

Allergy Risk in Infants and Young Children Survey Results Press Conference

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“Allergy Risk in Infants and Young Children” Survey Results Part 1

Dr. Marco Ho

**Chairman of The Hong Kong Allergy Association and
Council Member of Hong Kong Institute of Allergy**

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Allergy can be serious



Atopic Dermatitis



Allergic Nettle-Rash



Asthma



Allergic Rhinitis



Food Allergy



Conjunctivitis

Global Allergy Trend

- **40-50%** school-aged children are affected by one or more than one form of allergy¹
- In 2012, **41 million** children had food allergies ; **88 million** children had skin allergies²
- **400 million** people are affected by allergic rhinitis and **300 million** people are affected by asthma globally³
- The WHO estimated that **400 million** people in the world will suffer from asthma by 2025³



Globally...

1 in 3 children under 18 years old has allergy



Alarming!!!

Hong Kong Allergy Association

- Founded in 2008
- Organized by patients with allergy, their care givers and medical professionals
- Raise the public **awareness of allergy** through education and provide support to those with allergy
- **Issued report in 2015 about the insufficient services and trainings on allergy in Hong Kong**



Hong Kong Institute of Allergy

- Founded in 1996
- Organized by a group of Allergists, Respiriologists, Paediatricians and Dermatologists
- Share the most up-to-date **knowledge on the management of allergic diseases** to the medical community in Hong Kong
- Increase the **awareness of allergic diseases** among medical professionals and the public



Common allergies in infants and young children

- Allergy is an **excessive or inappropriate reaction** of the immune system in response to **harmless substances**.



**Eczema, Itchiness, Rash,
Oedema, Dry skin**



**Wheeze, Asthma,
Cough,
Allergic Rhinitis**

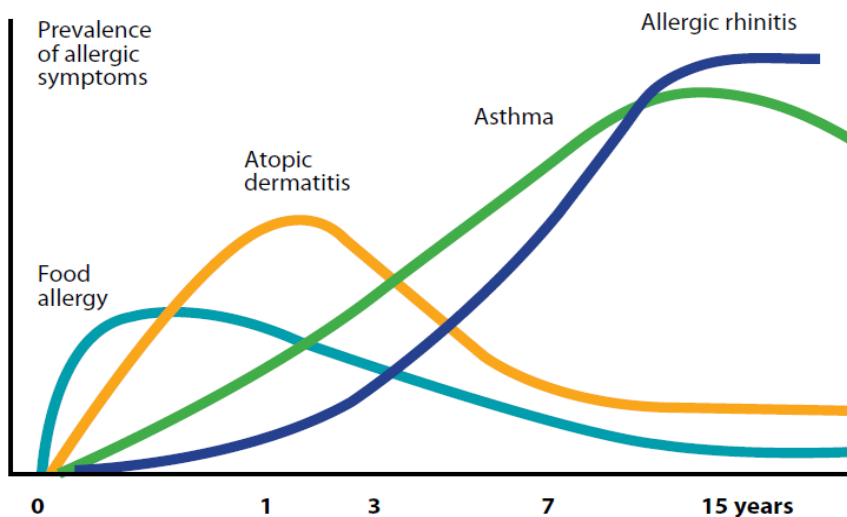


**Food Allergy
Vomiting, Diarrhea,
Constipation,
Abdominal pain**

Infant-onset allergy will trigger other allergic diseases later in life¹

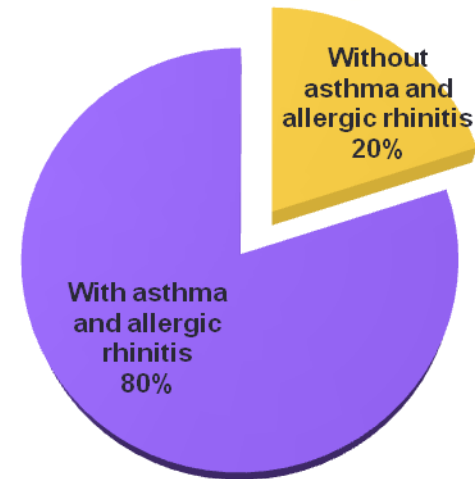
Infant-onset allergy would increase the risk of having other allergies diseases in later life

Typical evolution of allergic disease



Adapted from Holgate S, Church MK. eds. Allergy, London: Gower Medical Publishing, 1993

80% children with infant-eczema may develop asthma and allergic rhinitis when grow up²



The Risk of having asthma and allergic rhinitis of the infants with eczema

Risk factors of allergy

- Family History^{1,2}



- Immature immune system³
- The risk of allergy is **4 times** higher in infants fed with **intact cow's milk protein** than breast-fed infants in the first week of life.^{4,5}

1. Hong Kong Institute of Allergy. What is Allergy? 2015. <http://allergy.org.hk/allergy.html>
2. FOOD ALLERGY BOOKLET – What Every Parents Needs to Know About. The Malaysian Society of Allergy and Immunology.
3. Kelesch M. Toxicol Lett 2006; 162:43-8.
4. Roduit C, et al. Asthma at 8 years of age in children born by caesarean section. Thorax 2009; 64: 107-113
5. Marini et al Acta Paediatrica 1996, 414:1-22.

Common allergens in infants and young children



Cow's Milk Protein



Egg White

Other Common Allergens



Peanut



Pollen Grain



Dust Mites



Seafood

“Allergy Risks in Infants and Young Children”

Survey Result Part 1 :

- Overview of Allergy Among Respondents and Their Children
- Respondents' Understanding of Allergy

Background

Theme :	Allergy Risks in Infants and Young Children
Agency :	The University of Hong Kong Public Opinion Programme (HKUPOP)
Target Respondents:	Age 18 or above (Cantonese-speaking mothers in Hong Kong who has at least one kid at age 3 or below)
Research Duration:	16 th February, 2015 – 26 th March, 2015
Valid Sample:	511
Research method:	Random telephone survey conducted by interviewers
Response Rate:	65.3% (Calculated based on the number of target respondents called)



The University of Hong Kong
Public Opinion Programme
香港大學民意研究計劃

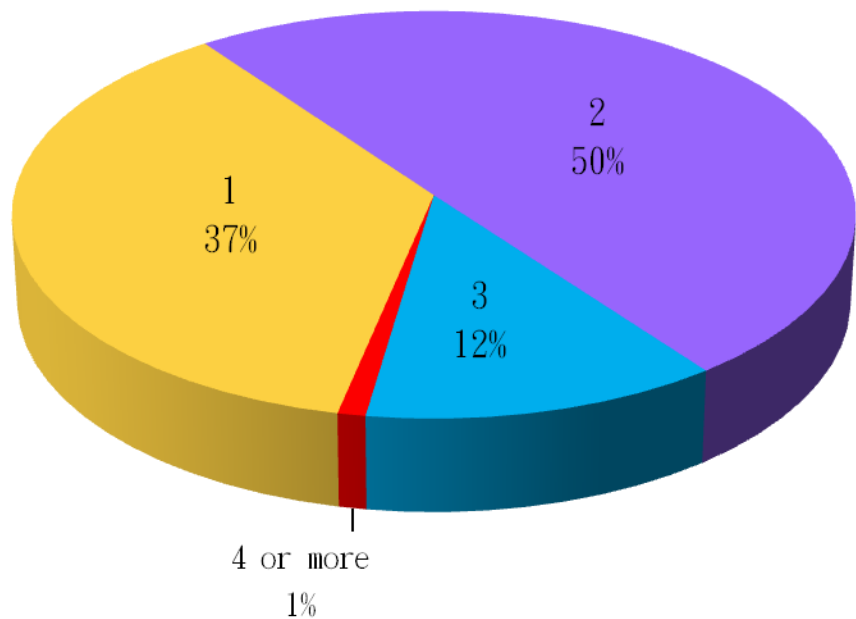
Aim

- To investigate the general situation of allergy in Hong Kong and among the children of the respondents
- To explore respondents' understanding on allergy, allergy prevention and the proper treatment of allergy



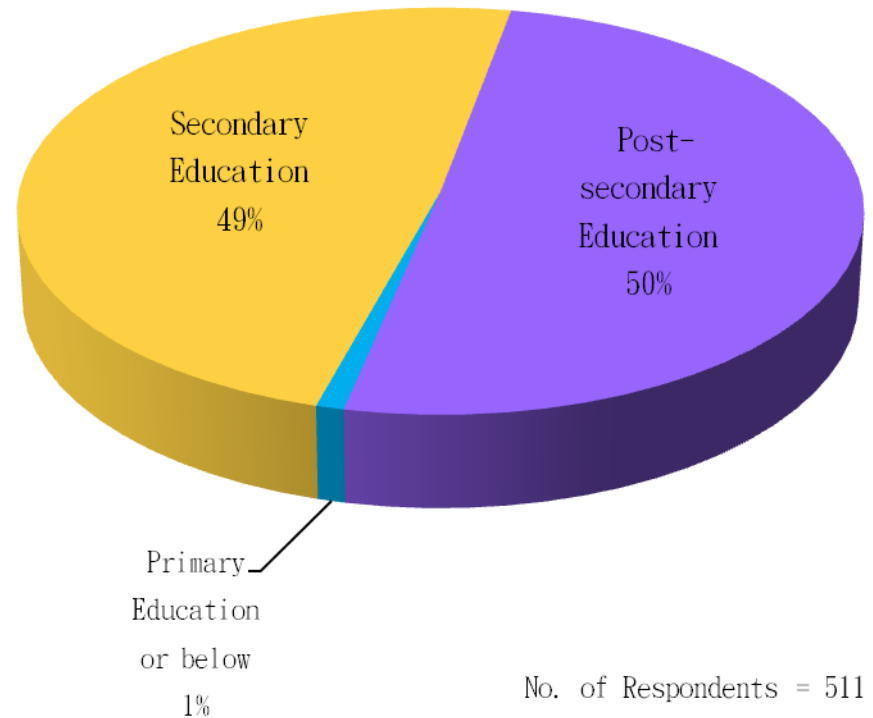
Demographic Data

No. of children



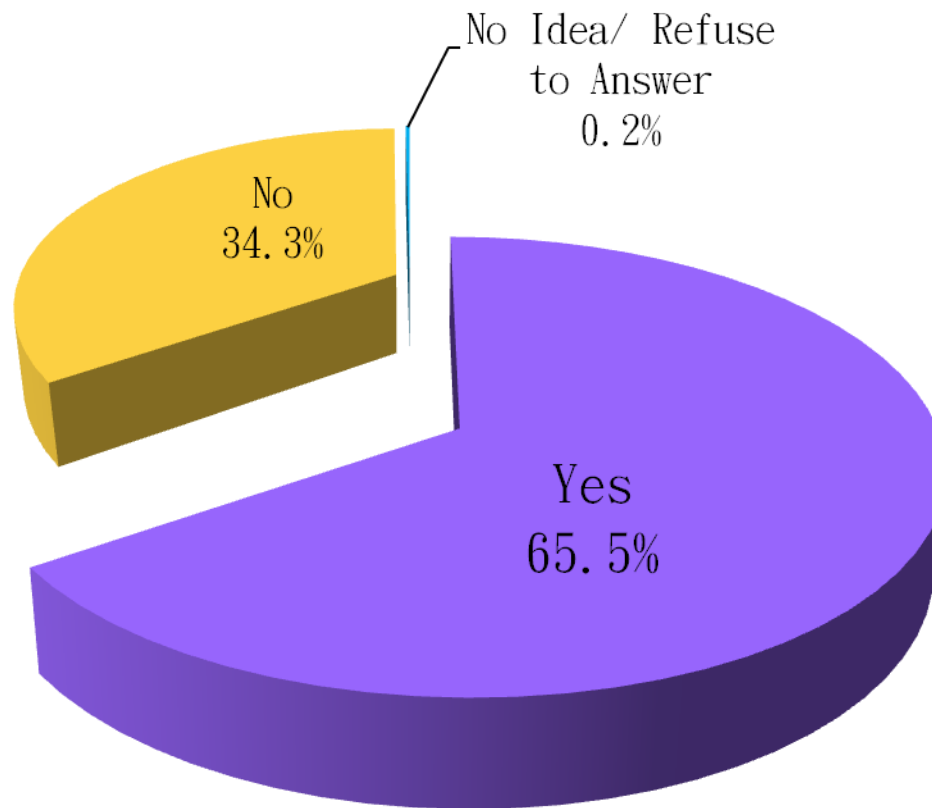
No. of Respondents = 511

Education Level



No. of Respondents = 511

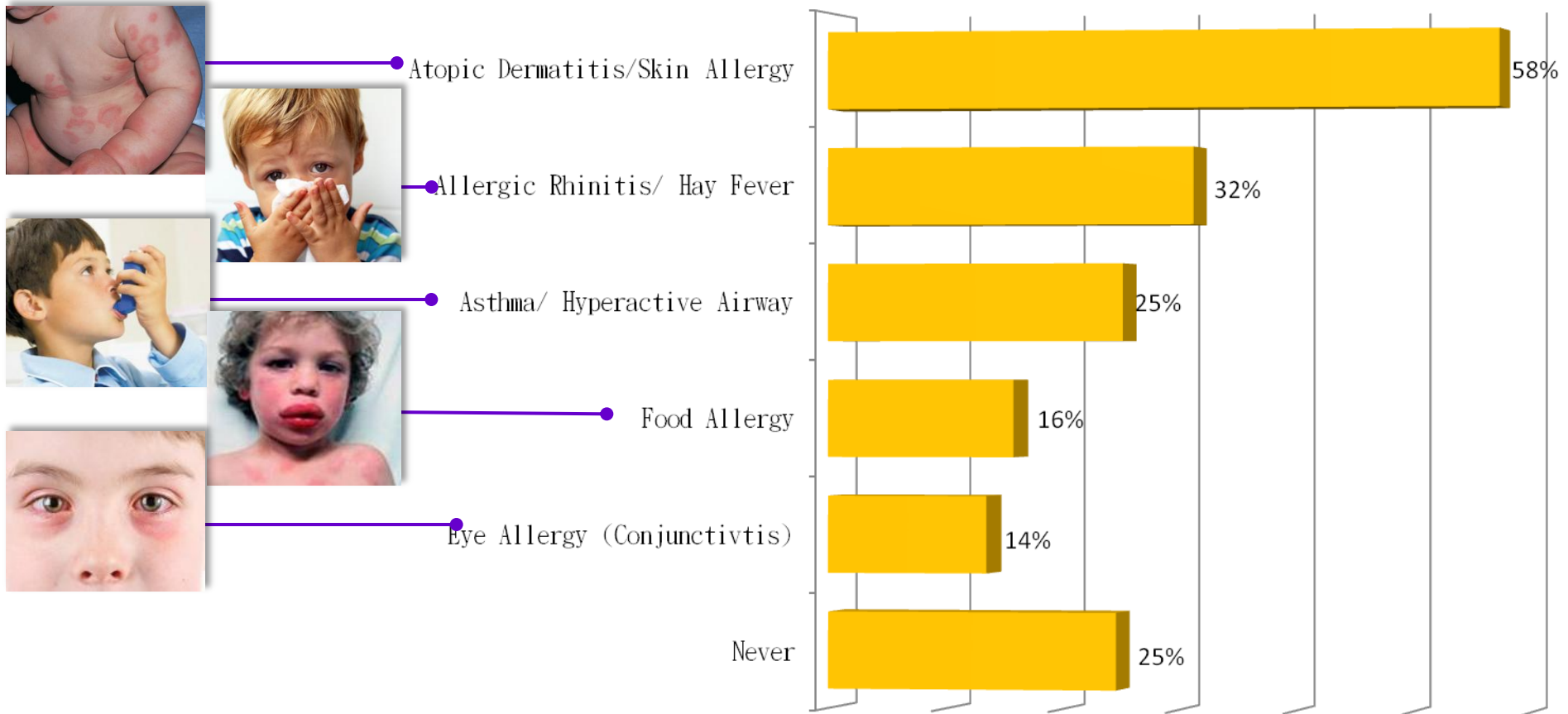
Over 65% of the respondents and their spouse or first-degree relatives have allergy



[Q11] Do you, your spouse or first-degree relatives (such as parents and siblings) have history of allergy (such as eczema / sensitive skin, food allergy, allergic rhinitis, asthma, conjunctivitis, etc.)?

No. of Respondents = 511

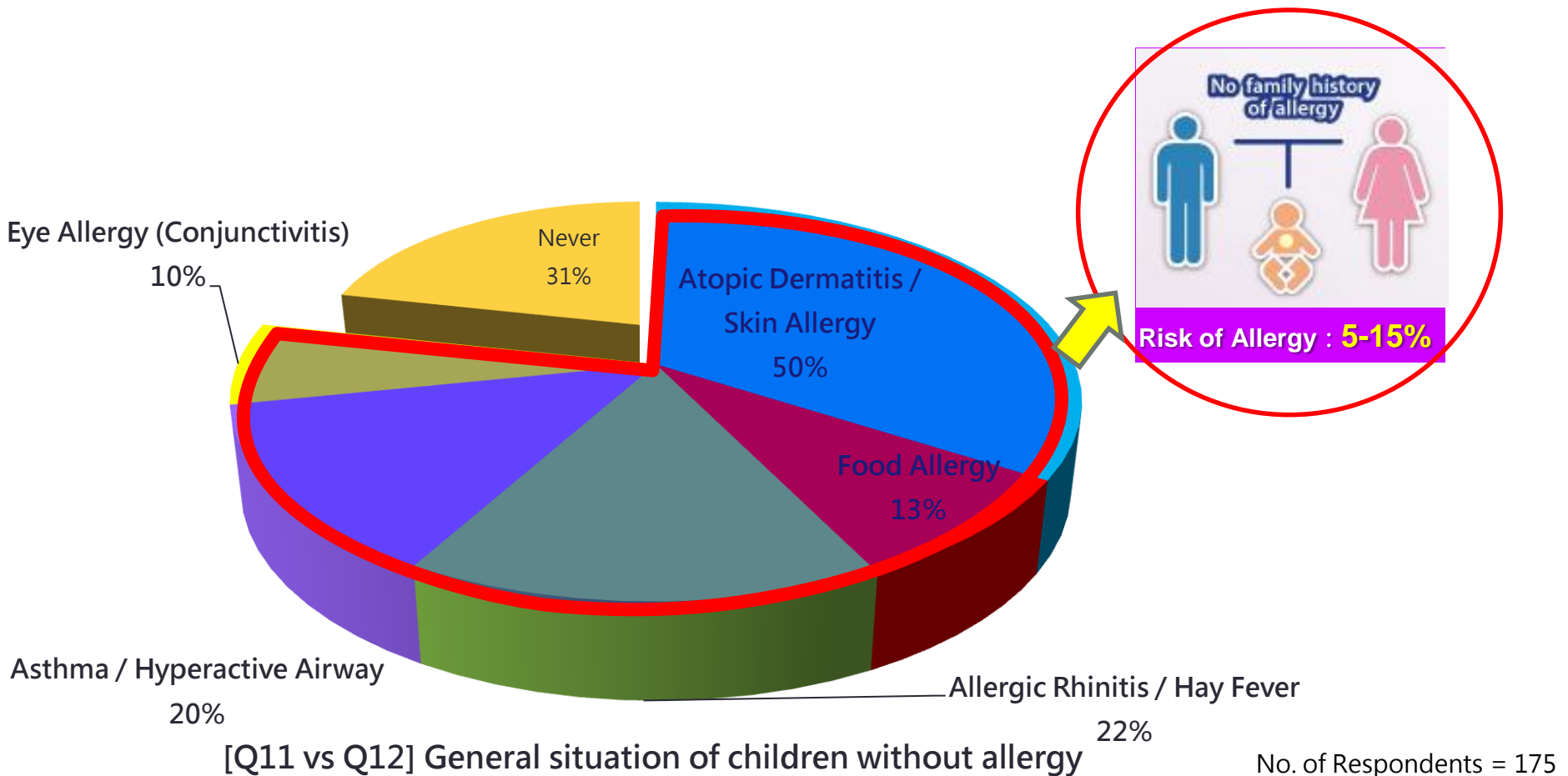
75% of the respondents' children have allergy



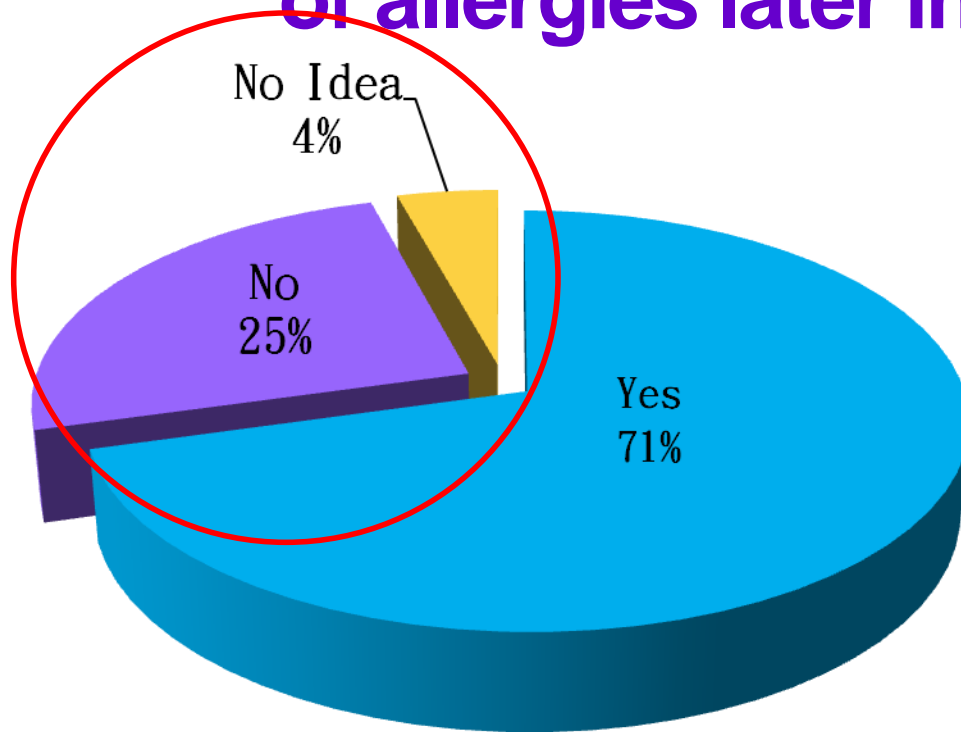
[Q12] Do / did your child have the following symptoms of allergy? (multiple answers allowed)

No. of Respondents = 511

69% children without family history of allergy had allergy!!



29% of the respondents did not know that infant-onset allergy would trigger other forms of allergies later in life

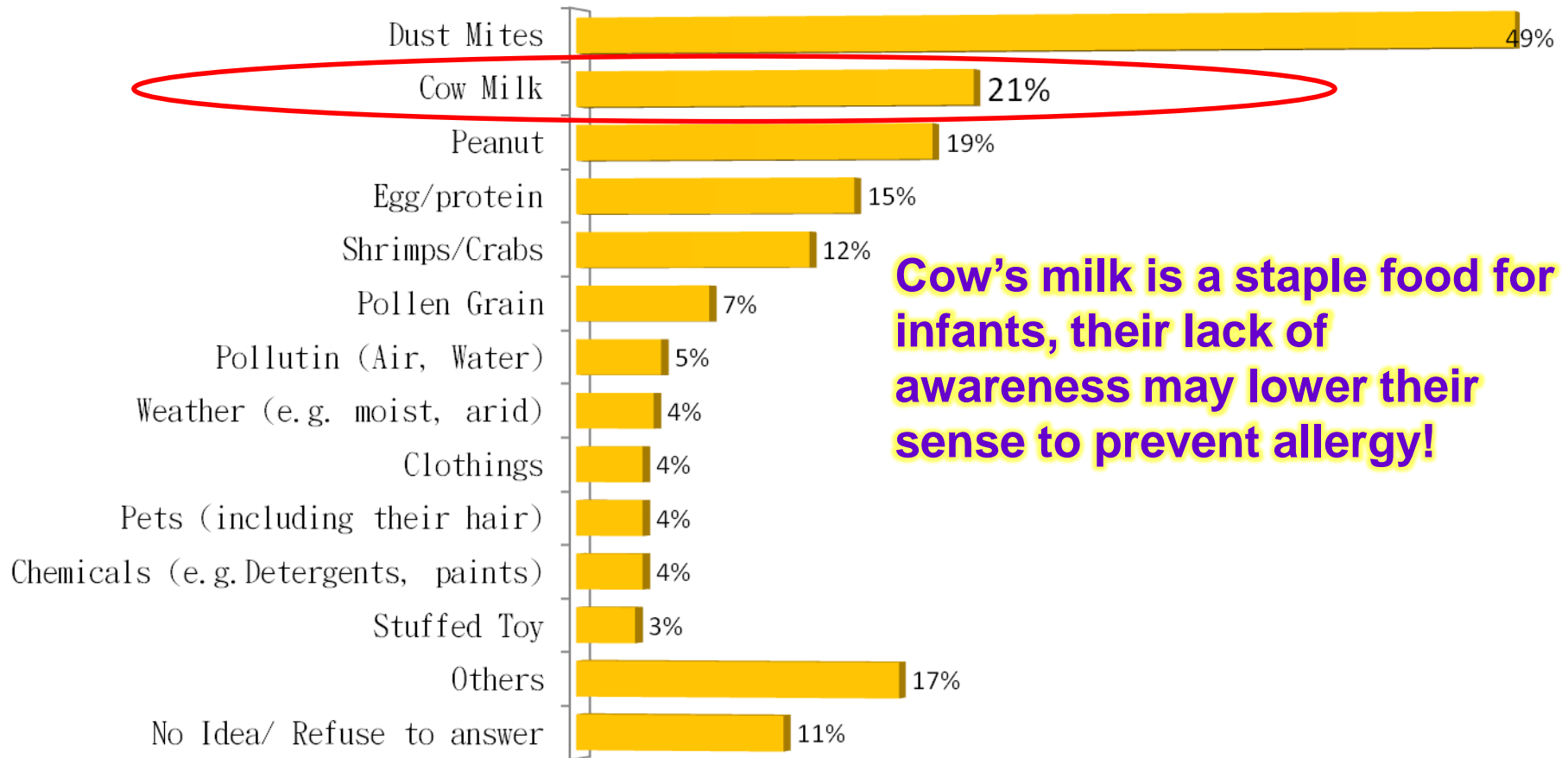


Prevention measures can be applied early if parents knew more about allergy prevention!

[Q3] If a newborn baby has symptoms of allergy, do you think they will be more likely to develop other types of allergy when they grow up, such as allergic rhinitis and asthma?

No. of Respondents = 511

Only 21% of the respondents know that cow's milk is the most common allergen for infants



[Q4] Can you name the most two common types of infant allergens??

No. of Respondents = 511

Most of the respondents know allergy has long-term physical and emotional impact on their children



Sleeping quality: 7.5

Physical health: 7.2



Quality of life: 6.8

Psychological & emotional health: 6.7



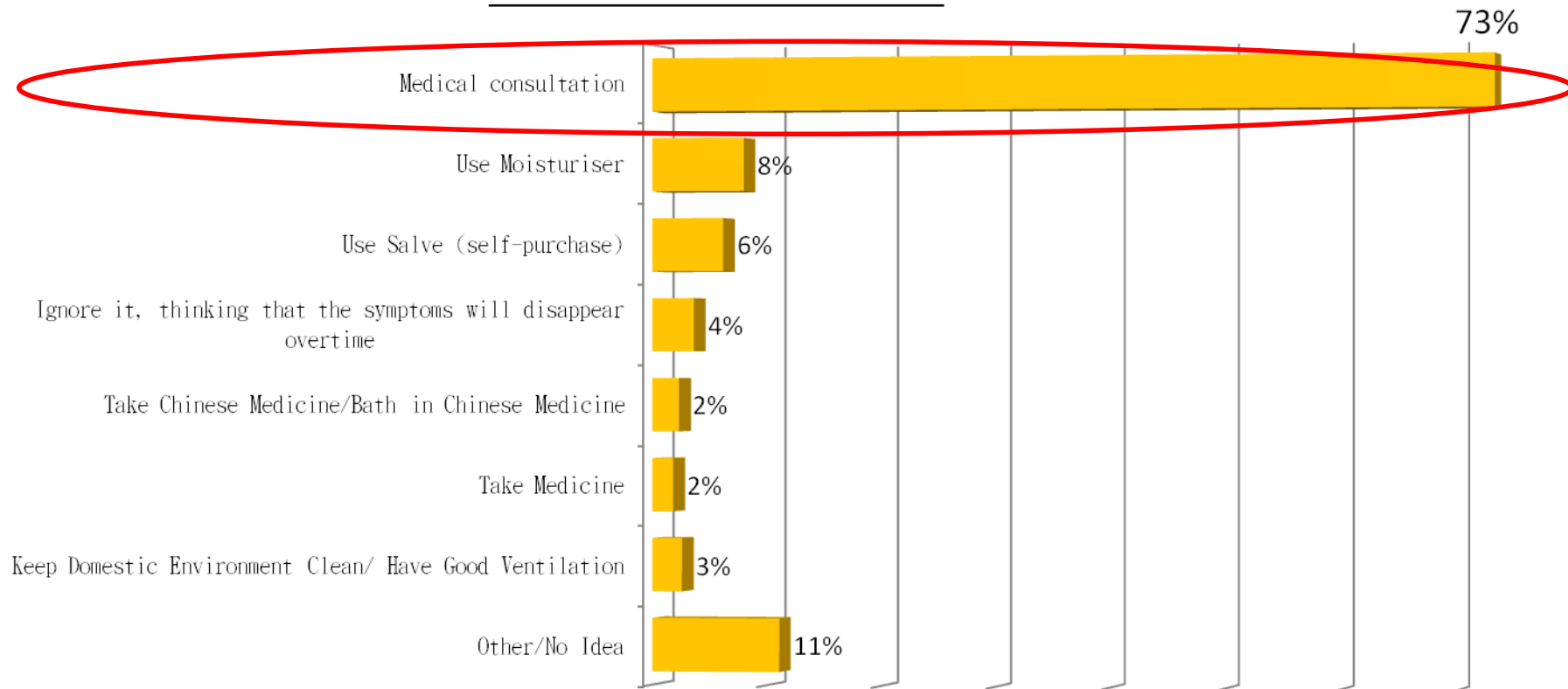
Self confidence & sociability: 6

[Q9] If your child has the symptoms of allergy, such as eczema, asthma, and allergic rhinitis, how serious do you think the influence caused by these allergy symptoms to children would be in the following aspects (Quality of sleep, Physical health, Quality of life, Psychological & emotional health, Self confidence & sociability)? Please rate on a scale of 0-10, with 0 meaning no influence at all, 5 meaning half-half and 10 meaning very serious.

No. of Respondents = 511

73% of the respondents would consult medical professionals

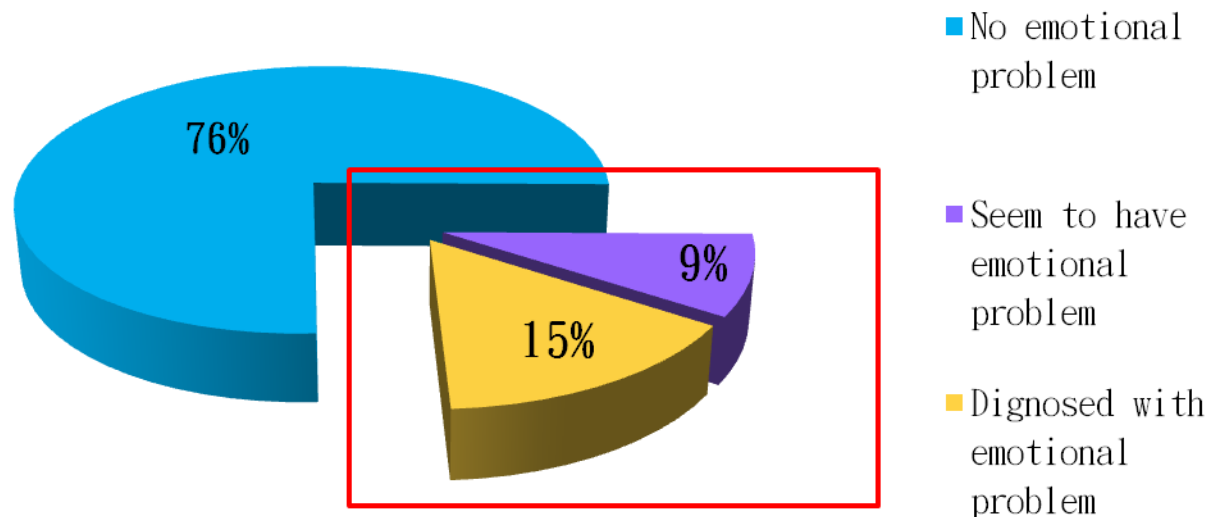
Ways to handle allergy



[Q13] When your child has / had the above symptoms of allergy, will you seek advice from health care professionals immediately? If no, what would you do? (multiple answers allowed)

No. of Respondents = 511

Infants with eczema are at increased risk for emotional problems at the age of 10¹



- 24% of infants with eczema have developed emotional problems like low self-esteem, anger and frustration. This may affect their relationships with parents and friends¹
- Allergy can lead to behavioral problems that may impact daily activities, social life, personal relationships, study and work^{2,3}

Summary

- $\frac{3}{4}$ children of the survey respondents had allergy
- 34% of the respondents , their spouse or their first-degree relatives had no family history of allergy, but 69% children of their children had allergy, implying allergy is common among those with no family history of allergy
- Most respondents knew that allergy could affect both physical and mental growth of their children
- Only 21% of the respondents know that cow's milk protein is the most common allergen for infants, this may have affected their sense of allergy prevention
- 29% of the respondents did not know infant-onset allergy may trigger other allergies later in life

Conclusion and Recommendations

Conclusion :

Allergy is very common among the children of the respondents. Allergy greatly affected the physical and mental health of both parents and children.

Recommendation :

Allergy may affect the long-term growth of infants, so it is necessary to adopt a correct view of the issue and start prevention early to reduce the risks and severity of allergy.

“Allergy Risks in Infants and Young Children” Survey Part 2

Dr. Alfred Tam

**Honorary Advisor of
The Hong Kong Allergy Association**

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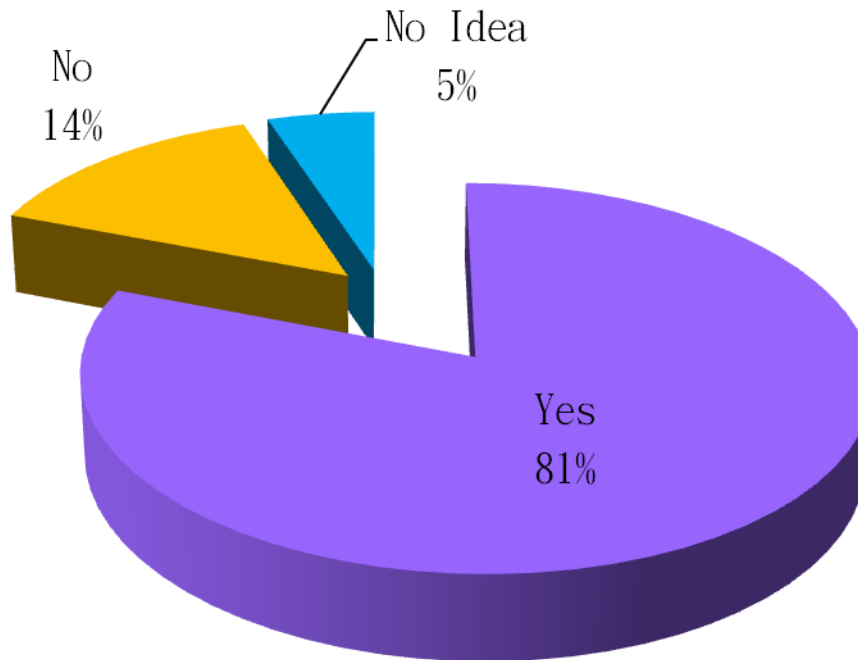


“Allergy Risks in Infants and Young Children”

Survey Result Part 2 :

- Respondents knowledge and usual way to prevent allergy

81% of the respondents believed infant allergy is preventable

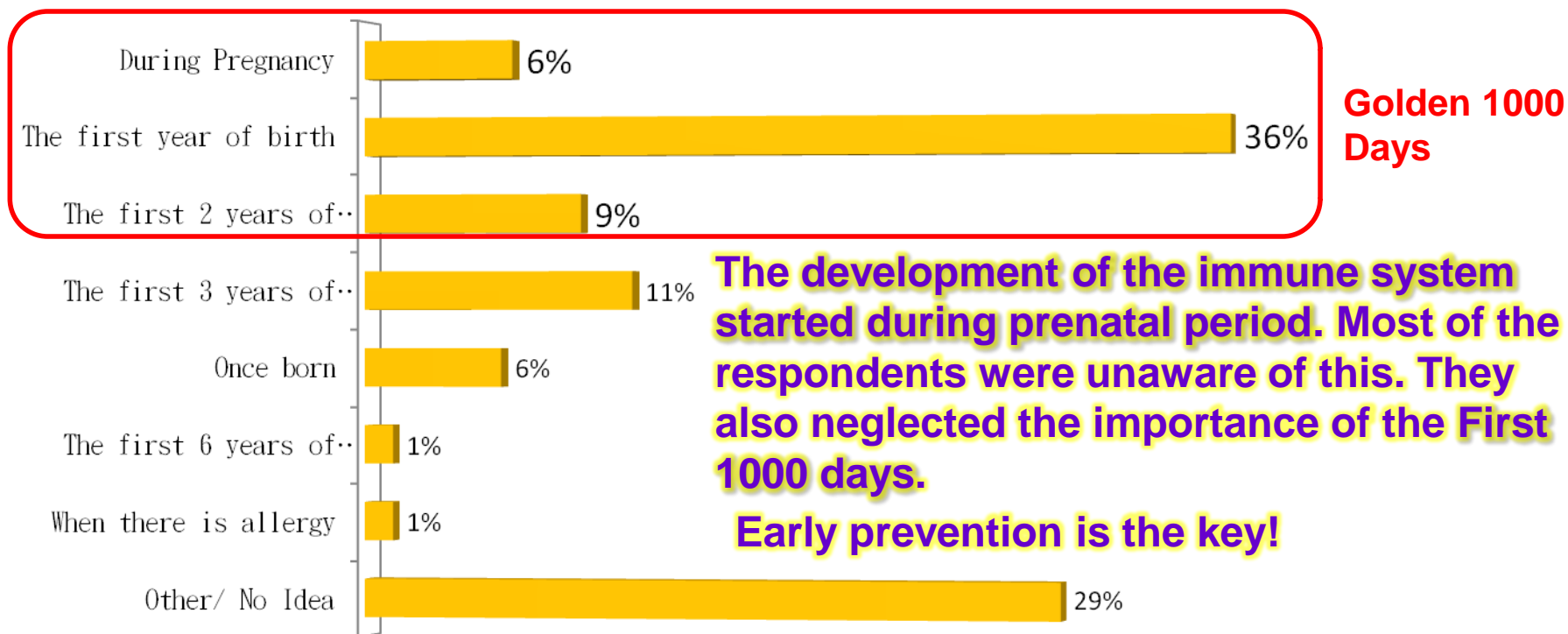


Although most of the respondents think that the risk of allergy can be reduced, $\frac{3}{4}$ children of the respondents had allergy, implying that there is room for improvement in their prevention mindset.

[Q6] Do you think there is any method(s) to reduce infant allergy?

No. of Respondents = 511

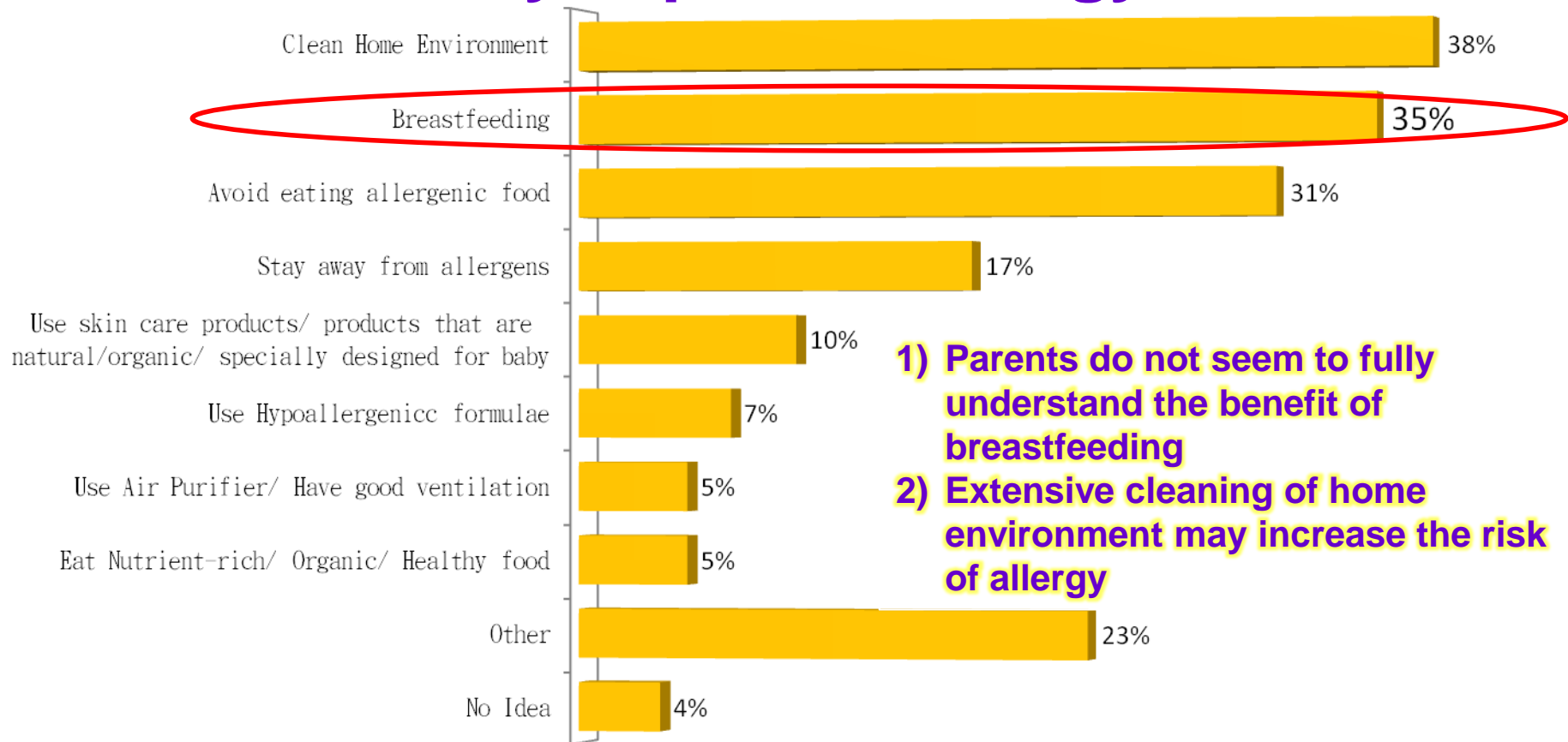
36% of the respondents believed that the critical period for prevention is the first year of life



[Q8] (For those who think the risk of infant allergy can be reduced)
When do you think is the best timing to reduce the risk of infant allergy? (multiple answers allowed)

No. of Respondents = 511

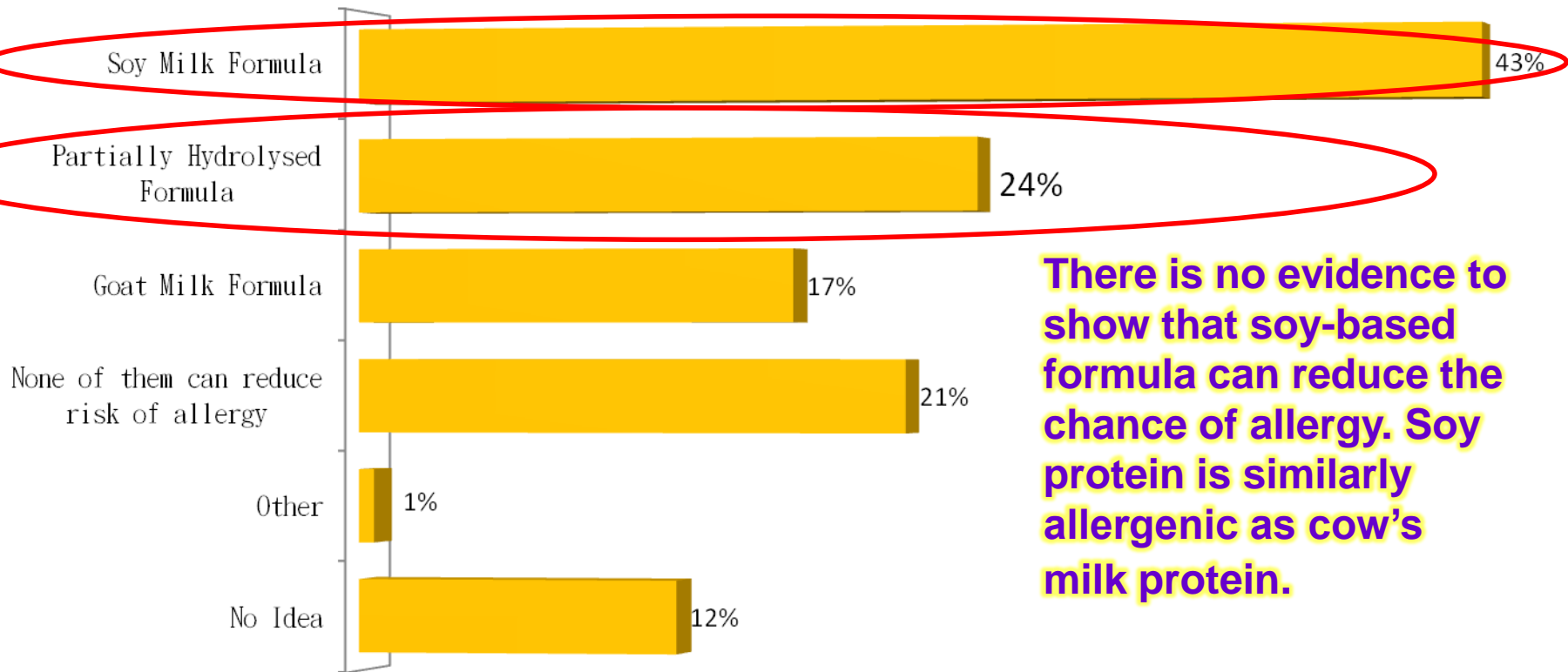
Only 35% knew breast-feeding is the best way to prevent allergy



[Q7] According to what you know, how the risk of infant allergy can be reduced?(multiple answers allowed)

No. of Respondents = 511

43% of the respondents misunderstood that soy based formula can reduce the risk of allergy



There is no evidence to show that soy-based formula can reduce the chance of allergy. Soy protein is similarly allergenic as cow's milk protein.

[Q14] Breast-feeding is regarded as the best choice for feeding babies. But if you cannot breast-feed because of various reasons, which of the following formula milk products do you think can help reduce the chance of infant allergy, or no such product at all? [multiple answers allowed]

No. of Respondents = 511

Summary

- Although 81% of the respondents believed that the risk of allergy can be reduced, 75% children of the respondents still had allergy symptoms. This suggested there is **room to improve their awareness on prevention**.
- Only 35% knew breastfeeding is the best method to prevent allergy and only 1% identified quitting smoking/ avoiding second-hand smoke can help. This shows that the **awareness of allergy prevention was weak** and the benefit of breastfeeding was not fully understood.
- Most of the respondents did not know that the first 1000 days starting from conception till the second year of birth, which is the critical period for the development of the immune system', is the prime time for allergy prevention.
- 43% of the respondents misunderstood that soy-based formula can reduce the risk of allergy. Only 24% knew that **partially hydrolyzed formula can reduce the risk of allergy**.

The Golden period for Allergy Prevention

**The First
1000 Days**



**The 270 days during pregnancy
until 2 years of age**

1000 Days

The development of immune system starting in the embryo and during infancy stage is critical for immune development and maintenance

Risk of Allergy is Everywhere

- **Infant experienced caesarean delivery had a higher risk of developing allergy than those were delivered via vaginal¹**
Asthma risk 1.8 times higher²
Allergic rhinitis risk 1.23 times higher³
- **Risk of infant allergy is higher if the mother was exposed to second-hand smoke³**
Allergy risk 3.6 times higher⁴
- **Air pollution could increase the risk of allergy⁵**
Allergy risk 1.4 times higher⁶



1. Salam M et al. Ann Epidemiol 2006; 16:341-6
2. Roduit C, Scholtens S, de Jongste JC, Wija AH, Gerritsen J, Postma DS, Brunekreef B, Hoekstra Mom Aalberse R, Smit HA. Asthma at 8 years of age in children born by caesarean section. Thorax 2009; 64: 107-13
3. Bager P, Wohlfahrt J, Westergaard. Caesarean delivery and risk of atopy allergic disease: meta-analyses. Clin Exp Allergy 2008; 38(4): 634-42
4. Akuete K. et al. Pediatrics 2011; 128:e623-e630.
5. Marini et al Acta Paediatrica 1996, 414:1-22.
6. Balz et. al. BMC Pregnancy and Childbirth 2011, 11:87.

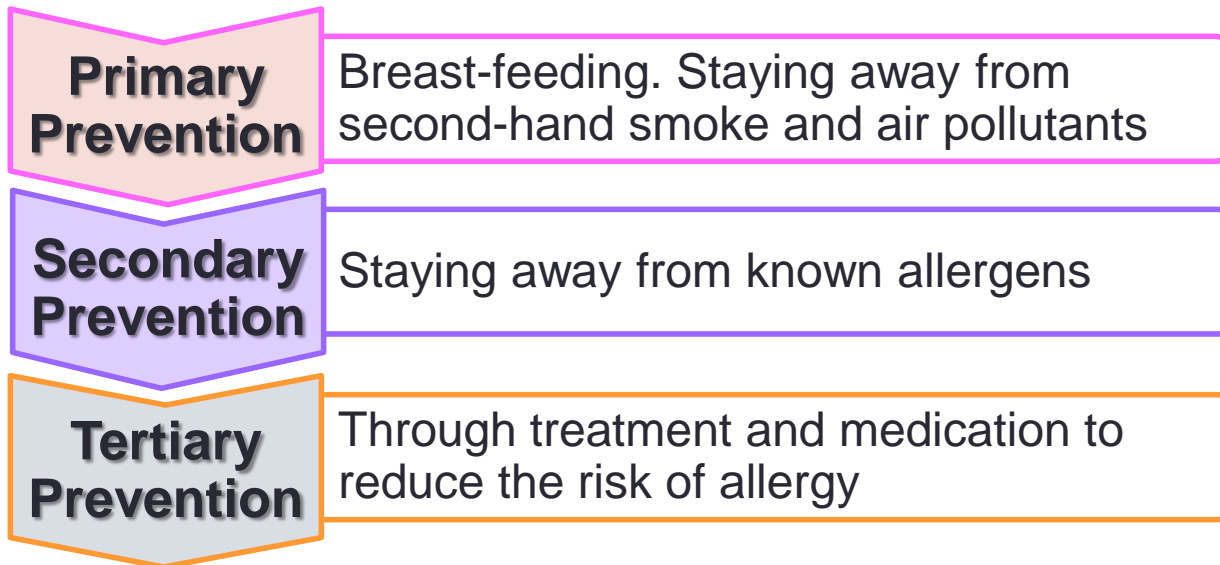
The Best Way to Prevent Infancy Allergy

- **Exclusive breastfeeding** in the first 6 months of life¹
 - Breast milk is **the least likely to trigger allergic reaction**¹
 - Breast milk can **strengthen the immune system** of children¹
- **Use of partially hydrolysed milk protein formula** may be considered as **an infant allergy preventive strategy**¹ if the mother cannot breastfeed exclusively
- **Prevention is better than cure!** Early prevention of allergy may reduce the risk of allergy as the risk of allergy is everywhere.



International Guidelines of Allergy Prevention

World Allergy Organization(WAO) divide allergy prevention into 3 levels:



Education is crucial!

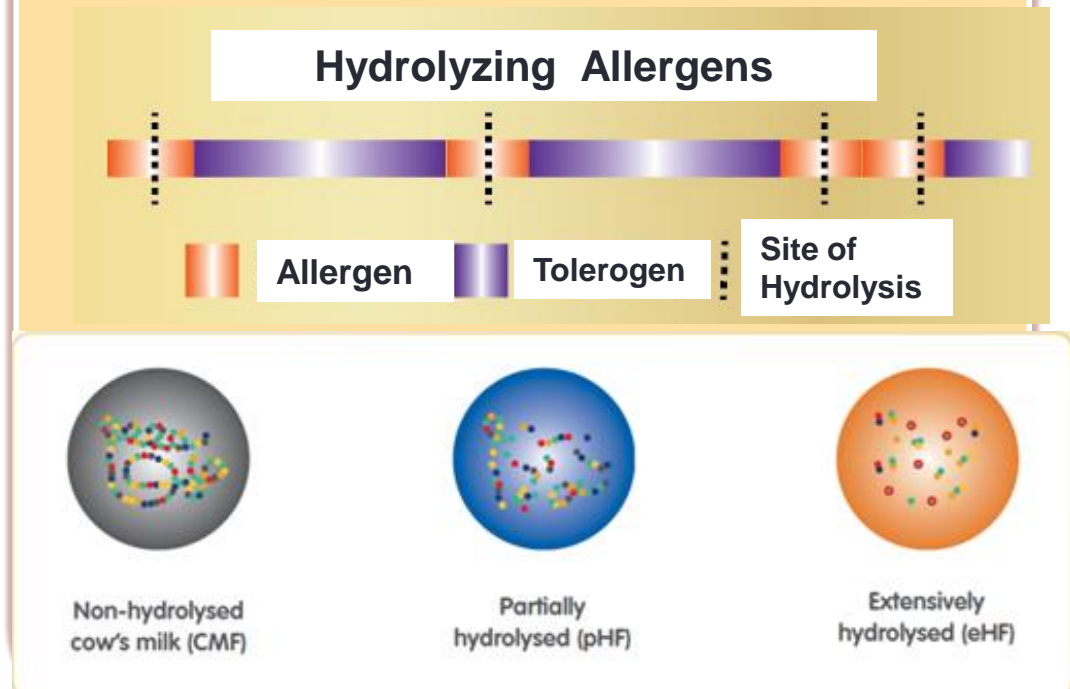
- Teach the general public on the knowledge of allergy, show them ways to prevent

Partially hydrolysed protein is less allergenic than cow's milk protein

Cow's milk protein is recognized as a **foreign substance** which triggers immune response



Hydrolysis degrades the sequential epitopes by breaking down protein molecules into peptide and amino acids

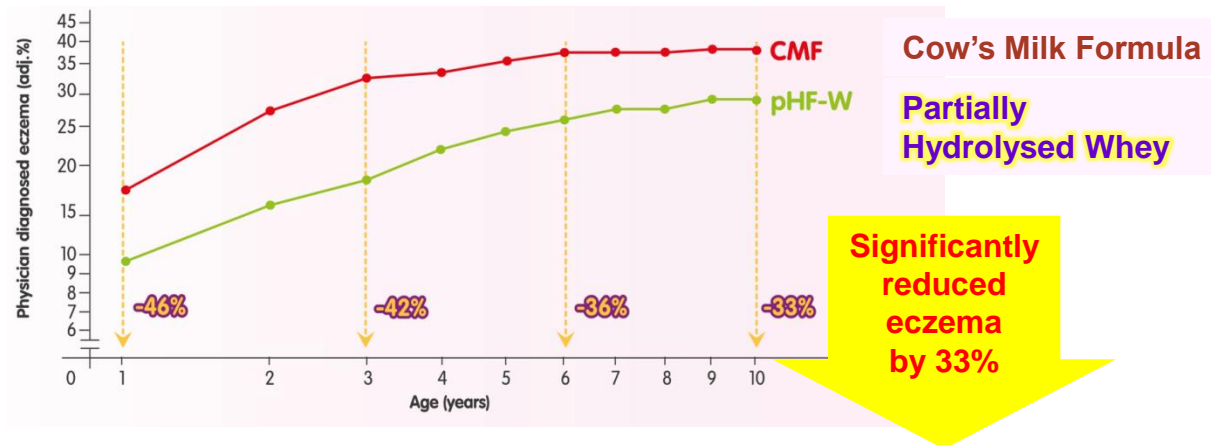


Partially Hydrolysed Whey Protein Formula can reduce the risk of allergy by 33%



- **GINI study**

- Initiated by the Germany Government, GINI study involved 2252 children and they were followed for 10 years
- Partial hydrolysed protein reduced eczema in children
The risk of eczema was reduced by 33% at 10 years in the group of infants fed with Partially Hydrolysed Whey Protein Formula compared to Cow's Protein Formula



- Partially Hydrolysed Whey Protein Formula could be considered as an alternative if the mother could not breast-feed exclusively for 6 months

Recommendations

- Allergy is preventable.
- The immune system starts to develop during the prenatal period, the First 1000 days is the critical time period for allergy prevention.
- Breastfeeding is the best way to prevent allergy. Infants should be exclusively breast-fed for 6 months. Partially Hydrolysed Whey Protein Formula may be considered as an infant allergy preventive strategy if the mother cannot exclusively breastfeed.
- Public education to increase the understanding of allergy risk in children may help to prevent of allergy. Prevention is always better than cure.