Barriers to MUST utilisation and accurate scoring by surgical teams should be explored in future studies.

6   EATING IN OR OUT OF HOME IN THE PORTUGUESE POPULATION: ARE THERE DIFFERENCES IN DIETARY INTAKE?

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Background Eating out of home (OH) has been increasing due to social and contextual changes. This phenomenon varies according to age, region and eating location and can contribute to a poor diet quality. Overall, there is insufficient information on the nutrient intake and types of food groups consumed OH by the Portuguese population.
Objectives Describe and compare energy and nutrient intake and food groups (FG) consumption according to eating out patterns (EOP), by age groups.
Methods This analysis used data from the National Food, Nutrition and Physical Activity Survey (IAN-AF;2015–2016) and includes 5005 individuals (3-84 years). Dietary intake was estimated by two non-consecutive days of food dairies in children (<10 years) or 24-hrs recalls for the other age groups. Four EOP were defined according to eating location: 'Home' (at least 80% of meals at home) 'Other homes', 'School/Work' and 'Restaurants/Other Places' (<80% of meals at home and the highest prevalence of consumption of meals in the respective location).
Results Consumption at Home contributed in 70.3% for total energy intake (TEI). Compared with 'Home' EOP, 'Restaurants/other places' was characterized by higher TEI (2110 vs. 1780 kcal;$p<0.001$ in adults), saturated fatty acids (in adults, adolescents and children) and sodium intake (in children and adults). 'Restaurants/other places' presented also the highest consumption of sweets/cakes/biscuits and non-alcoholic beverages. 'School/work' presented the highest fibre intake and fruit/vegetables/pulses consumption, significant in children, adolescents and adults. 'Non-alcoholic beverages' presented higher mean daily intakes in 'Restaurants and other places', in adults and adolescents. In adults, a higher odds of drinking alcoholic beverages in 'Restaurants and other places' was found (OR=1.73;IC95%:1.17-2.56).
Conclusion 'School/work' and 'Restaurants/other places' are the EOP more relevant when considering OH-consumption; the first seems to contribute to higher consumption of nutrient-dense foods and the second to higher consumption of energy-dense foods, reflecting different nutrient profiles.

7   ASSESSMENT OF NUTRITION RELATED KNOWLEDGE, ATTITUDES AND PRACTICES OF PREGNANT AND LACTATING MOTHERS IN THE TRIBAL AREAS OF TELANGANA, INDIA

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Background Tribal population – especially pregnant and lactating women are susceptible to undernutrition because of low socio-economic, cultural norms and practices regarding dietary habits and practices, market access and availability. Nutrition knowledge, attitudes and practices (KAP) studies offer an opportunity to better understand the socio-cultural-psychological-behavioural determinants of nutrition, providing an evidence for planning knowledge interventions.
Objectives This paper aims to assess nutrition KAP during pregnancy and lactation in selected locations of Adilabad and Komaram Bheem-Asifabad districts of Telangana, India.
Methods A cross sectional KAP baseline survey was conducted on 358 individuals in the selected locations during February-March 2020. Tablet based data collection was implemented for pregnant and lactating mothers, and frontline workers (Anganwadi workers, School teachers and Accredited Social Health Activist - ASHA workers). Data was validated, coded and analyzed using STATA. Alongside descriptive statistics, differential weightage method was adopted to generate the knowledge, attitudes and practices scores for the respondents.
Results The nutrition knowledge of pregnant and lactating mothers was inadequate less than 50 percent across all the respondents (table 1). Pregnant women scored low on attitudes regarding healthy diets compared to lactating mothers and frontline workers. Attitudes translate into practices, however the baseline data revealed that all categories of respondents were not adopting appropriate dietary and nutrition practices.

Abstract 7 Table 1   Scoring percentages on KAP during pregnancy and lactation periods

	Pregnant Women	Lactating Mothers	Anganwadi Workers	School Teachers	ASHA workers
Knowledge	27.74	32.90	41.63	47.81	40.99
Attitudes	44.52	92.03	92.36	92.71	94.71
Practices	48.57	42.27	46.42	47.57	45.53

Conclusion The inadequate knowledge by all categories of respondents indicates a gap in nutrition literacy and education. It is planned to co-design, co-create innovative approaches to improve nutrition knowledge through nutrition messaging for a transformative behavior change about nutrition, healthy diets, dietary behaviors and practices.

8   DO NUTRITION EDUCATION PROGRAMMES IMPROVE HEALTH OUTCOMES IN PATIENTS WITH CHRONIC DISEASES? A SYSTEMATIC REVIEW

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Background/Objective Nutrition education plays a key role in the management of chronic diseases. This review aimed to assess whether nutritional educational programmes (NEPs) utilising whole-diet approaches improved health outcomes in patients with chronic diseases.
Methods Searches were conducted on 5 databases (Medline, Pubmed, EMBASE, CINAHL and Web of Science)

independently by three reviewers. Search terms and MESH headings included: Nutrition OR diet OR eating habits AND education OR teaching OR training OR counselling AND health OR morbidity OR mortality OR well-being OR quality of life. Studies of NEPs involving educational interventions on whole diet modification (i.e. improving total nutritional intake) vs. usual diet or no intervention were included. Studies lacking a comparison group, case-control studies and those involving single dietary or nutrient modifications were excluded. Papers were independently assessed for eligibility; quality (Agency for Healthcare Research and Quality assessment tool); risk of bias (Cochrane Risk of bias 2 tool) and data extracted. Outcomes of interest were nutritional status, biochemical markers and quality of life. Data heterogeneity meant meta-analyses could not be performed so a descriptive approach was used.

Results From a total of 8453 papers, 18 studies were identified as relevant and grouped by disease: cancer (n=8); Type 2 diabetes (n=6) and CKD (n=4). NEPs in 12 studies were dietician-led, with the remainder delivered via telehealth (n=2), group therapy (n=2), nutritionist (n=1) or nurse specialist (n=1). Results showed that NEPs had statistically significant improvements in quality of life and prevention of malnutrition in cancer patients, but did not prevent deterioration in weight. Diabetic patients showed improvements in weight loss, reduced waist circumference and HbA1c; however changes in BMI, blood pressure and cholesterol were not significant. NEPs did not improve clinical markers in CKD (e.g. cholesterol, phosphate and eGFR), but following the intervention patients reported better knowledge of their illness.

Conclusions This review suggests that nutrition education programmes are an important tool in improving health outcomes of patients with cancer, Type 2 diabetes and CKD.

| 9 | SHOULD WE BE PROVIDING FOOD DIRECTLY TO PATIENTS IN PRIMARY CARE? A SYSTEMATIC REVIEW OF THE LITERATURE |

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Background The World Health Organization recommends all countries to facilitate healthy eating through primary care settings; recognised as one of the 'best buys' for improving the health of societies. However, health professionals face barriers to discussing nutrition and weight management in consultations, warranting alternative models of support to be explored. Providing food directly to patients in primary care is an underexplored yet promising approach to healthy eating and weight management.

Objectives This systematic review aimed to determine whether providing food to patients in primary care facilitates weight loss and improves other health outcomes.

Method A systematic literature review was conducted using four electronic databases. Interventions that directly and exclusively provided foodstuffs and/or supplements to patients in primary care settings were included. Interventions that

involved other components such as exercise classes or education sessions were excluded.

Results Four studies fulfilled the inclusion criteria; two from the United Kingdom, one from the USA and one from Israel. Two studies utilised meal replacement products but differed in length and intensity of the intervention, another study provided green tea and vitamin E supplementation to patients and the final study incorporated a voucher for use at a farmers' market hosted at a primary care clinic. Three of the four studies observed some weight loss among participants and all studies observed at least one other improvement such as reduced waist circumference, blood pressure or glycosylated haemoglobin (HbA1c). However, the methodological quality of the studies ranged from weak to moderate, reducing confidence in results.

Discussion/Conclusion A small but promising body of literature exists on providing food directly to patients in primary care. There is clear opportunity for further research on the efficacy and cost-effectiveness of directly providing food to patients to support weight loss, improve health outcomes and ultimately inform policy initiatives for primary care.

| 10 | HOW DOES SELF-PERCEIVED NUTRITION COMPETENCE CHANGE OVER TIME DURING MEDICAL TRAINING? A PROSPECTIVE LONGITUDINAL OBSERVATIONAL STUDY OF NEW ZEALAND MEDICAL STUDENTS |

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Background Medical nutrition education aims to equip doctors with adequate nutrition knowledge, skills, attitudes and confidence to counsel patients about how to improve their diet and health. Incorporating sufficient nutrition education into medical curricula remains an ongoing challenge for medical schools.

Objective This study aimed to describe changes in medical students' self-perceived nutrition competence at three time points during medical training.

Method A prospective longitudinal observational study was conducted among one year-group of students at the University of Auckland, School of Medicine. In May 2016, Year 2 medical students (phase 1, preclinical) were surveyed for self-perceived nutrition competence using the validated NUTCOMP tool. The survey was repeated with the same students in February 2018 as Year 4 students and July 2019 (phase 2, clinical) as Year 5 students.

Results In 2016, 102 of 279 eligible Year 2 medical students completed the survey [response rate (RR 36.7%)]. In 2018, 89 Year 4 students repeated the survey (RR 87.3%) and 26 students as Year 5 students in 2019 (RR 25.5%). There was a significant increase in total NUTCOMP scores (knowledge, skills, confidence to counsel and attitude towards nutrition) between Year 2 and Year 4 (p=0.012). There was a significant increase in the confidence to counsel construct (mean difference 7.615, 95% CI 2.291-12.939, p=0.003) between Year 2 and Year 4. Constructs with lowest scores at all time points were nutrition knowledge and nutrition skills. There was clear desire for more nutrition education from all students: Year 2 [mean=3.8 out of 5, (1.1)], Year 4 [mean=3.9 out of 5 (0.9)], Year 5 [mean=3.8 out of 5 (0.8)].