

Infant & Young Child Feeding n Nutrition in Perspective

透視嬰幼兒餵哺與營養



 Baby Friendly Hospital Initiative Hong Kong Association

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Partially hydrolysed Infant Formula: a Better Alternative for Babies Who are Not Breastfed?

.....Myths and the Latest Scientific Evidence

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More and more brands of partially hydrolysed formula (pHF) are now available in Hong Kong.

Advertisements claim it gives extra health benefits that cannot be provided by ordinary infant formula.

The claimed health benefits of pHF products include:

- 1. Reducing the risk of allergy:** 「大量臨床研究顯示，使用經過臨床驗證、效果明確的pHF水解蛋白配方奶粉，能使嬰兒的敏感風險（特別是濕疹）降低約42%。因此，國際權威組織建議嬰兒出生後的頭六個月，若因各種原因不能餵哺母乳或者母乳不足時，應儘早使用pHF水解蛋白配方奶粉以降低敏感風險。」
- 2. Reducing the risk of respiratory symptoms due to cow milk allergy:** 「食物很有可能是嬰幼兒最大機會接觸到的致敏原。如果6個月以下的BB有呼吸道症狀如咳嗽、鼻敏感，而媽媽未能以全母乳餵哺.....可考慮用降低牛奶蛋白致敏性的配方奶粉來銜接母乳，相信可以減低嬰幼兒有呼吸道症狀的機會。」
- 3. Easy digestion and absorption:** 「部分水解蛋白配方中的蛋白質被分解為小分子，因而容易被BB尚在發育中的消化系統消化和吸收，更適合BB的倍嫩腸胃。」
- 4. Being a “Comfort milk”:** 「BB容易嘔奶、胃氣脹、硬便便，晚晚扭計瞓唔好？xx 配方奶粉專為BB幼嫩腸胃研發，舒緩腸胃不適。BB食得好、瞓得好！...」

Partially Hydrolysed Formulas available in Hong Kong:

Through a manual search of MIMS and formula milk manufacturers' websites, the following brands of partially hydrolysed whey-based formula are found being marketed locally for infants and young children:

- Aptamil ProExpert HA (Danone)
- Enfamil A+ Gentle Care (Mead Johnson)
- NAN PRO (Nestle)
- Similac Total Comfort (Abbott)
- S26 HA (Wyeth)

For children who cannot be breastfed, is partially hydrolysed formula truly a better alternative? As health professionals, how would you advise parents? We invited **Dr. Alfred Tam** to review and summarise for us the most up-to-date evidence in this subject.

What is Partially Hydrolysed Formula?

Hydrolysed formula is created by breaking proteins in cow's milk into smaller fragments using enzymatic hydrolysis. **Extensively hydrolysed formula (eHF)** contains peptides predominantly less than 3 kilo Dalton (kD) (95-99%), while peptide size in **partially hydrolysed formula(pHF)** are larger, with 5-18% of the peptides larger than 5kD. It is thought that peptides need to be 10-70kD to be allergenic.

What does the latest evidence show? Any controversies? What do the authorities say?

On allergy and eczema prevention

It was thought that reducing exposure to intact cow's milk allergen (protein) will lessen the risk of developing cow's milk allergy, eczema (being one of the common symptoms of cow's milk allergy) and perhaps other allergies that may develop later.

Studies were done mainly for infants with high risks of developing allergy. The German Infant Nutritional Intervention (GINI) study, started in the 1990's and carried on till recently, has been the most widely quoted study that supports that view. The most recent published result showed that cumulative incidence of eczema was consistently lower at 15 years follow up in the pHF and eHF-C (Casein) group compared to cow's milk formula group, but not in the eHF-W (Whey) group, although only the eHF-C group showed a lower prevalence at 15 years(1). However, this study has been criticized for its small sample size and bias in case selection. Another RCT published in 2011 comparing pHF, soy formula and cow's milk did not show any benefits(2).

Two meta-analyses, published in 2013 and 2016, have concluded that the evidence of pHF in preventing eczema and/or allergy development in high risk infants is lacking(3,4). Hence the present state of evidence suggests that **pHF formula does not help prevent eczema or allergy in high risk infants, let alone the general population.** There is **no evidence** that pHF **can prevent respiratory allergy.** Moreover, there is absolutely **no evidence** that pHF **has any role** in the **treatment** of **eczema** or other **symptoms of cow's milk allergy.**

Given the controversies, how would you advise your clients in a consultation?

1. Exclusive breastfeeding for up to 6 months is the most effective allergy prevention for all infants.
2. There is no particular proven effective preventive measure for the general population other than breastfeeding.
3. For high risk infants who cannot be breastfed, the evidence for partially hydrolysed formula is weak and inconsistent, and recommendation is not very clear at the moment.
4. Partially hydrolysed formula has no role in the treatment of cow's milk allergy.

On easy digestion, gas, night crying, infant colic, and related symptoms

Infants presenting with these symptoms may have functional gastrointestinal disorders, which are common occurrences but the pathogenesis remains unclear. Many modern formulas are manufactured using partially hydrolysed cow milk protein in combination with an array of other additives such as prebiotics, probiotics, etc. While there has not been any randomized controlled trial comparing pHF with other formulas or breastfeeding in managing these functional disorders, limited evidence exists for some of the other additives. These formulas are often marketed as “Comfort Milks”.

In future issues, we shall explore the other additives and their claimed benefits.

Watch this space!

部分水解蛋白配方奶粉(pHF)真的如廣告聲稱可以降低嬰兒的敏感風險嗎？

經學術文獻的搜證，香港兒童呼吸及過敏學會前會長、兒科專科醫生譚一翔有以下建議：

- 對於所有嬰兒：在首6個月以全母乳餵哺是預防敏感的最有效方法。
- 對於沒有敏感病家族史的嬰兒：除以全母乳餵哺外，別無其他有效的預防敏感方法。
- 對於高危一族（有敏感病家族史的嬰兒）：飲用部分水解蛋白配方奶粉以降低敏感風險的科研證據十分薄弱而不一致。若不餵母乳，現時未有明確的建議可減低敏感風險。
- 若嬰兒已被確診對牛奶敏感，飲用部分水解蛋白配方奶粉並不能用作治療方案。

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If you wish to know more about infant and toddler formula milk, here is a good reference:

Infant milks in the UK: A practical guide for health professionals (2017, First Steps Nutrition Trust) Link:

http://www.firststepsnutrition.org/newpages/infants/infant_feeding_infant_milks_UK.html

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