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1 Food security, nutrition and health of food 2 bank attendees in an English city: A cross- 3 sectional study.

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13 **Key words:** vulnerable adults, diet, nutrient analysis, food poverty, charitable food aid

14 **Abstract**

15 Food banks in contemporary Britain are feeding record numbers of people. Little is known about
16 attendees' level of food insecurity, background diet quality or health. We surveyed 112 food bank
17 attendees. Over 50% had experienced food shortage with hunger on a weekly basis or more often.

18 Obesity and mental health problems were prevalent in women. Diet quality was poor, with energy,
19 protein, fibre, iron and calcium intakes inadequate, while saturated fat and sugars intake were
20 disproportionate. Women had poorer diet quality than men. Such patterns may lead to ill health.

21 **Key words:** vulnerable adults, health, food insecurity, charitable food aid, diet, obesity

22 Introduction

23 Growing numbers of people in contemporary Britain obtain emergency food aid through food
24 banks ¹. Food banks are often run by charities and provide people with non-perishable food parcels
25 designed to provide sustenance for a 3-day period. Eligibility is usually pre-established by the
26 statutory care agencies (general practitioners, health visitors and social workers); these groups
27 refer people to a local food bank using a voucher system. Users of food banks encompass a wide
28 range of vulnerable people many of whom are of working age, including the newly unemployed and
29 people with benefit sanctions and delays, and destitute asylum seekers ².

30 In 2013 some 500,000 people were reliant on this form of emergency food aid ², while 2014 figures
31 from The Trussell Trust, which is the biggest food bank provider operating across the United
32 Kingdom (UK), estimated that figure was 900,000 ¹. This spiralling level of food poverty has
33 prompted an all-party parliamentary committee enquiry ³.

34 The rise in British food banking is underpinned by ill-health, debt, low-pay, a failing benefit system
35 and high food and utility prices ^{4,5}, but little primary study has measured household food insecurity
36 ⁶. Food insecurity can embrace a gamut of circumstances from worrying about food, scrimping on
37 food purchases, compromising quality and variety of food, experiencing hunger, missing meals to
38 entire days without food. Studies of North American and Dutch food bank recipients have revealed
39 high levels of food insecurity ^{7,8}. A recent analysis of European survey data ⁹ suggests that food
40 insecurity has risen after the financial crisis of 2008, and particularly so in the UK.

41 Paradoxically food insecurity has been associated with high body mass; North American studies of
42 the general population reveal that food-insecure women in particular have increased risk of obesity

43 ^{10,11}. Studies of people using food pantries and studies of homeless people have also noted a
44 substantial prevalence of overweight and obesity ^{12,13}. These studies have not assessed dietary
45 energy intake, but there are indications of reliance on palatable, energy-dense foods. North
46 American studies have noted minimal fruit and vegetable consumption ¹⁴, as well as low wholegrain
47 and milk intakes, within an overall unhealthy dietary pattern ⁷. Such dietary patterns may increase
48 risk of chronic disease, and are congruent with the greater prevalence of diabetes and obesity in
49 people who are food insecure ¹⁰.

50 We are not aware of studies that have scrutinised the background diet of British food bank
51 recipients. The aim of this study was to systematically assess this group's household food security
52 status and measure nutrient intake during food crisis.

53 **Methods**

54 The design was a researcher-administered, cross-sectional survey. The survey had ethical approval
55 from the University School of Medicine. A purposive sample of food bank attendees was recruited
56 between May and August 2014 from three food banks in an English city. Inclusion criteria were
57 adults above the age of 18 years who had spoken English language conducive to participation.
58 Participant approach and recruitment varied slightly at each food bank. Generally, food bank staff
59 members greeted attendees and discussed their voucher and food parcel with them. One of the
60 research team then informally approached attendees and introduced the study. People who
61 showed interest were given a participant information sheet to read or the researcher explained the
62 information sheet. People willing to participate gave written consent. A £10 supermarket voucher
63 was offered to participants.

64 The multiple-pass 24-hour recall technique was used to estimate the dietary intake of participants.
65 Each participant was interviewed at the food bank on one occasion. The participant was asked to
66 recall their previous day's food and drink consumption, using standardised multiple-pass 24-hour
67 recall interview methods; a photographic food portion atlas was used for estimations of portion
68 size ¹⁵.

69 Participants were then asked to respond to a set of 23 interviewer-administered short-answer
70 questions, which were of both open and closed format (see appendix 1). These questions covered
71 general demographic information, self-reported body weight and height, factors affecting food
72 access, desired changes in diet, and food insecurity. Food insecurity was measured as in the
73 National Low Income Diet and Nutrition Survey ¹⁶.

74 Food consumption data from the 24-hour recall interviews were inputted to a nutrient software
75 package (NETWISP 4.0; Tinuviel Software, England). Daily intake of energy, macronutrients, iron,
76 calcium and sodium were calculated for each participant. These data along with questionnaire
77 information were entered into SPSS (version 22.0). Body Mass Index (BMI) was calculated from
78 weight and height. Descriptive statistics were used to describe the study sample. Difference
79 between median intakes of energy and nutrients were compared with the UK recommendations ¹⁷
80 using the One-Sample Wilcoxon Signed Rank test. The proportion of participants meeting
81 recommendations was also calculated. Chi-squared tests were employed to test for association.

82 **Results**

83 In total, 112 people participated in the 24-hour recall and survey. This sample had a greater
84 proportion of men (58.9%, n=66) than women (41.1%, n=46). The age range of the sample was 18

85 to 72 years, with a mean age of 40.2 (sd=13.6) years. The ethnic composition of the sample was
86 predominantly White British (83.9%, n=94), with small numbers of other ethnicities: 4.5% (n=5)
87 African, 8.1% (n=9) Asian, 1.8% (n=2) European, and 1.8% (n=2) Caribbean. Asylum seekers
88 comprised 9.0% (n=10) of the sample. The majority of people were single (63.4%, n=71), with the
89 remainder married or co-habiting (23.2%, n=26), widowed (0.9%, n=1) and separated or divorce
90 (11.6%, n=13). Overall, 45.5% (n=51) participants lived in a single-person household. Most
91 participants (90%, n=101) reported that they were unemployed. Of those that reported working
92 (5.4%, n=6), one respondent said that they had a full-time job, three respondents were working
93 part-time and two respondents worked occasionally or seasonally. The remaining participants
94 were retired (2.7%, n=3) or did not give a response (1.8%, n=2).

95 The numbers of participants reporting various health conditions and BMI distributions are
96 provided in Table 1. There were gender differences in the proportions classified in categories of
97 relative body weight (P<0.001): 41.0% (n=16) of women were categorised as obese or morbidly
98 obese compared to only 9.4% (n=6) of men. Women were significantly (P=0.030) more likely to
99 report a mental health problem (37.0%, n=17) than men (18.2%, n=12). Women also reported a
100 greater prevalence of respiratory problems (19.6%, n=9) than men (6.1%, n=4). A total of 106
101 people responded to a question on body weight change over the previous year: 18.8% (n=21)
102 reported a weight increase, while 46.4% (n=52) reported weight loss. The majority of the sample
103 reported a chronic health condition (61.6%, n=69), with the most common report being related to
104 mental health (25.9%, n=29). Other chronic health conditions reported were diabetes (7.1%, n=8)
105 and conditions of the musculoskeletal (14.3%, n=16), respiratory (11.6%, n=13) and cardiovascular

106 systems (8.0%, n=9). There was no evidence of a relationship between BMI and reported mental
107 health problems (M-W=943.5, P=0.536).

108 The figures for food security are shown in Table 2. Over half of participants reported a high level of
109 food insecurity due to lack of money on *at least* a weekly basis: skipping meals or reducing portion
110 sizes (58%, n=65), eating less than they felt they should (58.9%, n=66), and feeling hungry but not
111 eating (50.9%, n=57). The corresponding figures for never having experienced these levels of food
112 insecurity were 18.8% (n=21), 17.9% (n=20) and 25.9% (n=29). Less than a quarter of the sample
113 24.1% (n=27) reported that this was their first visit to a food bank. A total of 80 participants further
114 responded to the question on frequency of use of a food bank in the last month: 6.3% (n=5) of the
115 sample reported no previous use, 20.0% (n=16) reported using the food bank once, 20% (n=16)
116 reported using the food bank twice, while 53.8% (n=43) reported food bank usage of three times or
117 more often.

118 Around half of participants reported that attendance at a food bank was due to problems with
119 benefits (48.2%, n=54) or low income (41.1%, n=46). Information on barriers to consuming good
120 quality food or having a variety of food was also gathered. The most frequent response was
121 shortage of money (92.0%, n=103) followed by transport problems (24.1%, n=27). Participants
122 were also asked about changes they would like to make to their diet. A substantial minority of
123 people (24.1%, n=27) did not wish to make any dietary change. The two most common aspirations
124 were to eat more fruit and vegetables (28.6%, n=32) and to eat healthier in general (26.8%, n=30).
125 A minority of people (13.4%, n=15) reported a desire to eat more overall, while only 5.4% (n=6)
126 reported wanting to lose weight.

127 Nutrient intakes of participants are given in Table 3. Both men (71.2%, n=47) and women (81.9%,
128 n=41) had a significantly lower energy intake ($P<0.001$) than the theoretical requirement.
129 Saturated fat and free sugars made significantly greater contributions to total energy intake
130 ($P<0.001$) than recommended with a sizeable majority having intakes greater than
131 recommendations (71.2%, n=79 for saturated fat and 86.6%, n=85 for free sugars). Dietary fibre
132 intake was significantly lower than recommended (83.0%, n=93, $P<0.001$), as were calcium (61.6%,
133 n=69, $P=0.049$) and iron intakes in both men (39.4%, n=26, $P=0.007$) and women (93.5%, n=43,
134 $P<0.001$). Only 3.4% (n=4) participants recorded alcohol consumption. It should be noted that one
135 participant reported no food consumption (water only). Recorded sodium intakes were excessive
136 in just over half of men (56.1%, n=37).

137 Discussion

138 This study set out to address the gap in the evidence as to food bank users' experience of food
139 insecurity and background dietary quality. It has unveiled that food bank users have a nutritionally
140 inadequate diet while in food crisis (the day prior to accessing emergency food aid), and missing
141 meals and experiencing hunger happens weekly or more for most. The severe level of food
142 insecurity is confirmed by the pattern of food bank use – over 50% of participants had visited a
143 food bank 3 or more times in the past month. Acute food shortage was most marked for dietary
144 adequacy of fibre, calcium and iron. Importantly, intake of protein was also low, with over 40% of
145 people falling below the threshold for adequacy. These nutrient shortfalls are unsurprising in the
146 face of a marked dietary energy deficit – energy intake was 800 Kcal below theoretical energy
147 requirements. At this level of energy restriction achieving adequate micronutrient intake is
148 challenging. A dependence on calorie-dense food was seen in nutrient intakes weighted towards fat

149 and sugars as energy sources, albeit under the umbrella of energy restriction. Nevertheless food
150 bank users had aspirations to eat healthier food, primarily through greater consumption of fruit
151 and vegetables.

152 While the acute effect of food shortage may be a diminished intake of energy and nutrients,
153 predisposing towards malnutrition, dietary overconsumption was in evidence in our dataset with
154 substantial numbers of women classified as overweight and obese. Clearly the negative energy
155 balance we documented during a period of food shortage had been offset by overconsumption at
156 other times. However, compensatory overeating was not universal, as 7% of participants were
157 classified as underweight and recent weight loss was reported by nearly 50%. Other health
158 problems were also prevalent, with over a third of women reporting poor mental health.

159 Finally, less than a quarter of food bank users in this study reported they were accessing the food
160 bank for the first time. There seems to be a large cohort of users who habitually endure food
161 shortage, for whom access to emergency food aid is both routine and critical. Such dependence
162 arose from straitened financial circumstances, particularly because of issues with social security
163 benefits.

164 Like most dietary studies, nutrient intake estimates were reliant on self-reporting of food
165 consumption, which is open to underreporting. This bias may be exacerbated in this population, as
166 low food consumption may be perceived to vindicate receipt of charitable food, albeit participants
167 were advised that participation had no bearing on entitlement. Other social response biases may be
168 acting, not least an influence of high relative body weight. Furthermore, a single day of recall does
169 not provide a measure of habitual intake. Our estimates of intake of energy and nutrients reflect the

170 trough of dire food shortage. That said, the high frequency rate of severe food insecurity
171 (encompassing both food shortage and hunger) indicates that such troughs are customary.
172 Interpretation of the prevalence figures for BMI must consider that these were based on self-report
173 of weight and height. In food insecure populations such measures are known to be biased towards
174 under-reporting of weight for height ¹⁸. It is likely that prevalence of overweight and obesity
175 exceeds 40%. The sample was a small, convenience sample comprising largely of single, White,
176 British city-dwellers and having a high proportion of men. These results must be interpreted in the
177 context of a preliminary study and extrapolation to the wider national context has to be tentative.
178 Even with this caveat, the study provides valuable primary data on the level of food insecurity
179 experienced by people turning to food banks, and its acute and negative impact on dietary quality.

180 Comparative British literature on the extent of under-nutrition among vulnerable people is scarce,
181 but nutrient intakes parallel those of a 2012 study of homeless people, which described low intakes
182 of energy, protein and iron, and a reliance on fat and sugar as energy sources ¹⁵. A qualitative study
183 of Scottish food bank users noted that meat consumption was compromised during food crisis ⁵.

184 The current study used three questionnaire items to assess food insecurity experience. These were
185 derived from a 10-item food security screening scale used in a 2003-2005 British government
186 survey of low-income families ¹⁶. Abbreviation of the original scale was necessary in order to
187 minimise survey time. The original questionnaire items were also rephrased in order to assess
188 recent food insecurity experience (over the previous month as opposed to over the previous year).
189 The items used to measure food insecurity in the current study closely match items in the UN Food
190 and Agriculture Organisation's 8-item Food Insecurity Experience Scale ¹⁹, which has recently been
191 used to assess food insecurity experience in a global context.

192 Nearly 60% of participants surveyed were experiencing severe food insecurity (being hungry and
193 not being able to eat) on a weekly basis or more often. These figures are set against a 33% rise in
194 hospital admissions for malnutrition in England between 2010/11 and 2014/2015, while local
195 hospitals record a doubling of cases in a similar time period; there were 92 cases in 2014, which is
196 the year this study was conducted ²⁰. The convergence of food insecurity with obesity in women, as
197 opposed to men, has been shown in North American surveys ^{21,22} and resonate with a secondary
198 analysis of Health Survey of England data ²³ that revealed a relationship between low household
199 income and obesity in women, but not men. The obesity issue has not surfaced in the UK food bank
200 literature, but our data indicate a substantially greater prevalence of obesity in women than the
201 English national average of 24% (2013 figures) ²⁴. Furthermore, it is likely our obesity prevalence
202 rate estimates are conservative.

203 The high prevalence of mental health problems concurs with case studies of UK food bank users ^{4,25}
204 and North American surveys of food pantry users ¹². Depression and poor mental health have been
205 linked to risk of obesity ²⁶ in cross-sectional study designs, although the relationship may be bi-
206 directional. This relationship was not corroborated in this study, but sample size was limited.

207 Cycles of 'plenty and want' are a feature of poverty-driven food insecurity. Such cycles are known
208 to lead to dependence on energy-dense foods of low nutritional quality that are affordable,
209 appetising and ubiquitous ²⁷. Although some food bank users recognised that their diets lacked
210 fruit and vegetables, the rise in British food prices since 2008 have been marked for these
211 foodstuffs, while in contrast foods and drinks high in fat and sugar have been price resilient ²⁸. The
212 economic vulnerability of food insecure populations means that provision of culinary complex
213 meals, which require substantial larder stocks and are centred on expensive meat and vegetables is

214 impossible. Food policy measures using economic instruments to regulate food prices and
215 encourage a shift in eating pattern may be necessary ²⁹.

216 Fluctuation in the household food supply seems to result in a psychological drive to overeat in
217 women; emotional and binge eating after periods of food deprivation has been documented ³⁰ and
218 women with children and those experiencing depression seem to more susceptible to such
219 behavioural patterns ²². A desire for food calories in the face of financial insecurity seems to
220 overwhelm other aspects of food choice. Healthy eating campaigns are likely to be seen as
221 peripheral by people who are focused on getting enough food energy to survive.

222 With the growing reliance on food banks, and if these results are substantiated, health professionals
223 can expect to see an increase in the number of patients presenting with ill health related to
224 malnutrition. These may include iron deficiency anaemia, uncontrolled diabetes, and hypertension,
225 as well as excess weight. There is also potential to improve dietary adequacy through
226 improvements in the food distributed at food banks. Clearly, provision of foods rich in protein, iron,
227 calcium and fibre is necessary, and procurement policies could be more prescriptive. Some North
228 American and Canadian food banks have introduced policies to address poor dietary patterns of
229 their clients ^{27,31}. There is some evidence that recipients of charitable food are open to dietary
230 change and value such initiatives ^{32,33}.

231 Further research to confirm these findings is needed. Ideally it would incorporate a less subjective
232 method of dietary assessment, such as a photographic record, have physical and biochemical
233 measures of nutritional status and have a wider geographical sampling frame.

234 People using food banks experience substantial and recurring food insecurity. This insecurity
235 impacts negatively on diet quality with compromised intakes of energy, protein, fibre, calcium and
236 iron and a reliance on fat and sugars. Such patterns may lead to ill health. Women using food banks
237 have a high prevalence of obesity and mental health problems.

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327

328

329 **Table 1: Relative body weight and chronic illness profile of sample (n; percentage in parentheses; base**
 330 **= 103)**

Characteristic		Men	Women	Total	Tests
BMI category* (kg/m ²)	Underweight (<18.5)	3 (4.7%)	4 (10.3%)	7 (6.8)	$\chi^2(4)=22.0$ p<0.001
	Healthy weight (18.5-24.9)	37 (57.8%)	17 (43.6%)	54 (52.4)	
	Overweight (25-29.9)	18 (28.1%)	2 (5.1%)	20 (19.4)	
	Obese (30-39.9)	6 (9.4%)	11 (28.2%)	17 (16.5)	
	Morbidly obese (>40)	0 (0.0%)	5 (12.8%)	5 (4.9)	
Chronic illness or disability**	None	29 (43.9%)	14 (30.4)	41 (38.4)	$\chi^2(1)=2.1$, p=0.171
	Mental health	12 (18.2%)	17 (37.0%)	29 (25.9)	$\chi^2(1)=5.0$, p=0.030
	Diabetes	5 (7.6%)	3 (6.5%)	8 (7.1)	$\chi^2(1)=0.05$, p=1.0

	Cardiovascular	6 (9.1%)	3 (6.5%)	9 (8)	$\chi^2(1)=0.2$, p=0.735
	Musculoskeletal	10 (15.2%)	6 (13.0%)	18 (14.3)	$\chi^2(1)=0.1$, p=0.792
	Respiratory	4 (6.1%)	9 (19.6%)	13 (11.6)	$\chi^2(1)=4.8$, p=0.037
	Other	5 (7.6%)	5 (10.9%)	10 (8.9)	$\chi^2(1)=0.4$, p=0.738

331

332 **Table 2: Frequency of food shortage experiences (n; percentage in parentheses; base = 112)**

333

Food shortage indicator	Never	Once or twice per month	Weekly	More than once a week
Skipped meals and/or reduced size of meal	21 (19)	26 (23)	24 (21)	41 (37)
Eaten less than felt should	20 (18)	26 (23)	24 (21)	42 (38)
Hungry but didn't eat	29 (26)	24 (22)	23 (21)	34(32)

334

335

336 **Table 3: Median nutrient intakes (Inter-Quartile Range) compared to UK Dietary Reference Values**
 337 **(base = 112)**

338

339

Nutrient		DRV	Median intake (IQR)	Median difference from DRV	p-value ‡	% outside DRV
Energy (kcal/d)	Men	2603 ¹	1775 (1235-2723)	-996	<0.001	71.2
	Women	2078 ¹	1201 (719-1801)	-972	<0.001	89.1
Protein (g/day)	Men	55 ²	69 (38 - 113)	13	0.003	40.9
	Women	45 ²	36 (18-65)	-9	0.650	54.3
Carbohydrate (% total energy)		50 ³	53 (43-60)	3	0.135	44.1
Total fat (% total energy)		<33 ³	35 (28-41)	2	0.092	56.8
Saturated fat (% total energy)		<10 ³	13 (9-18)	3	<0.001	71.2
Free Sugars (% energy)		<5% ⁴	12 (15-17)	7	<0.001	86.6
Alcohol (% energy)		<5 ³	0 (0-0)	-5	<0.001	0
Fibre (g/day)		30 ⁵	13 (7-24)	-17	<0.001	83.0
Sodium (mg/day)		<2400 ³	2151 (1307-3747)	-249	0.567	43.8
Calcium (mg/day)		700 ²	553 (314-875)	-148	0.049	61.6
Iron (mg/day)	Men	8.7 ²	10.7 (6.3-15.4)	2.0	0.007	39.4
	Women	14.8 ²	5.8 (2.8-8.5)	-9.0	<0.001	93.5

340 ¹ Estimated Average Requirement ¹⁷; ² Reference Nutrient Intake ¹⁷; ³ Population Average ¹⁷; ⁴ Reference
 341 Value ¹⁷; ⁵ Association of Official Agricultural Chemists analysis; reference value ¹⁷ ‡ One-sample Ranked
 342 Wilcoxon Test

343

344 **Appendix**

345

346 **Questionnaire for Participants**

347 **The food experiences and nutrient intake of people that use food banks in Sheffield**

Male <input type="checkbox"/>	Female <input type="checkbox"/>	Date of Birth: __/__/__
Ethnicity: _____		Referrer: _____

348

349

350

351 **1.** How many people do you live with? _____

352

353 **2.** How many are Adults _____ Children _____

354 How old is(are) the child(ren)? _____

355

356 **3.** What is your relationship status?

357 Single Married Separated

358 Divorced Widowed Cohabiting

359 In a relationship but living separately

360

361 **4. Are you:**
 362 Working full-time Occasional/seasonal work

363 Working part-time Not Working

364 Self-employed Working a 0-hour contract

365 Retired

366

367 **5. Do you have any long-standing illness, disability or infirmity? (By long-standing I mean an**
 368 **illness that you have had over a period of time or that is likely to affect you over a period of**
 369 **time.)**
 370

371 Yes No

372

373 If **Yes**, can you describe this _____

374

375 **6. What is your approximate**
 376

377 Weight _____ Height _____

378

379 **7.** Over the last year has your weight
380

381 Stayed the same Increased Decreased

382

383 **8.** How often do you usually have an alcoholic drink?
384

385 Daily Almost every day

386 Once or twice a week Once or twice a month

387 Once every couple of months Once or twice a year

388 Not at all in the last 12 months

389

390 **9.** How many days a week do you do light physical activity? (e.g a continuous gentle walk or
391 housework that lasts at least 30 minutes)
392

393 Daily Every 2-3 days Every 4-5 days

394 Weekly Occasionally Never

395

396 **10.** How many days a week do you do more strenuous physical activity? (e.g. a sport or jog that
397 lasts at least 30 minutes)
398

399 Daily Every 2-3 days Every 4-5 days

400 Weekly Occasionally Never

401

402 **11. How often in the last month have you eaten fresh fruit or vegetables?**
403

404 Daily

405 More than once a week

406 Weekly

407 More than once a month

408 Monthly

409 Not at all

410

411 **12. Is this your first visit to a Food Bank? (if Yes, go to 14)**
412

413 Yes No

414

415 **13. How many times have you used a food bank in the last month?**
416

417 Once Twice Three times or more

418

419 **14. How many times have you used a food bank in the last 6 months?**
420

421 Once Twice Three times or more

422

423 **15.** What is the main reason for you coming to the food bank today?

424

425 Benefit Delays Delayed Wages Benefit Changes 426 Low income Unemployed Sickness 427 Debt Homeless Refused STBA 428 Unexpected Expenditure 429 Other _____

430

431 **16.** Did you have unexpected expenses last month?

432

433 Yes No

434

435 If **yes**, did you cut back on food to meet these expenses?

436

437 Yes No

438

439 **17.** In the last month have you ever had to **reduce the size of your meals or skip meals**
440 because there wasn't enough money for food?

441

442 Yes No

443

444 If **Yes**, how many times has this happened?

445

446 Once or Twice Weekly More than once a week

447

448

449 **18.** In the last month have you ever **eaten less than you felt you should** because there wasn't
450 enough money to buy food?
451452 Yes No

453

454 If **Yes**, how many times has this happened?

455

456 Once or Twice Weekly More than once a week

457

458

459 **19.** In the last month have you ever been **hungry but didn't eat** because you couldn't afford
460 enough food?
461

462 Yes No

463

464 If **Yes**, how many times has this happened?

465

466 Once or Twice Weekly More than once a week

467

468 **20.** Here are some reasons why people don't always have the quality or variety of food they
469 want. As I list them, tell me if any of these reasons apply to you?

470

471 Not enough **money**

472 Not **available** in local shops

473 Not enough **time** for cooking/shopping

474 Poor cooking/storage **facilities**

475 **Transport** problems

476 Not available in the work place

477 Shopping is difficult with children

478 Lack of cooking skills

479 No particular reason

480 Other

481

482 **22.** Are there any things you would like to change about your current diet? (e.g. make it
483 healthier/ improve it/eat more or less)

484

485 Yes No

486

487 **23.** What would you like to change?

488

489 _____

490

491

492

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502