Commentary ISSN: 2581-4648 Open Access

UPI JOURNAL OF CHEMICAL AND LIFE SCIENCES

Journal Home Page: https://uniquepubinternational.com/upi-journals/upi-journal-of-chemical-and-life-sciences-upi-jcls/

Requested Meals Versus Scheduled Meals

Mario Ciampolini

Preventive Gastroenterology Unit, Department of Paediatrics, Università di Firenze, 50132, Florence, Italy

This paper confirmed the findings in adults with bowel disorders that we trained to "recognizing hunger" (= Initial Hunger Meal Pattern, IHMP) like present infants. Similar to adults, the infant group was not homogeneous at recruitment. Twenty-one subjects had low mean preprandial BG (MBG) and 49 subjects high MBG. We give high importance to the height of the mean preprandial BG (MBG). MBG is the mean of 21 measurements before 21 meals in a week. It is different from a subject to another but inside the week the BG series has a low confidence interval (3.8 mg/dL), the measurements confirm each other and are all taken when the subject thinks to require an elevation in energy availability and have a meal. Thus MBG indicates the energy availability that the subject aims to have and maintain during the interval between meals. Without external influence like present training, the aim is maintained for months. Moreover, low MBG is associated with insulin sensitivity whereas high MBG is associated with insulin resistance in our studies in adults. Energy intake does not have this close association with insulin resistance and energy intake shows no difference between the infant subgroup with low MBG and the subgroup with high MBG (Table 4). We repel from evaluating intake and prefer to consider energy balance: a positive energy balance is closely associated with a high MBG. In adults, training recognizing hunger is effective in proportion to the height of MBG at recruitment. Given all these associations, we divided the trained infant group at recruitment between those with low MBG and those with high MBG. The cut off was 81.2 mg/dL, not much different from the cut off found in adults (81.8 mg/dL). The cut off corresponded to the best statistical division between either MBG decrease or no decrease after training. This finding of similarity between adults and infants, suggests that BG regulations are almost identical in infants and in adults. The mean of MBG at recruitment is important because it is freely chosen and associated with insulin sensitivity and an even energy balance. In infants it is 76.4 ± 4.5 mg/dL (N = 21); in adults is 76.6 ± 3.7

How to cite: Ciampolini M. Requested Meals Versus Scheduled Meals. UPI Journal of Chemical and Life Sciences 2018; 1(1): 9-11.

Article history:
Received : 24-02-2018, Accepted: 11-03-2018, Published: 12-03-2018

Correspondence to: Ciampolini M, Preventive Gastroenterology Unit, Department of Paediatrics, Università di Firenze, 50132, Florence, Italy.
Email: mlciampolini@fastwebnet.it

mg/dL (N = 34 adults with a sedentary lifestyle). Two SDs above the mean is a value similar to the given cut offs. We conclude that MBG is the best way to classify a meal pattern or to compare the pattern with that of other people or of other times. At the end of the present investigation, control subjects showed no change in energy intake (from 968 ± 173 to 1148 ± 314 kcal/day) but low MBG infants (from 979 ± 261 to 823 ± 173 kcal/day) and high MBG infants (from 932 ± 217 to 717 ± 185 kcal/day) significantly decreased intake after training. We did not find any differences on blood testing or anthropometric measures in subjects between before and after recovery or between control and trained infants. However, we found a correlation between demanded meals and a lower number of diarrhea relapses, lower energy intake, lower MBG and smaller standard deviation of BG measurements during the reported week. We thus conclude that energy administration to infants is better signaled by MBG than anthropometry. You may push infants toward high MBG and insulin resistance in association to normal or good growth. A mere kcal counting of administered food may be more useful to prevent fattening/insulin resistance than anthropometry. BG measurements may be left to pathologic cases.

The paper (Requested meals versus scheduled meals) shows that the difference in energy intake between recognition of IH and no recognition is largely explained by higher energy intake during no recognition. Energy loss through feces is significantly larger during conditioned intake than during hunger recognition. The stool energy loss was 102 ± 50 kcal per day in control infants and 98 ± 50 kcal in the intervention group. This small difference is increased (by 40 kcal/day) by the higher fiber intake of trained mother-infant pairs. These fecal loss differences cover the difference between reported daily energy intake and Total energy expenditure TEE (and RMR). The decreases in both TEE and RMR during hunger recognition are about 15.5% of the value at recruitment (during conditioned intake). The significant difference in expenditure beween conditioned intake and trained intake confirms the difference that has been found in infant intake. Confirmation of differences come also from studies of energy intake in adults. The confirmed existance of this difference in energy intake but not in body growth suggests a change in rearing infants.

Another important finding of the paper is reported in the "Conclusions". Mothers believe that rearing infants by demand is equivalent to rearing by scheduled administration. The two methods are instead different in energy administration, in intake and in MBG elevation. Given the fact that 25 -30% of the population maintains low preprandial blood glucose by free choice, given the maintenance of demanded meals up to 12 years of age, the equivalence of the two methods in early adoption for new mothers, given the habitual, persistent nature of mean blood glucose due to associated organic changes, and emphasizing better health in children and adults who maintain preprandial low BG, a change in instructions on rearing seems obvious and mandatory from the neonatal days. This change might increase the fraction of population (30%) who already maintains preprandial BG around 76 mg/dL and already prevents vascular and also malignant diseases.

Conflict of Interest

The author(s) report(s) no conflict(s) of interest(s). The author along are responsible for content and writing of the paper.

Acknowledgment:

NA

Abbreviations

BG = Blood Glucose, an index of energy availability in blood for the whole body

IH = Initial Hunger consists of gastric pangs or mind or physical weakness. In sedentary adults and in children, IH corresponds to IH IHMP: Initial Hunger Meal Pattern: Energy intake is adjusted to three arousals of IH per day.

RMR = resting metabolic rate

TEE = daily total energy expenditure

MBG = The mean of 21 BG measurements before the three main daily meals reported by a week diary. MBG reproducibly measures the compliance with IHMP, the changes after training and is negatively correlated to insulin sensitivity. Below 81.8 mg/dL (Low BG) MBG indicates a healthy meal pattern in sedentary people. Over 81.8 mg/dL MBG is associated with fattening/insulin resistance. The cut off is 81.2 mg/dL in infants. The great similarity between infants and adults confirms the finding and the accurate physiologic regulation of BG.

References

1. Ciampolini M, Giannellini V, Butte N. Recognition of depletion manifestations (bearable hunger) in infants by trained caregivers and lower fecal energy loss. SSIB annual meeting, 2001, Philadelphia, USA.