should you feel a painful hardening of the abdominal wall at the same time you are collecting the colostrum or you feel unwell, stop the procedure. unless you are already in the delivery room and birth is imminent..

**Ask for support and let a professional guide you in learning how to hand-express. International Board Certified Lactation Consultants (IBCLC*) and your midwife will certainly be happy to assist you.**

**Recommended Instructional Video**
Video des Global Health Media Project: "How to express breastmilk" at https://globalhealthmedia.org/portfolio-items/how-to-express-breastmilk/?portfolioID=5623

SOURCES:


› AWMF-Leitlinie 024/006 zur **Betreuung Neugeborener diabetischer Mütter.** 2017. www.awmf.org/leitlinien/detail/ll/024-006.html
› Europäisches Institut für Stillen und Laktation, Statement: **Präpartale Kolostrumgewinnung bei Schwangeren mit Diabetes mellitus.** Team und Dozenten des Europäischen Instituts für Stillen und Laktation, Januar 2017. www.stillen-institut.com/media/Praepartale-Kolostrum-Gewinnung-2017.pdf.
› Forster DA, Moorhead AM, Jacobs SE, et al: **Advising women with diabetes in pregnancy to express breastmilk in late pregnancy** (Diabetes and Antenatal Milk Expressing [DAME]): a multicentre, unblinded, randomized controlled trial. Lancet 2017; 389:2204–13.
› Antenatal expression of colostrum www.breastfeeding.asn.au/bfinfo/antenatal-expression-colostrum


IBCLC

International Board Certified Lactation Consultants are the only internationally approved breastfeeding and lactation specialists having a medical background.

The decision to breastfeed or not to breastfeed has short- and long-term impact on the health of child and mother. However, breastfeeding sometimes turns out to be difficult and perhaps professional, competent assistance is needed.

Contact your IBCLC

# Pregnancy and starting breastfeeding with Diabetes

**An abridged version of a research paper from the seminar series for the qualification as a lactation consultant (IBCLC).** Author: Stefanie Panz, IBCLC

Photo: © shutterstock/Noor Haswan Noor Azman

**Diabetes during pregnancy increases the risk for a number of complications and, in particular, the risk of postpartum hypoglycemia in the baby. Because breastfeeding and mother's milk feeding constitute an important preventive measure, especially in the face of maternal diabetes, we must ensure a good start to breastfeeding alongside of sufficient monitoring of blood sugar values. The author described this task in her research paper.**

Women with diabetes (type I, II and gestational diabetes) have an increased risk for birth complications, Cesarean Section and delayed lactogenesis II (Beucher et al., 2010; De Bortoli & Amir, 2016). Furthermore, newborns of diabetic mothers are exposed to the risks of hypoglycemia, macrosomia, birth injuries, premature birth, congenital anomalies, acute respiratory distress syndrome and jaundice (Mitanchez et al., 2014). Due to the possible complications, newborns of diabetic mothers are more frequently transferred to a children's hospital, which makes exclusive breastfeeding difficult. Thus, women with diabetes need good care, not only before the birth, but also during and after the birth.

## Educating pregnant women about the significance of breastfeeding

Breastfeeding is known to have a range of short- and long-term advantages for both the breastfeeding mother and the breastfed baby (Victora et al. 2016). Moreover, for mothers with diabetes and their children, breastfeeding provides relative protection against later diabetes mellitus, especially for women with pre-pregnancy diabetes and their children, since they have an increased risk for a glucose tolerance disorder. Children of diabetic or overweight mothers, born with macrosomia, have an increased risk of becoming obese later in life (AWMF, 2017). Despite education about the existing risks, diabetic women mostly breastfeed for a shorter time than non-diabetic women. Therefore, they must particularly be encouraged to breastfeed and offered good support during breastfeeding. Their frequently more difficult breastfeeding start should be incorporated into the birth management plan (AWMF, 2017).

It is important, therefore, to reach women with (gestational-) diabetes during the pregnancy and inform them about the importance of breastfeeding. This could be offered, for example, during the discussion of a birth plan, so that women with diabetes can be referred to the relevant maternity clinic in the 36th week of pregnancy. Here, the pregnant women could learn ›

about the importance of breastfeeding or, at least, about giving colostrum postpartum, for the goal is that diabetic mothers should breastfeed immediately after birth and for as long as possible. For mothers who are not planning to breastfeed, the information given can be about how useful and important for their babies it is to give colostrum – even if they wean shortly after birth.

### Metabolic state and blood glucose in newborns of diabetic mothers.

As a rule, the newborn is optimally equipped for the changeover from an anabolic metabolic state to a catabolic metabolic state, so that the fall of the insulin level through an increased glucagon level is normal. Before the birth, the metabolic state is anabolic. All of the synthesis processes are aimed at cellular growth and their maintenance (Karall, 2014). Directly after the birth, a metabolic conversion occurs. After the cord is clamped, the insulin and IGF-1 levels fall. The insulin secretion is inhibited through increased release of catecholamines, which simultaneously promote the release of glucagon. The blood sugar value falls in the first two hours postpartum but afterwards, as a rule, it rises again through the lipolysis of the brown fat tissue, the gluconeogenesis and the start of the glycogenolysis. The precondition for energy production is sufficient oxygenation of the brown fat tissue. Decisive factors for inadequate energy supply with natural feeding are, therefore, oxygen insufficiency and cold (von der Ohe, 2018)

In the AWMF guidelines 024/006, "Care of newborns of diabetic mothers" (2017) it is outlined that the median blood glucose concentration can fall to 50–60 mg/dl in the first two hours postpartum.

In 19% of all newborns, the mean blood glucose concentration falls under 45 mg/dl; in 10%, it falls under 40 mg/dl and in 6%, it falls under 35 mg/dl in the first 1-2 hours. After that, the blood glucose concentration continually rises. After 2-3 days, newborns reach the usual value for adults of 80 mg/dl. In the guidelines, it is pointed out that, following an early feeding, blood sugar monitoring should follow after 2-3 hours or, at the latest, before transfer to the maternity unit. Furthermore, hypoglycemic symptoms should be watched for, both in the delivery room and on the maternity unit. A drop in the blood glucose concentration under 30 mg/dl [1.7 mM] should be avoided (AWMF, 2017).

### General Conditions for the Prevention of Hypoglycemia

Various studies have shown that newborns should be supported in maintaining their body temperature in order to avoid hypoglycemia. Whether or not there is a risk, mothers and babies can achieve this directly after the birth with uninterrupted skin contact. That leads to newborns having a low use of energy because their body temperature is kept stable. For hypothermia uses up a lot of sugar, which can lead to a lowering of the blood sugar level. In this way, stress is reduced and the use of energy is lowered so that these babies frequently have a higher blood sugar level than babies who did not have uninterrupted skin-to-skin contact. Furthermore, through the uninterrupted skin contact, the sucking behavior is stimulated and, thereby, the milk production is positively influenced (Review by Wambach & Riordan, 2016, S.230).

When mother and baby are not separated after the birth, but have 24-hour rooming-in, this also has additional positive effects. By doing this, mother and baby can get to know each other and the mother will learn to understand her baby's needs more quickly. All of this will lead to more frequent breastfeeding, which, in turn, prevents hypoglycemia in the first few days (Wambach & Riordan, 2016, S. 230).

For the reasons mentioned above, the AWMF-Guideline Nr. 024/006 recommends early feeding – at the latest 30 minutes postpartum – especially for babies of diabetic mothers, preferably with colostrum. Colostrum is the first measure of choice to maintain a normal blood sugar level. Moreover, it is the physiological and optimal form of feeding and is very important, particularly for babies at risk for hypoglycemia (SWMF, 2017)

Afterwards, the baby should be put to breast and fed every 2-3 hours. Blood sugar monitoring should take place after 2-3 hours and, in any case, before transferring mother and baby out of the delivery room. In the case of signs of hypoglycemia (trembling, apnea, tachypnea, hypotonia, seizures) blood sugar monitoring should, obviously, take place earlier, because this mostly reflects an undersupply of glucose to the brain. If this is not remedied, permanent damage in white and grey matter are described (AWMF, 2017).

For this reason, the Academy of Breastfeeding Medicine (Wight et al. 2014) recommends 10-12 feeds in 24 hours for all newborns who are at risk of hypoglycemia, because, with the cutting of the cord, the glucose supply is immediately cut off. Nevertheless, newborns also have a low insulin secretion threshold, which results from the pregnancy. Due to this, a drop in the blood glucose concentration occurs in the first 2 hours postpartum.

Through taking in nourishment about every 3 hours and the physiological rise in the insulin secretion threshold, the risk of hypoglycemia in vulnerable babies is reduced (Wight et al. 2014).

When diabetes is controlled by diet, it is recommended that blood sugar monitoring in symptomatic children be carried out for 24 hours or with insulin-dependent diabetes 48 hours. With asymptomatic newborns of all diabetic mothers without perinatal acidosis, who have two consecutive blood sugar measurements higher than 35 mg/dl or, with newborns who are symptomatic once, with two blood sugar values higher than 45 mg/dl, blood sugar measurements can be dispensed with. Nevertheless signs of hypoglycemia should be looked for by a member of the nursing staff (AWMF, 2017)

### Expressing Colostrum during Pregnancy

Frequently, babies are not ready to breastfeed within the first 30 minutes or certain obstetrical aspects, such as postpartum complications, prevent early feeding. For these babies at risk, hand expressed colostrum is the first measure of choice. This can already be collected before the birth with an oxytocin massage (von der Ohe, 2018). Freshly expressed colostrum is preferable to that which was collected ahead of time and frozen (von der Ohe, 2018). Sometimes this is not possible, so pregnant women with diabetes – in whatever form – should express colostrum during the

pregnancy. This pre-expressed colostrum is, in any case, preferable to infant formula, because that can cause a sensitization to cow's milk protein and (negatively) influence the intestinal flora. For these reasons, counseling should be aimed at encouraging women to express colostrum by hand, freeze it and bring it along to the birth. The women should carry out this colostrum massage from the 37th+0 week of pregnancy, once or twice a day for 5-10 minutes per breast (von der Ohe, 2018)

Colostrum is already available in the last trimester of the pregnancy and a premature birth due to prenatal colostrum expression is unlikely (Forster et al., 2017). Pregnant women should be informed that oxytocin (the hormone which, among other things, is also responsible for contractions) is released during colostrum massage.

## Conclusion

Summarizing, it can be said that with asymptomatic newborns of diabetic mothers, uninterrupted skin-to-skin contact with intuitive breastfeeding is an excellent protective mechanism against hypoglycemia. Moreover, prenatal expression of colostrum ensures that the newborns take in nourishment within the first 30 minutes after the birth and, thus, have the possibility to find the breast intuitively and have a natural start to breastfeeding.

**Stefanie Panz**
is a midwife in the delivery room of the Ev. Jung-Stilling hospital in Siegen and, since 2018, deputy head of the prenatal and maternity unit. She has been an IBCLC lactation consultant since January 1, 2019.

SOURCES:


- AWMF-Leitlinien-Register Nr. 024: **Betreuung von Neugeborenen diabetischer Mütter.** 2017 www.awmf.org/uploads/tx_szleitlinien/024-006l_S2k_Betreuung_von_Neugeborenen_diabetischer_Muetter_2017-10.pdf besucht am 14.12.2018.
- Beucher G, Viaris de Lesegno B, Dreyfus M. **Maternal outcome of gestational diabetes mellitus.** Diabetes Metab. 2010;36(6 Pt 2):522-37.
- De Bortoli J, Amir LH. **Is onset of lactation delayed in women with diabetes in pregnancy?** A systematic review. Diabet Med. 2016;33(1):17-24.
- Forster DA, Moorhead AM, Jacobs SE, Davis PG, Walker SP, McEgan KM, Opie GF, Donath SM, Gold L, McNamara C, Aylward A, East C, Ford R, Amir LH: **Advising women with diabetes in pregnancy to express breastmilk in late pregnancy (Diabetes and Antenatal Milk Expressing [DAME]): a multicentre, unblinded, randomised controlled trial.** Lancet 2017;389(10085):2204-2213.
- Karall D, von der Ohe G: **Hypoglykämie - Anpassung des Neugeborenen.** Europäisches Institut für Stillen und Laktation. 2014. www.stillen-institut.com/media/Hypoglykaemie-Anpassung-des-Neugeborenen.pdf besucht am 14.1.22018.
- Mitanchez D, Burguet A, Simeoni U. **Infants born to mothers with gestational diabetes mellitus: mild neonatal effects, a long-term threat to global health.** J Pediatr. 2014;164(3):445-50.
- Nationale Stillkommission am Bundesinstitut für Risikobewertung: **Zufütterung von gesunden, gestillten Neugeborenen.** 10. September 2001. https://mobil.bfr.bund.de/cm/343/zufuetterung_von_gesunden_gestillten_saeuglingen.pdf besucht am 1.11.2018.
- Victora CG, Bahl R, Barros AJD, Franca GVA, Horton A, Krasevec J, Murch S, Sankar MJ, Walker N, Rollins NC: **Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect.** Lancet 2016;387:475-490.
- von der Ohe G: **Hypoglykämie bei reifen gestillten Neugeborenen. Betreuung von Neugeborenen diabetischer Mütter. Europäisches Institut für Stillen und Laktation,** 2018. www.stillen-institut.com/media/09-hypoglykaemie-2018.pdf besucht am 14.12.2018.
- Wambach K, Riordan J: **Breastfeeding and Human Lactation.** Jones & Bartlett Learning, 2016, 5. Aufl.
- Wight N, Marinelli KA, Academy of Breastfeeding Medicine: ABM Clinical Protocol #1: **Guidelines for Blood Glucose Monitoring and Treatment of Hypoglycemia in Term and Late-Preterm Neonates,** Revised 2014. www.bfmed.org/assets/DOCUMENTS/PROTOCOLS/1-hypoglycemia-protocol-english.pdf besucht am 14.12.2018.

# Breastfeeding and returning to Work

**When the time comes to return to work - often 10 weeks after delivery when maternity leave usually ends in France - many mothers wonder about breastfeeding: Do they have to wean their baby, to introduce mixed feeding, or is it possible to go on with exclusive breastfeeding?**

Author: Veronique Darmangeat, IBCLC

Photo: © iStock.com/[illegible] Helen

**The most important thing is that mums can choose what they really want, without worrying about the constraints they might face. Then, they can make a choice and adapt to it.**

Laws about maternity leave and about breastfeeding at work vary a lot in different countries. So, the questions are not always put in the same way.

Whatever the mum's choice, it is the transitional period which is difficult, as it requires adaptation by both the mum and the baby. As soon as new habits are established, it becomes much easier.

**The mum may choose to wean her baby totally:** either she manages to wean completely before returning to work, or she starts weaning when she returns to work.

Should she choose to wean before returning to work and her baby is under six months, it is good to plan a progressive number of formula feeds for two or three weeks. It is possible for the mother to introduce a formula feed once a day and wait for her breasts to get used to this new rhythm, without getting engorged, before introducing a second bottle, and so on until she is feeding only formula.

If she wants to start weaning only when she returns to work, she may possibly breastfeed on demand when she is at home and have the caregiver give bottles of formula when she is at work. When she is there, the mum should pay attention to how her breasts feel. If they become too swollen, she should relieve them – by expressing her milk either by hand or with a hand pump – but without total draining, in order not to stimulate them; the goal is just to prevent engorgement. When her breasts are comfortable during working hours, she may begin to introduce a supplement with

formula when she is at home, and continue weaning as described above.

**The mother may also choose mixed feeding.** She may choose breastfeeding on demand when she is with her baby and, when away, the caregiver gives bottles of formula. In this way, she can totally breastfeed on the days when she doesn't work and there is no problem of low milk supply.

Another mother might choose to keep the same rhythm on working days and on days at home. In this case, she must try to maintain at least three nursing sessions in 24 hours. Otherwise she won't be able to produce enough milk (even if, for some mothers, two nursing sessions would be enough).

**The mother may also choose to go on with exclusive breastfeeding.** Either she chooses to keep her baby with her in the workplace (which is the case for some shopkeepers, for instance), or she expresses her milk so that her baby can be fed with breast milk when she is away.

The frequency of the pumping needed to meet the needs of the baby depends on several factors: how long the mother is away, how old the baby is, how much milk the mother's breasts can hold. Between one month and three months, a baby drinks an average of 750 ml breast milk in 24 hours. To get an idea of how much milk to leave, just divide 750 by the approximate number of nursing sessions per 24h. The mother will have to check how much she expresses at each pumping to calculate the number of pumping sessions she needs per day.

When a mum pumps her milk every day, it is important to optimize the pumping technique and equipment. Generally, I suggest to mothers that they practice Jane Morton's combined expression technique (pumping with an electric pump and breast massage and/or subsequent hand expression*) which really increases milk production at each pumping. Some mothers are more comfortable expressing their milk by hand, while others prefer pumping. In this case, they need to have a good electric pump, small and easy to carry. Some can be rented, others can only be purchased. It is important that every woman be able to make the right choice, taking into account how much the pump costs. As breast milk can easily be stored, I propose referring to the length of storage time indicated by the Human Milk Bank Association of North America (HMBNA), so it is not necessary to have a refrigerator in the workplace: a cooler with ice packs will do quite well.

Many mums wonder whether they must store breast milk in the freezer before returning to work. If the baby is nursed every three or four hours, it is possible to build up a supply of milk in the freezer, but it is quite unnecessary to keep more than three liters in the freezer. This would be enough in case of a lack of fresh milk.

If the baby is nursed every hour and a half, it is not possible to build up a supply of stored milk since the baby drinks all the milk available. It is not really a problem and having stored milk is not absolutely necessary. It is possible to give the baby the fresh milk that has been pumped at work the day before. If it happens that you run out of milk, there is still the possibility of giving formula.

Whatever the mother's choice, she needs some guidance in order to deal with the kind of feeding she has chosen. However, in many countries, France included, mothers who breastfeed and return to work are desperately in need of information.

That is why I have written a guidebook for women who breastfeed and return to work, re-published and revised in 2018: *Allaiter et reprendre le travail, Chronique Sociale, 2018. (Breastfeeding and returning to work, Chronique Sociale)* ›

* Morton J, Hall JY, Wong RJ, Thairu L, Benitz WE, Rhine WD: Combining hand techniques with electric pumping increases milk production in mothers of preterm infants. J perinatol 2009;29:757-64.

**Véronique Darmangeat**
Lactation consultant,
certified IBCLC
Founder of the Centre
allaitement Véronique
Darmangeat, Paris, France
www.allaiteraparis.fr

**Interview with Véronique Darmangeat**

**Véronique began as a Leche League Leader when her children were babies and, later on, she wanted to transform this experience into a job. So, she passed the IBLCE exam to become a lactation consultant. She got her certification in 2005. She set up her own practice and created this professional activity in France. At the beginning, she only visited mothers in their homes but then, step by step, she expanded into new activities until she created her breastfeeding center in 2016. She wanted to group together in one place all the professionals needed to solve any breastfeeding problem: lactation consultants, osteopaths, an ENT specialist, a dietician and a psychologist. She also offers training sessions for health professionals. (Mihaela Nita, ELACTA Board member and President of the Romanian Lactation Consultant Association, conducted a short interview with Véronique.**

**How many consultations on returning to work do you have per week?**
It's never the same but, on average, I would say that I see three women a week to help them plan their return to work while still breastfeeding.

**Do you offer consultations for companies?**
Indeed, I created a consulting-firm for companies that want to support breastfeeding employees who return to work after their maternal leave, and there I offered consultations. But today it doesn't work any longer because companies don't want to get involved in breastfeeding, which is a very controversial issue in France.

**What difficulties did you face during the time as an IBCLC?**
I met a number of different problems while developing my activity as a lactation consultant. In France, in 2005, no one knew about this profession and I had to go on and on, explaining it to people and trying to convince them of how useful it was. I also met a lot of health professionals to inform them of my activity so that they could send me women experiencing breastfeeding difficulties.
In France, people are used to having their health expenses refunded by "la Sécurité Sociale" (kind of French National Health Service) and they didn't understand why they couldn't get the money back for my consultations. I also had to get in touch with osteopaths and ENT specialists who knew about breastfeeding difficulties or were prepared to get trained.

In the end, when I created the Breastfeeding Center, I had to come up with a viable economic model, so that I could meet the costs of such a center without depending on subsidies that can be cut at any time. It is an ongoing challenge.

**For IBCLCs who want to specialize in/be better informed about this subject do you offer teaching sessions?**
Yes, I do offer training sessions to IBCLCs twice a month at the Breastfeeding Center, on various subjects, allowing them to update their knowledge about breastfeeding. I also offer training to the IBCLCs who want to set up a private practice to help them to be successful.

**Véronique Darmangeat**
Lactation consultant, certified IBCLC
Founder of the Centre allaitement Véronique Darmangeat, Paris, France
www.allaiteraparis.fr

# LOVE BREASTFEEDING

## Breastfeeding products which inspire

Having a child means a great deal of joy but also a lot of change. To make the day go more easily for mums, Ardo develops well-designed products that ease much of the stress associated with breastfeeding and offer help to mothers experiencing breastfeeding difficulties.

Ardo breastfeeding aids can help mothers to continue breastfeeding for longer. Therefore, Ardo undertakes to adhere to the WHO code, because good breast-feeding guidance in the first few weeks can have an influence on the long-term breastfeeding relationship.

*Happy Mothers for Happy Babies*


SWISS QUALITY

Ardo medical AG - Switzerland - www.ardomedical.com

ARDO

# The challenge of lactation in fasting Mothers

## Or How does **fasting** affect the breastfeeding mother and child?


Photo: © iStock.com/ZouZou1

**Every year I get phone calls, emails, or in person requests for information about fasting in breastfeeding a baby. Breastfeeding mothers wonder, "Will I have enough milk for my baby?" "Will my health be affected?" They wonder how they can be sure to take care of their babies and themselves.**

Fasting during Ramadan is obligatory upon all able-bodied adults. There are, however, a few exceptions. Allah, The Most High says :*((And whosoever is sick or is upon a journey; then the period is made up from other days...))* [Soorah Al-Baqarah: 185]

**Pregnant women and breastfeeding mothers come under the same heading as those who are sick.**

The view of Imam Abu Haneefah (may Allaah have mercy on him) and it is a strong view that all they have to do is make up the missed fasts(Qada) , no matter what the situation, because there is no evidence in the Qur'aan or Sunnah for giving food in this case.

The other Imamis state: If a pregnant woman nearing childbirth or the child of a nursing mother may suffer harm, both of them ought to break their fast and it is not valid for them to continue fasting due to the impermissibility of harm. They concur that both are to perform the qada as well as give fidyah(for each day is one mudd, which amounts to feeding one needy person (miskeen).( wheat, rice, dates or any other staple food) if the harm is feared for the child. But if the harm is feared only for her own person, some among them observe: She is bound to perform qada' but not to give fidyah, others say: She is bound to perform qada' and give fidyah .

There have been a few studies on fasting and breastfeeding (see the references below). Zimmerman et. al. (2009) tested the milk of Israeli women before and after religious fast days and found a number of biochemical changes in the milk associated with fasting 24+ hours.

Studies in the United States by Neville et. al. (1993), Neville & Oliva-Rasbach (1987) and Tigas et. al. (2002) likewise showed no significant decrease in milk supply after a short fast (the women in these studies did drink water during the fast).

**The breastfeeding woman's body appears to make several metabolic adaptations during short-term fasting to ensure that milk production is not affected.**

Rakicioğlu et. al. (2006) studied mothers with babies aged 2-5 months who fasted during Ramadan (no food or fluids between 5:00 am and 7:30 pm). They found that although infant growth and macronutrient content of breastmilk was not affected, levels of several nutrients in breastmilk (zinc, magnesium and potassium) decreased and the nutritional status of the breastfeeding mothers was affected.

Other Studies have shown that complete fasting during the daylight hours (the fast of Ramadan) does not affect Mom's milk supply. However, there is a concern about Mom becoming dehydrated.

If she becomes dehydrated, her supply might decrease. Additionally she may not feel well. Symptoms of dehydration include: feeling very thirsty, passing

dark-colored and strong-smelling urine, feeling weak or faint, or developing a headache or other pain.

**If any of these symptoms are experienced, Mom should take note and rethink her decision to fast.**

It is especially difficult during these hot summer months when days are long. The decrease in milk supply related to dehydration may be a bigger issue for some fasting mothers – some mothers have a hard time getting supply back up (this is often seen in mothers who don't eat or drink due to illness).

When a mother does not drink fluids for a day, baby generally nurses as usual the day of the fast, but often needs to nurse more often the next day or two.

Some mothers had experienced Milk supply shortage in the first six months when baby is exclusively breastfed (not taking any food or drink other than breastmilk); once baby is older and taking other foods, it may be feasible to fast more easily.

However, medical experts were quick to caution that mothers should not fast if they are taking medication, or suffer from serious conditions like uncontrolled migraines, blood pressure problems, mothers who have sugar metabolism problems (diabetes or hypoglycemia).

**So Consultation of both doctor and religious advisor is mandatory if mother feel that you might have health issues that preclude fasting.**

**But What if mother choose to fast?**
if a woman chooses to fast, she should pay attention to what she eats and drinks during the evening hours.

**Prof. Dr. Gihan Fouad**
MD, IBCLC, clinical dietician
National Nutrition Institute/Cairo
Pediatrician, IBCLC
Member of the Board of ELCA
Representation of interests of ILCA
Email: gihan_fouad@yahoo.com
Mob: +201008448444

GLOSSARY

- **Qur 'aan** – Koran
- **Qada** – compensation for missed fasting
- **Sunnah** – traditions, customs, events and practices in the life of the messenger, Muhammad, used as a guide for Muslim life
- **Fidyah** – money donated to compensate (for breaking the fast)
- **Miskeen** – person in need
- **Suhoor** - last meal before sunrise (breakfast)
- **Iftar** - first meal in the evening (fast breaking)
- **Halal** - allowed food

SOURCES


- Fasting According to Five Islamic Schools of Law by 'Allamah Muhammad Jawad Maghniyya
- Advice to pregnant and breastfeeding mothers from Islamweb www.islamweb.net/en
- Rakicioğlu N, Samur G, Topçu A, Topçu AA. The effect of Ramadan on maternal nutrition and composition of breast milk. Pediatr Int. 2006 Jun;48(3):278-83.
- Zimmerman DR, Goldstein L, Lahat E, Braunstein R, Stahi D, Bar-Haim A, Berkovitch M. Effect of a 24+ hour fast on breast milk composition. J Hum Lact. 2009 May;25(2):194-
- Tigas S, Sunehag A, Haymond MW. Metabolic adaptation to feeding and fasting during lactation in humans. J Clin Endocrinol Metab. 2002 Jan;87(1):302-7.

elacta
European
Lactation Consultants
Alliance

www.elacta.eu

Lactation & Breastfeeding

HANDOUT Laktation & Stillen 1 • 2019

www.elacta-magazine.eu

# What about breastfeeding during Ramadan?

**Prof. Dr. Gihan Fouad, Pediatrician, IBCLC,Egypt**

Photo: © iStock.com/Yuri_Arcurs

**With the start of Ramadan every year, Moslem mothers start asking medical professionals a lot of questions ... Will the baby get enough milk? Will his health and mine be affected? How can I take care of my baby and myself during this special time?**

Fasting during Ramadan is obligatory for all able-bodied adults. There are, however, a few exceptions. Allah, the Most High says: "And whosoever is sick or is upon a journey, then the period is made up from other days." Pregnant women and breastfeeding mothers come under the same heading as those who are sick.

The view of Imam Abu Hanifah (may Allah have mercy on him) - and it is a strong view - is that all they have to do is make up the missed fasts(Qada) , no matter what the situation, because there is no evidence in the Quran or Sunnah about giving food in this case. Other Imamis write that: If a pregnant woman nearing childbirth or the child of a nursing mother may suffer harm, both women ought to break their fast. It is not valid for them to continue fasting due to the impermissibility of harm. They concur that both are to perform the qada as well as give fidyah (one mudd, for each day, which amounts to feeding one needy person (miskeen) (wheat, rice, dates or any other staple food) if harm for the child is feared. But if the harm is feared only for her own person, some among them observe: She is bound to perform qada' but not to give fidyah, others say: She is bound to perform qada' *and* give fidyah. To sum up, dear mother if you are tired from fasting you can break your fast and make up the missed fasting again later on and it is better to feed miskeen for every day you missed

Photo: © iStock.com/ LiliGraphie

**Fasting and health:**

Fasting is especially difficult during hot summer months when days are long. There is a concern about Mom becoming dehydrated, so please mothers, if the milk supply decreases or you do not feel well, are very thirsty, passing dark-colored and strong smelling urine, feeling weak or faint, or developing a headache or other pain, and/or if your baby not gaining weight, you should take note and rethink your decision to fast.

Shortage of milk supply may be a bigger problem in the first 6 – 8 months when the baby is exclusively or mainly breastfed. Once a baby or a toddler is older and taking other foods, it may be more feasible to fast.

However, medical experts were quick to caution that mothers should not fast if they are taking medication, or suffer from serious conditions, such as uncontrolled migraines, blood pressure problems or have sugar metabolism problems (diabetes or hypoglycemia).

**If you chose to fast - Recommended Guidelines:**

- **Be sure to drink.** Water is the best drink. Fruit or vegetable juices are also good. Sugary and/or caffeinated drinks should be limited.
- **Do eat a meal in addition to suhoor** (pre-dawn meal) **and iftar** (post-sunset meal). (A fasting mom should be sure not to skip suhoor.)
- **Do eat a late dinner,** hoping to replace what you missed out on during the day.
- **Eat well-balanced meals** when fasting and include plenty of fruits and vegetables.
- For the pre-dawn meal, Mom should **eat a filling meal,** high in fiber and complex carbohydrates
- **Limit your sweets**
- Get enough **rest**, limit afternoon activities, be sure to eat and drink well.
- **Observe your baby** for problems. Once babies get used to a feeding pattern, the mother should avoid upsetting that pattern.

This handout can be downloaded in different languages from our Website **www.elcata-magazine.eu**.

IBCLC

International Board Certified Lactation Consultants are the only internationally approved breastfeeding and lactation specialists having a medical background.

The decision to breastfeed or not to breastfeed has short- and long-term impact on the health of child and mother. However, breastfeeding sometimes turns out to be difficult and perhaps professional, competent assistance is needed.

Contact your IBCLC

# CERPs International

**30 May–2 June 2019** in Bled, Slowenia


Photo: © Annamartha/pixelio.de

**Treat yourself to this unforgettable experience!**

**CERPs international is a very special training offer from ELACTA – the European Lactation Consultants Alliance - for ELACTA members. An opportunity to get to know colleagues from around the world and share knowledge and experiences. Furthermore, the afternoons offer the possibility to get acquainted with the wonderful venue of Bled in the Julian Alps.**

**The participants design the program** – for a contribution from their side, the participant fee is reduced by about € 20.00 (case study) - € 40.00 (workshop or lecture). Experience shows that about 10-12 CERPs can be earned during the training. The plan is to have a room available for German-language lectures and another one for English-language lectures.

**Leisure Time:** In the afternoons, we will enjoy excursions to natural, cultural and culinary sites. The hotel is only 5 minutes away by foot from Lake Bled. Depending on the weather, we are planning different tours: A visit to Bled Castle and to the island of Vintgar Gorge. For all who like to get up early to enjoy peace and unspoiled Nature, there is an unparalleled opportunity to reach the grandiose hills above Lake Bled on forest trails and **admire the unforgettable view of the Lake!** Naturally, we will also sample local treats, among them a slice of the famous Bled Crème Cake and the Slovenian national specialty, potica, a sweet yeast bread with a walnut and date filling. (www.bled.si/en/)

**Cost:**
The participant fee is 150€. Because the number of participants is limited, please register quickly. Attention! The hotel is in great demand!
Your registration is **only valid after paying** the registration fee.

**Rooms and prices:**
www.hotelastoria-bled.com/welcome

**Voices and photo from the last CERPs-International Event in Salzburg:**

**Janette Timmermans (NL):**
*"I know that I speak in the name of all who attended CERPs International when I say that we enjoyed a fantastic and fun time. We laughed with each other and found friends for life."*

**Sandra Gattiker (CH):**
*"CERPs International is worthwhile in every respect – not only for collecting CERPs – I would participate in it again in an instant!"*


Photo: © Andrea Hemmelmayr

# The ELACTA task group Recognition & Communication

**Recognition & Communication** is one of six ELACTA task groups. Its primary objective is to increase recognition of the IBCLC profession in Europe.

Authors: Mihaela Nita, Karin Tiktak and Stefanie Rosin for the task group recognition and communication

**ELACTA surveys have demonstrated considerable interest in the credential on the part of member associations and the need to work together to achieve this objective.**

The Netherlands has created its professional profile for IBCLCs. The ELACTA Board has translated it into English. Thanks to the Dutch Association of Lactation Consultants Nederlandse Vereniging van Lactatiekundigen (NVL) for its help in this important task.

Small changes were introduced to the English version to improve its suitability in a European context before being dispatched as a gift to member associations just before Christmas 2018.

We invite associations to develop their own national profiles on this basis with a view to increasing recognition of the IBCLC profession.

We can strengthen our impact on a European, national and regional level, by joining forces. To this end the task group is focusing on developing a strategy for increasing our profession's visibility.

We want to give the IBCLC a familiar human face among other health professionals, with parents and in the larger society.

Each one of us can be an ambassador for our profession.

# WhatsApp in breastfeeding counselling – practical Tips

Author: Anja Bier, IBCLC

**In spring 2018, when the public began to be aware of the new European General Data Protection Regulation (GDPR), many freelance colleagues wondered how they could find a way to address this issue and ensure appropriate protection of their clients' data and protect themselves from becoming targets for legal disputes.**

A problem area soon emerged: WhatsApp. Was its use at all possible for contacts with clients? If so, to what extent and under what conditions?

Before the new regulation came into force, I had found WhatsApp helpful for aftercare in individual counselling situations and I therefore sought answers to these questions.

Fortunately, I managed to find a solution which was workable for me, and which in my view has a reasonably secure legal footing. To be on the safe side, I contacted a media lawyer and sought her opinion on my planned course of action. In her view, the precautions I have taken are sufficient to ensure compliance with the GDPR. I would therefore like to describe my solution here.

The following problems arise from using WhatsApp for breastfeeding counselling:

1. WhatsApp's Terms of Service expressly state that the normal WhatsApp app is not permitted for non-personal use. Other forms of use, such as commercial use, need to be authorised by WhatsApp. Although WhatsApp has announced on many occasions that it does not check compliance with this requirement, one is still left feeling uncomfortable.

2. If you use WhatsApp, you normally permit the app to access your contacts' phone numbers from your phone's address book. WhatsApp compares these with its internal database and displays those contacts that are registered with WhatsApp. Other contacts who have not registered with WhatsApp also end up in WhatsApp's database, even though they have never granted WhatsApp permission to store their data. This practice has long been strongly criticised, and has led to the first court rulings in the private sector. For this reason, we need to make absolutely sure that we do not add clients' contact information to our phone's address book if this is linked to WhatsApp unless clients expressly give their consent.

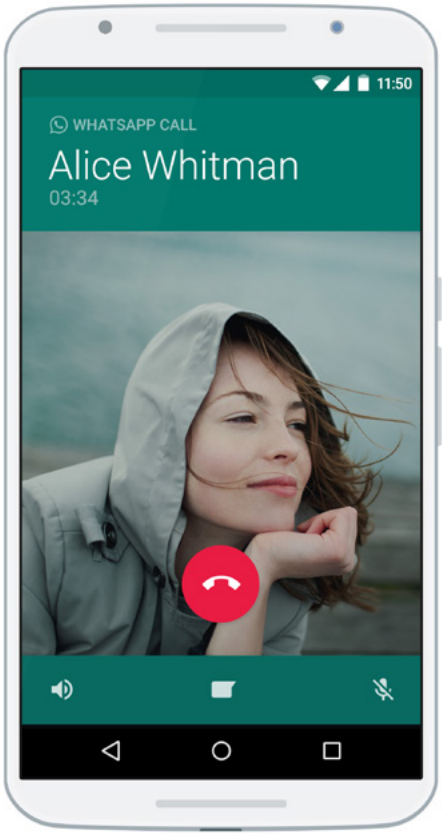



Photo: © Whatsapp

## One option: WhatsApp Business

At the beginning of 2018, WhatsApp launched a new app: WhatsApp Business (so far only available for Android systems). This also free app is designed for commercial use and is aimed at the self-employed: craftspeople or owners of small businesses – i.e. the field in which we normally operate as freelance lactation consultants.

WhatsApp Business can be installed in addition to the "normal" WhatsApp as a second app on the same mobile phone, but it needs to be linked to a separate telephone number. This could be a second SIM card in a dual-SIM phone, but there are simpler solutions: WhatsApp Business accepts landline numbers! This means that you can link your business landline number to your WhatsApp business account – you just enter the number when you install WhatsApp Business and verify your number by selecting "phone me". A computer voice announces the verification code on your landline. Clients can communicate as usual with your WhatsApp Business account – for them there is no change.

This solution resolves the first of the two problems mentioned above (personal use/commercial use). I personally also appreciate being able to separate my private and my professional WhatsApp chats by having two different apps.

This raises the question of how we tackle the second problem. If we allow WhatsApp Business to access our phone's address book, we are not any closer to resolving this issue. Quite the contrary – WhatsApp Business will have fed all our private contacts into its database. I therefore decided on the following procedure:

As a first step, before installing WhatsApp Business, I deleted all contact information for former or current clients from my phone's address book. I then installed WhatsApp Business, linked it to my landline number and I did NOT grant WhatsApp access to my phone's contacts during the initial set up. This means that it is a little less user-friendly (see below for more), but for me this approach is feasible and I can use the app without any problems. Every now and again WhatsApp Business asks whether I would, after all, like to grant access to my phone's contacts, but I deny this every time.

After installing WhatsApp Business, I contacted my current clients by email, text message or phone and asked them to write to me on my WhatsApp Business number

and confirm that they would like to continue communicating with me (which nearly all of them wanted). This makes it clear that they are WhatsApp users who have already agreed to WhatsApp's Terms of Service. These two factors – the fact that my clients actively write to me (thus initiating contact) and the fact that they demonstrate their willingness to use WhatsApp – offer a certain degree of legal protection in the area of user consent.

I have also added an extra tick box to my medical history form that I use for individual counselling in which clients confirm in writing that they agree to aftercare via WhatsApp and that they are aware that WhatsApp thereby gains access to their contact data. This is a second precaution.

It is important that I do not record clients' contact details in my phone's address book (which would be useless anyway, because I deny WhatsApp Business access, and they should not be in my private contact list, because they would end up in the database of my private WhatsApp account). This has the disadvantage that when clients contact me I see only their phone number and profile picture but not their name (in the form that I would normally record in my phone's address book). To prevent myself from getting confused, I have found the following solution:

1. I ask my clients to include their full name and place of residence the first time they contact me on my WhatsApp business account. This way my client's identity appears at the top of each chat.

2. I have created a table in a normal Office app in which I record clients' names and telephone numbers next to each other. If I am stuck, I can look at the table and see who is who and, if necessary, also make notes on the treatment history or the child etc. As this table is another form of electronic data storage, I get my client's written consent to recording their data in this table when I fill out my case history form.

I find this approach works for me, even if it is a bit more complicated than what I used to do in the past. I do not usually have written communication with more than 5-10 clients in one week, and this means that I can also keep track of clients without seeing their names, using their profile picture and the chat record.

### What else does WhatsApp Business have to offer?

Practical features of WhatsApp Business are that I can add information about my business (e.g. website, address of breastfeeding group, etc.) to my profile and limit my availability to certain times of day.

You can set up automated standard answers for welcoming clients, or for out-of-office or vacation notices and you can give clients coloured labels (e.g. "to be contacted" or "member of breastfeeding group").

All the normal WhatsApp functions are available. If I want, I can invite my baby massage course participants to join a WhatsApp group to facilitate sharing within the group. Just as with the private version of WhatsApp, you can switch off the default setting that shows when you were last online, so that clients cannot see whether you last opened the app five minutes ago.

### A few words on using WhatsApp in a professional context

I am aware that, regardless of GDPR, some colleagues are critical of the use of WhatsApp and other messaging services because they see being permanently available as a problem or because photos of bleeding nipples on a smartphone can lead to unpleasant situations in public. Some mothers feel encouraged to ask more and more complex and demanding questions, and supporting a mother this way can be considerably more intense (and time-consuming) than it would be without such apps.

I do not at all advocate using this method if you yourself do not like to work with it. The ability to perceive and defend your limits is an important ability that you should not neglect. For me personally WhatsApp is a practical and satisfactory means of keeping contact with my clients. I prefer communicating in writing to phone calls, and WhatsApp Business is a good platform for me to send regular requests for current weight measurements or ask follow-up questions, as it saves me the trouble of sending an extra email.

### Conclusion

I find WhatsApp Business useful and feel legally more secure with it than with the regular app, even if there is no guarantee that more recent interpretations of the GDPR or future court rulings will not raise new questions. This article does not constitute legal advice and is merely a description of my own personal solution.

**Anja Bier, IBCLC**
works freelance in the Munich area
staff member of the Europäischen Institut für Stillen und Laktation (EISL)
instructor for Germany's "Healthy Start – Young Family Network" (Netzwerk Gesund ins Leben)