A Weighty Problem Written By Dr Lala Manners | September 2016

The age at which obesity affects overall health and wellbeing – and compromises life chances and opportunities – has now reached the youngest members of societies worldwide. Obesity has no respect for age, gender or geography and has a significant impact on the fiscal, environmental, educational, transport and health policies of all countries.

Globally, in 1990 – 32 million children between 0-5 years were obese: by 2014 this figure had risen to 41 million : the predicted figure for 2025 is 75 million. In developing countries – there has been a 30 % increase in childhood obesity in the last 10 years.

In the UK – 12% of children are obese by aged 3 – 15% are considered to be overweight. In the USA – 7.1% of children under 2 years are obese. By aged 5 (UK -2014/5) 9% children were obese – 22% were overweight – by Year 6 these figures had risen to 19% and 33 % respectively. In the USA the prevalence of obesity in the 2.5- 5 year age group has risen from 5% in the 1970's to 8.4% in 2014. One third of all children 6-9 years in European countries are now either overweight or obese.

The toll of obesity on health care systems is immense. Between 2-7% of healthcare spending in developed countries is devoted to this issue. In the UK – 5% of the entire NHS budget is spent on obesity related conditions – around £44.7 billion per year.

The WHO report 'Ending Childhood Obesity' (2016) states that:

'Obesity arises from a combination of exposure of the child to an unhealthy environment and inadequate behavioural responses to that environment.'

The factors that combine to form an 'obesogenic' environment are present at every level. Politically – trade and food policies will impact on the availability and price of foodstuffs: Socially – attitudes to body-weight, the prevalence of social norms – even cultural behaviours related to physical activity will play a significant role. Family issues surrounding parental knowledge of healthy behaviours and economic considerations are important – and the 'Built' factor – the ability to access healthy foods and opportunities for physical activity will also play a part.

What all the relevant literature agrees on is that any services or interventions used to combat childhood obesity – and mitigate the effects of an obesogenic environment must be the following : family based – multi component and take a 'whole society' approach – that governments, parents, caregivers, teachers, academics, civil society and institutions must work together on the ground – to ensure that measures and initiatives have a positive impact on the communities they are working in. There is also agreement that the 'sustainability' of interventions is a serious issue – basically – positive effects are often short term and have no significant impact on long term change in behaviours towards family health/wellbeing.

Experts concur that 'critical periods' exist on the obesity continuum – within which known risk factors for childhood obesity may be addressed by adults (parents/caregivers/EYPs) who may then be supported to play a much more effective and proactive role in enhancing children's overall health/wellbeing and development.

There is an increasing body of evidence to suggest that a 'lifespan' approach to childhood obesity is the most effective. Intervening when negative behaviours and dispositions towards food, physical activity, sleep and screentime are already well entrenched – and when the effect of obesity on children's mental and emotional health is beginning to compromise positive social interaction and enjoyment of curricular activities – is simply too late.

'Lifespan' – in essence – means from pre- conception onwards. As Dr Yvonne Kelly (UCL) says 'Gestation and the first two years of life shape metabolic, immunologic, sensory, behavioural, developmental and growth patterns for the rest of a person's life.' The WHO report also states that 'The care women receive before, during and after pregnancy has profound implications for the health and development of their children.'

Pre- conception – it is now an accepted fact that mothers with a high BMI before pregnancy are 3- 4 times more likely to have obese children. It is suggested the reason for this is related to the foetus developing a 'compromised metabolism' due to the increase of the mother's insulin levels during pregnancy. Rapid weight gain by the foetus between 37-38 weeks has also been linked to obesity in children 2- 7 years. Around 43 % of normal weight women exceed the recommended weight gain during pregnancy – 67 – 70% of obese women do the same. Babies are also getting bigger – the average weight for boys is now 7lbs 8oz (up by 20z since the 1970's) – for girls it is now 7lbs 4oz (an increase of 1.5oz). The prevalence of babies weighing 9lbs 15 oz or above at birth has rose by 20% in the decade up to 2003.

Dr Cheryll Adams (IHV) would like all pregnant women to be seen by a Health Visitor at 36 weeks – 'this is a really good time to talk about breastfeeding and looking after themselves.' Professor Pinki Sahota agrees ,' The ante-natal period is a prime time to get positive messages across.'

Of course not all mothers are able or willing to breastfeed – and only 3% of babies in the UK are exclusively breastfed up to 5 months. There are many and varies reasons for encouraging breastfeeding – but those that relate to obesity prevention are particularly important.

There is a 26% reduction in the odds of children becoming obese if they are exclusively breastfed for the first five months. Breastfed babies are better able to regulate their intake (they are in control) – and breastmilk has a lower protein content than formula (that may protect against raised insulin levels). It also includes 'leptin' – the appetite regulator (this

cannot be produced synthetically) – and exposes babies to a wide variety of flavours (not possible to replicate in formula) that has a positive impact on their food preferences later on.

We know that babies in utero are attracted to sweet tastes – 'one of the most powerful taste signals for babies – and human's oldest reward.' As Prof. Peres-Escamilla (Yale) says, 'The elegant biology that attracts children to mother's milk and to sources of energy – and protects them from poison – makes them vulnerable to obesity.'

There is a critical period between the end of 3 months and the beginning of 5 months when the feeding habits of infants go through a significant change. At the beginning of this period – 20% of infants have been exposed to complementary foods – this rises rapidly to 40% at the end of this period. Rapid weight gain between 4-6 months has been linked to obesity between 5-14 years. A study from Halton (NW England) suggests that the most weight gain in the cohort of children involved happened between 2-8 months. In the USA – it is recommended that weaning should not start before 4 months to mitigate the possibility of later obesity.

Maternal health is therefore critical – and those who engage with mothers on a daily basis should be aware of the issues.

The Cardiff 'HELP' programme aims to address the issue of healthy lifestyles and weight gain during pregnancy . Women with a BMI over 30 are invited to join a group that meets weekly. The results are encouraging – 75% now buy more fruit/veg – 60% eat fewer takeaways.

Telford and Wrekin Council have created a 'Healthy Mums' initiative. Over 50 mothers are referred by midwives each month – they meet regularly with a healthy lifestyle advisor throughout their pregnancy and regular support and advice is available for the first six months.

The iHV has developed a 'Ready Steady Mums' programme to get mothers together for a walk and talk in the weeks after birth – fresh air and gentle activity – better than coffee and cake.

Australia also has a 'Healthy Beginnings' programme for new mothers that focuses on breastfeeding – infant feeding and physical activity. This programme has shown a positive effect on the BMI of children at aged 2yrs – but this impact was not sustained when the children were reviewed aged 5.

Childhood – 1-3 years

Dr Yvonne Kelly claims that 'Intervening in the EY when the family environment has more profound influences on children's healthy development has the potential to be particularly effective.'

However, 166,920 two year olds are currently accessing some form of ECE – 68% of those eligible – so there is a definitely a role here for the EY workforce to support and promote positive behaviours towards the health and wellbeing of children in their care.

Since 2013, Local Authorities have been responsible for improving health.

But - tackling the known *determinants* of childhood obesity is not part of their remit.

The EY community is in daily contact with young children and their families – and is therefore in a prime position to address these 'determinants' - nutrition – physical activity – sleep and screentime within daily practice.

Although after children reach 2.6 years parents do not have any official contact with Health Visitors – Dr Cheryll Adams would like to make clear that her workforce are 'on the ground and there to support practitioners whenever necessary.'

Compared to children on the 50th percentile (normal weight) children who are overweight or obese aged 2 years are four times more likely to be obese as adults.

Two years is a critical age – when habits and behaviours towards food, physical activity, sleep and screentime are acquired and embedded.

Nutrition

After their first birthdays – 70 – 90% of children ingest some type of sweet (food or drink) regularly. By aged two – children are more likely to eat a sweet than any fruit/veg. One third of the calorie increase between 6-48 months is due to confectionary, cakes and sweet drinks. Evidence suggests that infrequent intake of fruit/veg at aged 2 is associated with the same behaviours aged six – likewise – if children are exposed to sweet foodstuffs in infancy – they are twice as likely to access them aged 6.

Drinking from a bottle after 18 months also affects the likelihood of obesity. For every month after 18 months a child uses a bottle – the likelihood of obesity rises by 3%. Seventy-five per cent of 1-2 year olds use both.

Many families are positive about nutrition – but – as Claire Hamilton (Startwell Programme – Birmingham) says:

'I see children all the time who can't hold a knife and fork – their parents cut up everything for them – and blow on everything. The portions are way too big. They shop for everything on line – so they just buy the same stuff all the time – meal deals are always on unhealthy foods.'

A Health Practitioner in London also talks of many families with 'chaotic eating habits' and mothers being 'proud of their fat, quiet babies.'

There is also a general concern that 'hard to reach' ethnic communities may be resistant to accessing support – that engaging in any intervention with 'outside' bodies is an issue of trust. EYP's are in daily contact with families – and food/nutrition policies and provision have become increasingly visible and well resourced.

What can the EY do to support?

- Implement the Dept. for Education and Skills, Food Standards Agency and Caroline Walker Trust guidance on food procurement and healthy catering
- Embed a healthy eating ethos in settings and acknowledge own behaviours around food
- Encourage parents to be involved and contribute towards the planning and provision of healthy food

Physical Activity

Quantatitive data that confirms a link between physical activity and early childhood obesity prevention is currently 'limited and observational.'

However - PA plays a critical role later on in obesity prevention – and the positive behaviours towards PA that are so vital in ensuring daily engagement are acquired in the early years. The CMO Activity Guidelines for young children recommend that all children should be active for 180 mins per day – cumulative.

What can EY do to support?

- Be aware that 'being busy' doesn't necessarily mean 'being active' – remember – 'keep the belly button on the move'!
- Plan for a mix of structured, semi structured and free play opportunities – inside and outside – in a group or alone – with or without apparatus
- When observing – need to *respond* to observations and act accordingly – don't simply record for the sake of it – if they can't do something – find out *why*

Sleep and Sedentary behaviour

Children who have less than 10 hours sleep per night aged 3 are known to be at risk of obesity. Fatigue has a negative effect on metabolic functioning and appetite hormones – and prevents children from engaging fully in physical activities.

Children who experience 8 hours or more of screentime per week have a higher risk of obesity aged 8. The USA recommendations are for children to have no more than 30 mins screentime per day within settings – and the maximum sedentary time to be no longer than 15-30 mins at any one time. In Australia – no screentime at all is advised for children under 2 years – no more than 1 hour daily for 2-5 years. Children should not be sedentary for longer than 1 hour at any period other than when sleeping or eating.

The UK has no recommendations for screentime – and recommends 'minimising the amount of time' children are sedentary.

The 'Baby B Well' campaign for car safety recommends young children should not remain in car seats for longer than 90 mins at a time.

What can EY do to support?

- Be aware of the facts – good sleep patterns have a positive impact on levels of physical activity – PA plays an important role in obesity prevention later in life
- Encourage parents to minimise their children's screentime – it doesn't support good posture, eyesight or the wide range of manipulative skills needed to engage successfully with curricular activities

3- 5 years

'The Education sector has a critical role to play in providing nutrition and health education and in increasing opportunities for physical activity and promoting healthy school environments.'

'The EY setting provides a spectrum of opportunities and multiple levels for the promotion of healthy practices.' (USA 2016)

Currently , 96% of eligible 3- 4 year olds have taken up the offer of 15 hours provision. If the 30 hour initiative becomes widespread, the EY workforce will be in an even stronger position to create, implement and support health/wellbeing initiatives for young children. In the US – EY settings have recently been identified as a 'missed opportunity' for obesity prevention.

At present, the sustainability rate of interventions for childhood obesity is not good – which makes it even more imperative that practitioners are well-informed and confident that the policies, initiatives and information that relate to the four main *determinants* of childhood obesity – nutrition, physical activity, sleep and sedentary behaviour- are visible , understood and supported by all relevant parties.

Nutrition

The aggressive marketing of calorie-laden foods to young children has been identified as one of *the* critical issues. Children are consuming 200 calories a day more per day than they did 30 years ago. The additional intake of calories needed to maintain the added body mass that results is worth between 20 – 60 billion dollars to the US food industry alone. How cynical that the recently launched breakfast cereal (chocolate parcels) is called 'Krave'?

By aged 4 – 92% of children consume less than the daily recommended amount of fruit/veg – and 99% are exceeding the recommended intake of added sugars. In the US – by aged 4 – children are eating fast food/takeaways between 1- 4 times per week.

Fizzy drinks are a particular concern – 30% of daily sugar intake for children aged 4-10 years comes from these beverages. Sugar in liquid form does not contain the same 'triggers' as sugar in food – frankly – if children *ate* the amount of sugar they *drink* they would be extremely unwell.

The general consensus is that the majority of children identified as overweight/obese do not actively need to *lose* weight – but that their BMI should not increase – so it reduces as they become older and more active. The BMI of children should be at its highest (17.5) at aged 1 year – and then drop down to 15.5 aged 5-6 years. Fundamentally – there is no physiological reason why children should be overweight by the time they start school.

Claire Hamilton (Startwell/Birmingham) would like to see Practitioners being much more forceful with parents regarding food/nutrition.

'Parents take for granted that their children will be properly fed at nursery so they can give them junk on the way home – also – this nonsense about competitive birthdays – why does everything go out the window? And – I wish parents wouldn't use food as a treat or bribe – it sends out completely the wrong messages.'

<u>Suggestions</u>

- The resources available to support healthy food/nutrition are mainly excellent – find and use them
- The behaviours/rituals/habits around food are as important as the food itself – and these will vary between cultures – sourcing/preparation/cooking/eating/washing up?
- What behaviours do you consider important – and why – what messages do you pass on to parents – what can they reinforce at home?

Cornwall have recently launched a 'Nippers Nutrition Programme' for EY workforce in the county. There are 5 levels to work through that takes 18 months on average and lasts 2 years. So far 75 settings are involved – provides advice on menus, portion size, recipes. Wigan also have a six week 'Healthy Lifestyles' programme that includes EY – covers cooking/eating/PA.

Physical Activity

Prof. Dianne Ward (Uni NC) makes clear that 'Providing structured PA sessions increases the *overall* level of PA' (that the CMO guidelines were created to promote) – and which plays a valuable role in obesity prevention in later childhood.

PA is a critical component in ensuring children's overall health/wellbeing – but linking it to obesity prevention in young children undoubtedly causes problems for parents. Presenting it as a *solution* to obesity at this age may be seen as very negative – particularly as most parents claim their children are 'very active' anyway – and 47% dispute their child's weight status when given the information.

Less than 10% of young children experience the recommended 180 minutes of daily PA – the optimum amount of time that would support their overall health/wellbeing and development. There may be an argument for promoting PA through a 'school-readiness' or 'Life Chances' approach that may appeal more to parents and be more likely to 'incite' their support and engagement.

Suggestions

- Be aware of the CMO Childhood Activity Guidelines – and the accompanying infographic
- What is the policy in your setting for PA – what opportunities do the children have to be physically active – not just 'busy'
- Determine possible times when the children could be more active – do they always have to *sit* in a circle/what do they do during transitions/do they have opportunities to be equally active inside and outside/is there a 'movement corner' for them to practice movement skills/how long do they sit at tables?
- Do you give consistently positive messages re PA to parents? Some may need to be 'incited' to support PA – what may the barriers be?

Sleep and Sedentary Behaviour

Positive sleep behaviours are very important – children by aged 5 should be sleeping 11 hours per night with no day time naps. Young children who are in bed by 8 pm are 50% less likely to be obese ten years later. The two hormones that relate to appetite and hunger are affected when children do not get enough sleep.

Despite the dire warnings and recommendations – the average 2-5 year old is now exposed to some type of screen for an average 32 hrs per week. The range and ubiquity of devices makes sticking to any recommendations very challenging.

Suggestions

- Understand that there is a link between sleep, screentime and obesity
- Raise awareness of the *health* issues related to extended screentime
- Encourage parents to minimise children's screentime at home

Conclusions

Childhood obesity is a relatively new phenomenon – so we should not be surprised or dismayed that National policies and initiatives to address this issue are – as yet- not clearly formulated or coherent.

Of course, a comprehensive system of primordial prevention and preventive action is sorely needed – but we must acknowledge that this takes time – and the level of co ordination required between government departments, local authorities, relevant bodies and institutions will be a challenge.

The EY workforce are well positioned to create a culture within settings and communities that supports the health/wellbeing of young children.

A culture within which the four main determinants of childhood obesity are recognised : healthy nutrition is supported, engagement in PA is valued and sleep and sedentary behaviours are addressed.

Continual and extended contact with families and communities gives the EY workforce a unique opportunity to play a more visible and effective role in supporting children's health/wellbeing.

Positive habits, behaviours and dispositions are embedded early in life. We must ensure that they arrive at school with these in place. 'Life Chances' and 'School-Readiness' begin with physical health and wellbeing. It is an important part of our remit that children are physically ready and able to enjoy and engage successfully with all the learning experiences afforded them.

References

National Academies of Science, Engineering and Medicine (2016) 'Obesity in the early childhood years: State of the science and implementation of promising solutions.' Workshop Summary. Washington DC. The National Academies Press

'Healthy Weight – Healthy Futures. Local Government action to tackle childhood obesity' (2016)

www.local.gov.org

WHO Report of the commission on 'Ending Childhood Obesity' (2016)

www.int/end-childhood-obesity

Royal Society of Public Health (RSPH) 'Position paper: Tackling the UK's Childhood Obesity Epidemic' (2015)

www.rsph.org.uk

Royal College of Paediatrics and Child Health (RCPCH) 'Tackling England's childhood obesity crisis' (2015)

www.rcpch.ac.uk

Children's Food Trust 'Child Obesity – their lives in our hands' (2015

www.childrensfoodtrust.org.uk

Resources

BHF 'Early Movers ' pack www.bhfactive.org.uk

The Power of Physical Play DVD www.sirenfilms.co.uk

'Overweight and Obesity' www.infantandtoddlerforum.org

CMO Physical Activity Guidelines for Early Years (Walkers and Non- Walkers)
www.bhfactive.org.uk

Training

www.henry.org.uk

www.mendprogramme.org

www.readysteadymums.org

www.startwellbirmingham.co.uk

www.greatersport.co.uk

www.shinehealthacademy.org.uk

DR LALA MANNERS

2016