Questions documentation

Questionnaire 2

17- 22nd week of pregnancy

Your diet

The Norwegian Mother, Father and Child Cohort Study (MoBa)

Mother questionnaire

Please note:
This document describes the instruments used in the questionnaire. It has not yet undergone final quality control and may contain minor inaccuracies. The document is subject to revision. If you have any comments or suggestions for improvement, please contact mor.barndata@fhi.no.

Version	Date	Performed by	Description
1.0	Dec. 2014	Fufen Jin	
1.1	June 2015	Margaretha Haugen	
1.2	09.04.2021	Turid S. Solberg	Corrected labels in question Q10_2 and Q10_3.
1.3	16.10.2026	Data manager	Corrected labels in question Q6_3 and Q16_2.

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Instrument

This is the food frequency questionnaire (FFQ) developed to monitor the mother's food intake in pregnancy. The decisions taken and the challenges encountered have been described in Meltzer et al.[1] An extensive validation of the FFQ has been performed and overall results are described in Brandsæter et al [2]

1. Name of original instrument/question:

MoBa FFQ
List wording of questions included in the section (with number from questionnaire in front) and write response categories (with values used in the dataset)

See the publication by Meltzer et al 2008 [1]

2. Modifications:

Q2 has six versions (A, B, C, D, E and W). Version A and B differs substantially from the rest of the versions. This instrument documentation is based on version C, D, E and W, which are virtually the same.

Version A and B (KOST_A) are characterized as follows:

- They were developed by the University of Oslo for use in the population based dietary registration NORKOST2.
- In the MoBa versions the questions ask about dietary intake during **the year before becoming pregnant.**
- Version A and B are not included in the standard delivery of MoBa data but can be delivered if the researcher is interest in the diet before pregnancy.
- 9000 participants included between 1999 and February 2002 answered this version.

Versions C, D, E and W (KOST_B) are characterized as follows:

- These versions apply to all women included in the study after March 1st 2002 and includes approximately 87000 pregnancies
- The women are asked about their diet **since they became pregnant**
- When asking for dietary data this questionnaire is following the standard delivery and named PBD_Skjema2_CDW
- This questionnaire has been extensively validated, see Brantsæter et al. [2]
- The versions of this questionnaire are just modified regarding food supplement use which has no impact on the nutrient calculations or calculations of the foodsupplements.

- Version denoted E or W was answered electronically.

1-2. Your diet

1. Name of original questions: 2 questions about maternal diet

Q		Response options	Variable name
1	**How would you describe your diet since you became pregnant? *(Mark only one box)***		
		1-I eat both meat and fish 2-I avoid meat, but eat fish 3-I avoid fish, but eat meat 4-I'm a vegetarian and include dairy products and eggs in my diet (ovo-lacto-vegetarian) 5-I'm a vegetarian and include dairy products but not eggs in my diet (lacto-vegetarian) 6-I'm a vegetarian and avoid all dairy products and eggs (vegan)	BB15
2	**Have you used organic food products since you became pregnant?**		
	Milk, dairy products, cheese	1-Seldom/never 2-Sometimes 3-Often 4-Usually	BB16
	Bread and cereals		BB17
	Eggs		BB18
	Vegetables		BB19
	Fruit		BB20
	Meat		BB21

2. **Description of original questions:** MoBa specific single questions

3. **Rationale for choosing the questions:**
   The questions were developed to survey maternal dietary characteristics.

4. **Revision during the data collection period:**
   Not included in versions A and B.

3. Your meal pattern

1. **Name of original questions:** question about maternal meal pattern

Q		Response options	Variable name
3	**How often have you had the following meals per week since you became pregnant?**		
	Breakfast	1) 7 2) 6 3) 5 4) 4 5) 3 6) 2 7) 1 8) 0	BB22
	Snack, a.m.		BB23
	Lunch		BB24
	Snack, before dinner		BB25
	Dinner		BB26
	Snack, in the afternoon		BB27
	Supper		BB28
	Night meal		BB29

2. **Description of original questions:** MoBa specific single questions

3. **Rationale for choosing the questions:**
   The questions were developed to survey pregnant women's meal patterns

4. **Revision during the data collection period:**
   No revisions have been made between versions.

4-7. Bread/crisp bread/crackers

1. Name of original questions: 3 questions about daily intake of bread and butter/margarine

Q		Response options	Variable name
4	**How many slices of bread/crispbread/crackers have you eaten on average per day since you became pregnant?** When answering this question we ask you to include bread eaten during the whole day, i.e. with all meals. Half a roll = 1 slice of bread, 1 baguette = 4 slices of bread, 1 ciabatta = 3 slices of bread.		
	White bread (baguettes, ciabatta etc.)	1) 13+ per day 2) 9-12 per day 3) 8 per day 4) 7 per day 5) 6 per day 6) 5 per day 7) 4 per day 8) 3 per day 9) 2 per day 10) 1 per day	BB30
	Wholemeal bread (Kneipp, Graham etc.)		BB32
	Dark bread (Danish rye bread etc.)		BB34
	Fiber bread, fiber crisp bread, ryecrisp		BB36
	Crisp bread, rusk etc.		BB38
	Crackers		BB40
	White bread (baguettes, ciabatta etc.)	OR 1) 5-6 per week 2) 3-4 per week 3) 1-2 per week 4) 0 per week	BB31
	Wholemeal bread (Kneipp, Graham etc.)		BB33
	Dark bread (Danish ryebread etc.)		BB35
	Fiber bread, fiber crispbread, ryecrisp		BB37
	Crispbread, rusk etc.		BB39
	Crackers		BB41
5	**Do you use butter/margarine with your sandwiches?**		
		1- Yes 2- No	BB42
6	**If you use butter/margarine, on how many sandwiches on average and what kind do you use?**		
	Butter/Bremyk	1) 13+ per day 2) 9-12 per day 3) 8 per day 4) 7 per day 5) 6 per day 6) 5 per day 7) 4 per day 8) 3 per day 9) 2 per day 10) 1 per day	BB43
	Hard margarine (Per, Melange)		BB45
	"Brelett", margarine light		BB47
	Soft margarine (soft, Vita, Olivero etc.)		BB49
	Light margarine (Soft light, Vita let etc.)		BB51
	Butter/Bremyk	OR 1) 5-6 per week 2) 3-4 per week 3) 1-2 per week 4) 0 per week	BB44
	Hard margarine (Per, Melange)		BB46
	"Brelett", margarine light		BB48
	Soft margarine (soft, Vita, Olivero etc.)		BB50
	Light margarine (Soft light, Vita let etc.)		BB52
7	**How much butter/margarine do you use with your sandwiches?**		
		1- Plenty 2- Medium 3-Minimum	BB53

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
This is a measure of daily intake of bread and butter/margarine used on bread.

4. Revision during the data collection period:
Some revisions in question order from version KOST_A and KOST_B.

8. Cheese/meat cold cuts/fish/spreads

1. Name of original questions: questions about intake of cheese, meat cold cuts, fish and other spreads

Q No.		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
8	**How often do you have the following food items on yours sandwiches?**						
CHEESE	1. Whey cheese goat milk, regular	*per day* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB54	*per week* 1) 5-6 2) 3-4 3) 1-2	BB55	*per month* 1) 3 2) 2 3) 1 4) 0	BB56
	2. Whey cheese low fat, spread goat milk		BB57		BB58		BB59
	3. Hard cheese, cream cheese		BB60		BB61		BB62
	4. Hard cheese, cream cheese, low fat		BB63		BB64		BB65
	5. Blue cheese (Camembert, Norzola etc.)		BB66		BB67		BB68
	6. Other kinds of cheese		BB69		BB70		BB71
FISH	7. Roe spread	*per day* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB72	*per week* 1) 5-6 2) 3-4 3) 1-2	BB73	*per month* 1) 3 2) 2 3) 1 4) 0	BB74
	8. Mackerel/sardine in tomato sauce		BB75		BB76		BB77
	9. Sardine in oil		BB78		BB79		BB80
	10. Smoked salmon/trout/mackerel		BB81		BB82		BB83
	11. Herring, pickled		BB84		BB85		BB86
	12. Shrimp, Northern		BB87		BB88		BB89
	13. Crab		BB90		BB91		BB92
	14. Tuna		BB93		BB94		BB95
	15. Svolværpostei (spread of fish liver/roe)		BB96		BB97		BB98
	16. Other kinds of fish		BB99		BB100		BB101
MEAT	17. Low fat cold cuts (ham, roast beef etc.)	*per day* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB102	*per week* 1) 5-6 2) 3-4 3) 1-2	BB103	*per month* 1) 3 2) 2 3) 1 4) 0	BB104
	18. Medium fat cold cuts of lamb, calf etc.		BB105		BB106		BB107
	19. Salami, Swedish sausage etc.		BB108		BB109		BB110
	20. Cold cuts of turkey, chicken		BB111		BB112		BB113
	21. Liver paste		BB114		BB115		BB116
	22. Other kinds of meat		BB117		BB118		BB119
OTHERSPREADS	23. Spread with mayonnaise (Italian etc.)	*per day* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB123	*per week* 1) 5-6 2) 3-4 3) 1-2	BB124	*per month* 1) 3 2) 2 3) 1 4) 0	BB125
	24 Spread made with yogurt and mayo.		BB126		BB127		BB128
	25. Mayonnaise		BB129		BB130		BB131
	26. Jam		BB133		BB133		BB134
	27. Honey		BB135		BB136		BB137
	28. Peanut butter		BB138		BB139		BB140
	29. Other nut spreads (Nugatti etc.)		BB141		BB142		BB143
	30. Sweet spreads (Sjokade, Hapå etc.)		BB144		BB145		BB146
	31. Tartex and other vegetarian spreads		BB147		BB148		BB149
	32. Fruit (banana, apple etc.)		BB150		BB151		BB152
	33. Vegetable (tomato, cucumber etc.)		BB153		BB154		BB155

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
This is a measurement of intake of cheese, meat cold cuts, fish and other spreads.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B**.**

9. Eggs

1. Name of original questions: questions about intake of eggs

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
9	**How many eggs have you eaten on average since you became pregnant?**						
	Eggs-fried, boiled, scrambled, omelet	*per day* 1) 2+ 2) 1	BB156	*per week* 1) 5-6 2) 3-4 3) 1-2	BB157	*per month* 1) 2-3 2) 1 3) 0	BB158
	Number of seagull eggs eaten last year			1) 0 2) 1-5 3) 6-10 4) more than 10			BB159

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of eggs.

4. Revision during the data collection period:
Revision between versions KOST_A and KOST_B, Seagull eggs not included in KOST_A

10. Breakfast cereals

1. Name of original questions: questions about breakfast cereals or porridge

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
10	**How often do you have the following food items on yours sandwiches?**						
	1. Unsweetened cereals (4-kom, All-Bran Flakes, etc.)	*per day*	BB160	*per week*	BB161	*per month*	BB162
	2. Sweetened muesli with dried fruit, nuts, etc.	1) 2+ 2) 1	BB163	1) 5-6 2) 3-4 3) 1-2	BB164	1) 2-3 2) 1 3) 0	BB165
	3. Porridge, cream of wheat, rice, etc.		BB166		BB167		BB168
	4. Corn Flakes, Frosties etc.		BB169		BB170		BB171
	5. Sugar with your cereals/porridge		BB172		BB173		BB174
	6. Jam with your cereals/porridge		BB175		BB176		BB177

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of cereals.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B.

11-12. Beverage

1. Name of original questions: questions about beverage consumption

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
11	**How many cup/glasses have you been drinking on average of the following beverages since you became pregnant? Please include also milk/yogurt with your breakfast cereals.**						
	Milk and yogurt						
	1. Full-fat milk, fermented milk (1 glass)	*per day* 1) 8+ 2) 6-7 3) 4-5 4) 2-3 5) 1	BB178	*per week* 1) 5-6 2) 3-4 3) 1-2	BB179	*per month* 1) 2-3 2) 1 3) 0	BB180
	2.Low-fat milk(1 glass)		BB181		BB182		BB183
	3. Extra low-fat milk(1 glass)		BB184		BB185		BB186
	4. Skimmed/fermented sk. milk		BB187		BB188		BB189
	5. Cultura, all types(1 glass)		BB190		BB191		BB192
	6. Biola milk, Biola yogurt(1 glass)		BB193		BB194		BB195
	7. Yogurt, plain/with fruit(1 glass)		BB196		BB197		BB198
	8. Low-fat yogurt(1 glass)		BB199		BB200		BB201
	9. Go'morgen yogurt (1 serving)		BB202		BB203		BB204
	10. Chocolate milk, Litago(1 glass)		BB205		BB206		BB207
	11. Soya milk(1 glass)		BB208		BB209		BB210
	12. Rice and oat milk(1 glass)		BB211		BB212		BB213
	Juice/soft drink/water/alcohol						
	13. Orange juice(1 glass)	*per day* 1) 8+ 2) 6-7 3) 4-5 4) 2-3 5) 1	BB214	*per week* 1) 5-6 2) 3-4 3) 1-2	BB215	*per month* 1) 2-3 2) 1 3) 0	BB216
	14. Other fruit juice, nectar(1 glass)		BB217		BB218		BB219
	15. Tomato- and vegetable juices(1 glass)		BB220		BB221		BB222
	16. Fruit syrup, sweetened(1 glass)		BB223		BB224		BB225
	17. Fruit syrup, light products(1 glass)		BB226		BB227		BB228
	18. Coca Cola/Pepsi with sugar(1 glass)		BB229		BB230		BB231
	19. Other soft drinks with sugar(1 glass)		BB232		BB233		BB234
	20. Diet Coca Cola/Pepsi (1 glass)		BB235		BB236		BB237
	21. Other light soft drinks(1 glass)		BB238		BB239		BB240
	22. Energy drinks (Battery etc.) (1 glass)		BB241		BB242		BB243
	23. Tap water(1 glass)		BB244		BB245		BB246
	24. Uncarbonated water, bottled(1 glass)		BB247		BB248		BB249
	25. Carbonated water(1 glass)		BB250		BB251		BB252
	26. Non-alcoholic beer, small beer(1 glass)		BB253		BB254		BB255
	27. Pilsner beer(1 glass)		BB256		BB257		BB258
	28. Wine(1 glass)		BB259		BB260		BB261
	29. Spirits, brandy, liqueur(1 drink)		BB262		BB263		BB264
	Coffee/tea						
	30. Filter coffee (1 cup)	*per day* 1) 8+ 2) 6-7 3) 4-5 4) 2-3 5) 1	BB265	*per week* 1) 5-6 2) 3-4 3) 1-2	BB266	*per month* 1) 2-3 2) 1 3) 0	BB267
	31. Coffee instant(1 cup)		BB268		BB269		BB270
	32. Coffee boiled/press (1 cup)		BB271		BB272		BB273
	33. Café latte, cappuccino(1 cup)		BB274		BB275		BB276
	34. Espresso(1 cup)		BB277		BB278		BB279
	35. Decaffeinated coffee(1 cup)		BB280		BB281		BB282
	36. Fig/barley coffee(1 cup)		BB283		BB284		BB285
	37. Tea (ordinary, Lipton fruit tea etc.) (1 cup)		BB286		BB287		BB288
	38. Green tea(1 cup)		BB289		BB290		BB291
	39. Rosehip tea, herb tea(1 mug)		BB292		BB293		BB294
12	**In how many cups do you use milk/cream/sugar with your coffee/tea?**						
	1. Milk/cream in coffee/tea	*per day* 1) 8+ 2) 6-7 3) 4-5 4) 2-3 5) 1	BB295	*per week* 1) 5-6 2) 3-4 3) 1-2	BB296	*per month* 1) 2-3 2) 1 3) 0	BB297
	2. Sugar/honey in coffee/tea		BB298		BB299		BB300
	3. Artificial sweetener in coffee/tea		BB301		BB302		BB303

2. **Description of original questions:** MoBa specific single questions

3. **Rationale for choosing the questions:**
   These questions were developed to get information about pregnant women's beverage consumption.

4. **Revision during the data collection period:**
   Revisions have been made between KOST_A and KOST_B.

13-14. Hot meals

1. Name of original questions: questions about hot meals

Q		Response Options 1	Variable name	Response Options 2	Variable name
13	**How often have you on average had the following for your hot meals since you became pregnant?**				
	General questions				
	1. Meat and meat products	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB307	*per month* 1) 3 2) 2 3) 1 4) 0	BB308
	2. Meat and meat products prepared as grilled		BB309		BB310
	3. Offal		BB311		BB312
	4. Chicken, turkey		BB313		BB314
	5. Fish, fish products, boiled/cooked in oven		BB315		BB316
	6. Fish, fish products, fried		BB317		BB318
	7. Vegetarian dishes		BB319		BB320
	More detailed questions				
14	**How often have you on average had the following for your hot meals since you became pregnant?**				
	Hot meal with meat products				
	1. Meat/pork sausage	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB321	*per month* 1) 3 2) 2 3) 1 4) 0	BB322
	2. Hot dogs and/or frankfurters		BB323		BB324
	3. Chicken and/or turkey sausage		BB325		BB326
	4. Meat balls, meat loaf		BB327		BB328
	5. Hamburger, meat patty		BB329		BB330
	6. minced meat		BB331		BB332
	Beef/veal				
	7. Beef and/or veal roast	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB333	*per month* 1) 3 2) 2 3) 1 4) 0	BB334
	8. Beef (fillet, tenderloin, sirloin, entrecote)		BB335		BB336
	9. T-bone steak, beef and veal		BB337		BB338
	10. Beef stew, beef soup		BB339		BB340
	Pork				
	11. Pork chop, pork roast, pork schnitzel	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB341	*per month* 1) 3 2) 2 3) 1 4) 0	BB342
	12. Pork tenderloin, fillet		BB343		BB344
	13. Pork loin smoked		BB345		BB346
	14. Pork belly bacon, spareribs		BB347		BB348
	15. Bacon		BB349		BB350
	16. Pork stew		BB351		BB352
	Lamb				
	17. Lamb roast, lamb sirloin		BB353		BB354
	18. Lamb stews (Fårikål etc.)		BB355		BB356
	Venison				
	19. Reindeer roast	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB357	*per month* 1) 3 2) 2 3) 1 4) 0	BB358
	20. Roast of elk, roe deer, fallow deer		BB359		BB360
	21. Reindeer patty/reindeer stew		BB361		BB362
	22. Patty/stew of elk, roe/fallow deer		BB363		BB364
	Offal				
	23. Liver, kidney from beef, pork		BB365		BB366
	24. Liver kidney from lamb		BB367		BB368
	25. Liver, kidney from venison		BB369		BB370
	26. Black pudding, lungemos (hashed lungs)		BB371		BB372
	Hot meal with poultry				
	27. Chicken fillet, turkey fillet	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB373	*per month* 1) 3 2) 2 3) 1 4) 0	BB374
	28. Fried chicken		BB375		BB376
	29. Pan fried/baked/boiled chicken, hen, turkey		BB377		BB378
	30. Chicken schnitzel, nuggets		BB379		BB380
	31. Game (grouse, pheasant etc.)		BB381		BB382
	32. Other poultry (duck, goose, ostrich)		BB383		BB384

13-14. Hot meals (cont.)

1. Name of original questions: questions about hot meals

Q		Response Options 1	Variable name	Response Options 2	Variable name
14	**How often have you on average had the following for your hot meals since you became pregnant?**				
	Seafood				
	33. Cod, saithe, haddock, Pollack	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB385	*per month* 1) 3 2) 2 3) 1 4) 0	BB386
	34. Mackerel, herring		BB387		BB388
	35. Salmon, trout		BB389		BB390
	36. Halibut, plaice, founder		BB391		BB392
	37. Tuna fish		BB393		BB394
	38. Perch, pike, pikecake		BB395		BB396
	39. Other fishes		BB397		BB398
	40. Fish cake, fish pudding, fish balls		BB399		BB400
	41. Fish finger, breaded fish		BB401		BB402
	42. Fish casserole, soup		BB403		BB404
	43. Shrimps		BB405		BB406
	44. Mussels		BB407		BB408
	45. Crab		BB409		BB410
	46. Roe		BB411		BB412
	47. Fish liver		BB413		BB414
	Pasta				
	48. Pasta with meat (Spaghetti bolognaise, lasagna, etc.)	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB415	*per month* 1) 3 2) 2 3) 1 4) 0	BB416
	49. Pasta with fish/mussels/shrimp		BB417		BB418
	50. Pasta with vegetables		BB419		BB420
	51. Pasta with only tomato sauce/ketchup		BB421		BB422
	52. Cheese (parmesan, etc.) with pasta		BB423		BB424
	Other hot meals				
	53. Pizza	*per week* 1) 6+ 2) 5 3) 4 4) 3 5) 2 6) 1	BB425	*per month* 1) 3 2) 2 3) 1 4) 0	BB426
	54. Taco, burritos etc.		BB427		BB428
	55. Pancakes		BB429		BB430
	56. Cream of rice etc. (not breakfast)		BB431		BB432
	57. Soup, homemade and packaged		BB433		BB434
	58. Only with vegetables		BB435		BB436
	59. With beans and /or lentils		BB437		BB438
	60. With soy products (sausage, burger)		BB439		BB440

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of hot meals.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B.

15. With your hot meal

1. Name of original questions: questions about the food eaten with hot meals

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
15	**How often have you on average eaten the following food items since you became pregnant?**						
	Milk and yogurt						
	1. Potatoes (boiled, baked, mashed)	*per day* 1) 1	BB441	*per week* 1) 5-6 2) 3-4 3) 1-2	BB442	*per month* 1) 2-3 2) 1 3) 0	BB443
	2.French fries, fried potatoes		BB444		BB445		BB446
	3. Creamed potatoes, potato casserole		BB447		BB448		BB449
	4. Spaghetti, macaroni, noodles		BB450		BB451		BB452
	5. Rice		BB453		BB454		BB455
	6. Millet, couscous etc.		BB456		BB457		BB458
	Gravy/trimmings						
	7. Melted butter	*per day* 1) 1	BB462	*per week* 1) 5-6 2) 3-4 3) 1-2	BB463	*per month* 1) 2-3 2) 1 3) 0	BB464
	8. Melted margarine		BB465		BB466		BB467
	9. Brown/white gravy		BB468		BB469		BB470
	10. Béarnaise sauce etc.		BB471		BB472		BB473
	11. Mayonnaise, remoulade		BB474		BB475		BB476
	12. Sour cream		BB477		BB478		BB479
	13. Low-fat sour cream		BB480		BB481		BB482
	14. Ketchup		BB483		BB484		BB485
	15. Mustard		BB486		BB487		BB488

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of the food eaten with hot meals.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B.

16. Cooking fat

1. Name of original questions: questions about cooking fat

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
16	**How often have you used the following types of fat in your cooking since you became pregnant?**						
	Cooking fat						
	1. Butter		BB489		BB490		BB491
	2. Butter soft (Bremyk, Smørgod)	*per day*	BB492	*per week*	BB493	*per month*	BB494
	3. Margarine hard (Melange, Per)	1) 2+	BB495	1) 5-6	BB496	1) 2-3	BB497
	4. Soft, Soya margarine	2) 1	BB498	2) 3-4	BB499	2) 1	BB500
	5. Margarine with olive oil (Olivero)		BB501	3) 1-2	BB502	3) 0	BB503
	6. Other types of margarine		BB504		BB505		BB506
	7. Soya oil		BB507		BB508		BB509
	8. Cooking oil		BB510		BB511		BB512
	9. Olive oil		BB513		BB514		BB515
	10. Corn oil		BB516		BB517		BB518
	11. Other types of oil		BB519		BB520		BB521

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of cooking fat.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B.

17-18. Vegetables

1. Name of original questions: questions about vegetables

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
17	**How often have you on average had the following vegetables since you became pregnant?**						
	General questions						
	1. Raw vegetables (Salads etc.)	*per day* 1) 2+ 2) 1	BB522	*per week* 1) 5-6 2) 3-4 3) 1-2	BB523	*per month* 1) 2-3 2) 1 3) 0	BB524
	2. Vegetables in casserole, soups, wok etc.		BB525		BB526		BB527
	3. Boiled vegetables with main dish		BB528		BB529		BB530
18	**More detailed questions about vegetables**						
	Vegetables						
	1. Frozen vegetables	*per day* 1) 2+ 2) 1	BB531	*per week* 1) 5-6 2) 3-4 3) 1-2	BB532	*per month* 1) 2-3 2) 1 3) 0	BB533
	2. Cucumber		BB534		BB535		BB536
	3. Aubergine		BB537		BB538		BB539
	4. Avocado		BB540		BB541		BB542
	5. Cauliflower, raw		BB543		BB544		BB545
	6. Cauliflower, boiled/in casseroles		BB546		BB547		BB548
	7. Broccoli, raw		BB549		BB550		BB551
	8. Broccoli, boiled /in casseroles		BB552		BB553		BB554
	9. Green beans, haricots verts		BB555		BB556		BB557
	10. Peas		BB558		BB559		BB560
	11. Carrots, raw		BB561		BB562		BB563
	12. Carrots, boiled/in casseroles		BB564		BB565		BB566
	13. Cabbage, raw		BB567		BB568		BB569
	14. Cabbage, boiled/in casseroles		BB570		BB571		BB572
	15. Garlic		BB573		BB574		BB575
	16. Swede, raw		BB576		BB577		BB578
	17. Swede, boiled /in casseroles		BB579		BB580		BB581
	18. Onion, leek, spring onion, raw		BB582		BB583		BB584
	19. Onion, leek, boiled /in casseroles		BB585		BB586		BB587
	20. Corn, corn-on-the cob		BB588		BB589		BB590
	21. Pepper, raw		BB591		BB592		BB593
	22. Pepper in casseroles		BB594		BB595		BB596
	23. Brussels sprouts, boiled /in casseroles		BB597		BB598		BB599
	24. Green salad mix in plastic bag		BB600		BB601		BB602
	25. Lettuce, Chinese cabbage		BB603		BB604		BB605
	26. Celery, celeriac		BB606		BB607		BB608
	27. Button mushroom, raw		BB609		BB610		BB611
	28. Button mushroom, fried/in casseroles		BB612		BB613		BB614
	29. Mushroom wild		BB615		BB616		BB617
	30. Spinach		BB618		BB619		BB620
	31. Squash (zucchini)		BB621		BB622		BB623
	32. Tomato		BB624		BB625		BB626
	33. Other vegetables		BB627		BB628		BB629

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of vegetables.

4. **Revision during the data collection period:**
   Revisions have been made between KOST_A and KOST_B.

19. Dressing/trimming with salad

1. Name of original questions: questions about dressing/trimming with salad

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
19	**How often have you had dressing and other trimmings with your salad since you became pregnant?**						
	Dressing/trimmings						
	1. Dressing (Thousand-island etc.)	*per day*	BB630	*per week*	BB631	*per month*	BB632
	2. Light dressing, yogurt dressing	1) 2+	BB633	1) 5-6	BB634	1) 2-3	BB635
	3. Olives, black/green	2) 1	BB636	2) 3-4	BB637	2) 1	BB638
	4. Feta cheese		BB639	3) 1-2	BB640	3) 0	BB641
	Homemade dressing						
	5. With oil		BB642		BB643		BB644
	6. Without oil		BB645		BB646		BB647
	7. With sour cream/yogurt		BB648		BB649		BB650

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of dressing/trimming with salad.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B.

20. Proportion between vegetables and meat/fish

1. **Name of original questions:** Questions about the proportion between vegetables and meat/fish in casseroles

Q		Response options	Variable name
20	**How would you characterize the usual proportion between vegetables and meat/fish in your casseroles?**		
	1. Casseroles with meat/fish	1- Have not eaten 2- More vegetables than meat 3- Same amount meat and vegetables 4- More meat than vegetables	BB651
	2. Casseroles with minced meat		BB652
	3. Casseroles with offal		BB653

2. **Description of original questions:** MoBa specific single questions

3. **Rationale for choosing the questions:**
   These questions are developed to get information about proportion between vegetables and meat/fish in casseroles.

4. **Revision during the data collection period:**
   Revisions have been made between KOST_A and KOST_B.

21-23. Fruit

1. Name of original questions: questions about fruit

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
21	**How many fresh fruits have you eaten on average since you became pregnant?**						
	Fresh fruit	*per day* 1) 8+ 2) 6-7 3) 4-5 4) 2-3 5) 1	BB657	*per week* 1) 5-6 2) 3-4 3) 1-2	BB658	*per month* 1) 2-3 2) 1 3) 0	BB659
22	**How often have you on average eaten the following fresh fruits since you became pregnant?**						
	Fresh fruit						
	1. Orange	*per day* 1) 4+ 2) 3 3) 2 4) 1	BB660	*per week* 1) 5-6 2) 3-4 3) 1-2	BB661	*per month* 1) 2-3 2) 1 3) 0	BB662
	2. Banana		BB663		BB664		BB665
	3. Grapes		BB666		BB667		BB668
	4. Apple		BB669		BB670		BB671
	5. Peach, nectarine		BB672		BB673		BB674
	6. Grapefruit		BB675		BB676		BB677
	7. Strawberries		BB678		BB679		BB680
	8. Other berries (blueberries etc.)		BB681		BB682		BB683
	9. Mango		BB684		BB685		BB686
	10. Melon		BB687		BB688		BB689
	11. Papaya		BB690		BB691		BB692
	12. Plum		BB693		BB694		BB695
	13. Pear		BB696		BB697		BB698
	14. Other fruits		BB699		BB700		BB701
23	**How often have you on average eaten the following dried fruits since you became pregnant?**						
	Fresh fruit						
	1. Apricots	*per day* 1) 4+ 2) 3 3) 2 4) 1	BB702	*per week* 1) 5-6 2) 3-4 3) 1-2	BB703	*per month* 1) 2-3 2) 1 3) 0	BB704
	Raisins		BB705		BB706		BB707
	Prune, fig, date		BB708		BB709		BB710
	Peanuts		BB711		BB712		BB713
	Almonds, hazelnuts cashew nuts etc.		BB714		BB715		BB716

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of both fresh and dried fruits.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B.

24-26. Desserts, ice cream, cakes, candy

1. Name of original questions: questions about desserts, ice cream, cakes, candy

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
24	**How often have you on average eaten the following sweets since you became pregnant?**						
	Dessert/ice cream						
	1. Pudding (chocolate, crème caramel etc.)	*per day* 1) 2+ 2) 1	BB717	*per week* 1) 5-6 2) 3-4 3) 1-2	BB718	*per month* 1) 2-3 2) 1 3) 0	BB719
	2. Canned fruit, stewed fruit thickened with potato flour		BB720		BB721		BB722
	3. Fruit salad made of fresh fruit		BB723		BB724		BB725
	4. Ice cream		BB726		BB727		BB728
	5. Ice cream made of yogurt, low fat ice cream		BB729		BB730		BB731
	6. Water ice stick, sherbet		BB732		BB733		BB734
	7. Vanilla sauce		BB735		BB736		BB737
	8. Cream, whipped cream		BB738		BB739		BB740
25	**How often have you on average eaten cakes and buns since you became pregnant?**						
	Cakes, buns						
	1. Sweet bun	*per day* 1) 4+ 2) 3 3) 2 4) 1	BB741	*per week* 1) 5-6 2) 3-4 3) 1-2	BB742	*per month* 1) 2-3 2) 1 3) 0	BB743
	2. Danish pastry		BB744		BB745		BB746
	3. Doughnut, sponge cake		BB747		BB748		BB749
	4. Waffle		BB750		BB751		BB752
	5. Chocolate cake, cream layer cake etc.		BB753		BB754		BB755
	6. Cookie		BB756		BB757		BB758
26	**How often have you on average eaten sweets and snacks since you became pregnant?**						
	Sweets and snacks						
	1. Plain chocolate	*per day* 1) 4+ 2) 3 3) 2 4) 1	BB759	*per week* 1) 5-6 2) 3-4 3) 1-2	BB760	*per month* 1) 2-3 2) 1 3) 0	BB761
	2. Fancy and filled chocolate		BB762		BB763		BB764
	3. Caramel, candies, liquorice		BB765		BB766		BB767
	4. Jelly sweets, marshmallow		BB768		BB769		BB770
	5. Pastille with sugar		BB771		BB772		BB773
	6. Pastille sugar free		BB774		BB775		BB776
	7. Marzipan		BB777		BB778		BB779
	8. Potato chips		BB780		BB781		BB782
	9. Popcorn		BB783		BB784		BB785
	10. Salty snacks		BB786		BB787		BB788

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of desserts, ice cream, cakes and candy.

4. Revision during the data collection period:
Revisions have been made between KOST_A and KOST_B.

27. Other food items

1. Name of original questions: questions about other food items

Q		Variable name	Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
27	**It will not be possible to include all kinds of food in a questionnaire. We therefore ask you to write down food items that you have eaten since you became pregnant and that you have not yet been asked about.**							
	Other food items eaten							
	1.	BB789	*per day* 1) 2+ 2) 1	BB790	*per week* 1) 5-6 2) 3-4 3) 1-2	BB791	*per month* 1) 2-3 2) 1 3) 0	BB792
	2.	BB793		BB794		BB795		BB796
	3.	BB797		BB798		BB799		BB800
	4.	BB801		BB802		BB803		BB804

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions are developed to get information about pregnant women's intake of other food items not yet been asked about.

4. Revision during the data collection period:
Not included in KOST_A

28-29. Genetically modified food

1. Name of original questions: Questions about genetically modified food

<table>
<tr><th>Q</th><th colspan="6"></th><th>Response options</th><th>Variable name</th></tr>
<tr><td>28</td><td colspan="8">Have you eaten any genetically modified food items, either abroad or in Norway, since you became pregnant?</td></tr>
<tr><td></td><td colspan="6"></td><td>1- Yes
2- No
3- Don’t know</td><td>BB805</td></tr>
<tr><td>29</td><td colspan="8">It will not be possible to include all kinds of food in a questionnaire. We therefore ask you to write down food items that you have eaten since you became pregnant and that you have not yet been asked about.</td></tr>
<tr><td rowspan="5"></td><td colspan="8">Other food items eaten</td></tr>
<tr><td>1.</td><td>BB806</td><td rowspan="4">per day
1) 6+
2) 5
3) 4
4) 3
5) 2
6)1</td><td>BB807</td><td rowspan="4">per week
1) 5-6
2) 3-4
3) 1-2</td><td>BB808</td><td rowspan="4">per month
1) 2-3
2) 1
3) 0</td><td>BB809</td></tr>
<tr><td>2.</td><td>BB810</td><td>BB811</td><td>BB812</td><td>BB813</td></tr>
<tr><td>3.</td><td>BB814</td><td>BB815</td><td>BB816</td><td>BB817</td></tr>
<tr><td>4.</td><td>BB818</td><td>BB819</td><td>BB820</td><td>BB821</td></tr>
</table>

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
This is a measure of pregnant women’s intake of genetically modified food.

4. Revision during the data collection period:
No included in KOST_A.

30. Hot meals bought at kiosks, gas stations and fast food restaurants

1. Name of original questions: questions about hot meals bought at kiosks, gas stations and fast food restaurants

Q		Response Options 1	Variable name	Response Options 2	Variable name	Response Options 3	Variable name
30	**How often have you eaten hot meals bought at kiosks, gas stations and fast food restaurants?**						
	Food bought from						
	1. Kiosks	*per day*	BB825	*per week*	BB826	*per month*	BB827
	2. Gas stations	1) 4+	BB828	1) 5-6	BB829	1) 2-3	BB830
	3. Fast food restaurants (McDonald's etc.)	2) 2-3 3) 1	BB831	2) 3-4 3) 1-2	BB832	2) 1 3) 0	BB833

2. **Description of original questions:** MoBa specific single questions

3. **Rationale for choosing the questions:**
   This is a measure of pregnant women's intake of hot meals bought at kiosks, gas stations and fast food restaurants.

4. **Revision during the data collection period:**
   Revisions have been made between KOST_A and KOST_B.

31-38. Dietary changes due to this pregnancy

1. Name of original questions: questions about dietary changes due to this pregnancy

Q		Response options	Variable name
31	**Please mark if you have eaten more, less or the same amount of the following food items compared to before you became pregnant?**		
	Milk, dairy products and cheese	1- Yes 2- No 3- Don't know	BB834
	Bread and cereals		BB835
	Biscuits		BB836
	Fat		BB837
	Meat		BB838
	Fish		BB839
	Eggs		BB840
	Vegetables		BB841
	Fruit		BB842
	Chocolate		BB843
	Other sweets		BB844
	Coffee		BB845
	Tea		BB846
	Juice		BB847
	Soft drinks with sugar		BB848
	Soft drinks sugar free		BB849
	Alcohol		BB850
32	**Have you experienced nausea during this pregnancy?**		
		1- Yes 2- No	BB851
33	**If yes, has this caused you to eat more or less than before?**		
		1- More 2- Less	BB852
34	**In which week (s) have you been most bothered with nausea?**		
	From pregnancy week		BB853
	To pregnancy week		BB854
	Still nauseated		BB855
35	**Have you been throwing up (vomiting) during this pregnancy?**		
		1- Yes 2- No	BB856
36	**In which week (s) have you been throwing up (vomiting)?**		
	From pregnancy week		BB857
	To pregnancy week		BB858
	Still throwing up		BB859
37	**Have you started to eat or drink certain food items during this pregnancy?**		
		1- Yes 2- No	BB860
38	**If yes, name the two most important food items you have started to eat/drink.**		
	1.		BB861(txt)
	2.		BB862 (txt)

2. Description of original questions: MoBa specific single questions

3. Rationale for choosing the questions:
These questions were developed to get information about pregnant women's dietary changes due to this pregnancy.

4. Revision during the data collection period:
Questions designed for version KOST_B.

39-40. Supplements

1. Name of original questions: questions about supplements

Q		Response options / Variable name		
39	**Do you use, or have you used supplements during this pregnancy?**			
			1- Yes 2- No	BB863
40	**Do you use, or have you used supplements during this pregnancy?**			
	Liquid supplements		Times per week 1) 7 2) 6 3) 5 4) 4 5) 3 6) 2 7) 1 8) <0 9) 0	Amount 1) 1ts 2) 1bs 3) 1ss
	1. Cod liver oil		BB864	BB865
	2. Omega-3 cod liver oil		BB866	BB867
	3. Sanasol		BB868	BB869
	4. Biovit		BB870	BB871
	5. Liquid iron mixture (Floradix etc.)		BB872	BB873
	Other liquid supplements			
	6. Name:		BB874	BB875
	7. Corporation		BB876	BB877
	8. Name		BB878	BB879
	9. Corporation		BB880	BB881
	Capsules/ tablet		Times per week 1) 7 2) 6 3) 5 4) 4 5) 3 6) 2 7) 1 8) <0 9) 0	Numbers at a time 1) 1 2) 2 3) 3 4) 4+
	10. Cod liver capsules		BB882	BB883
	11. Cod liver capsules without A and D-vitamins		BB884	BB885
	12. Vitaplex		BB886	BB887
	13. Kostpluss/myco plus multi		BB888	BB889
	14. Nyco plus folic acid 0,4mg		BB890	BB891
	15. Spektro (Solaray)		BB892	BB893
	16. Hemofer		BB894	BB895
	17. Duroferon duretter		BB896	BB897
	Other supplements		Times per week 1) 7 2) 6 3) 5 4) 4 5) 3 6) 2 7) 1 8) <0 9) 0	Numbers at a time 1) 1 2) 2 3) 3 4) 4+
	18. Name	BB898	BB900	BB901
	19. Corporation	BB899		
	20. Name	BB902	BB904	BB905
	21. Corporation	BB903		
	22. Name	BB ??	BB??	BB ??

	23. Corporation	BB ??		
	24. Name	BB ??	BB ??	BB ??
	25. Corporation	BB ??		

* The question mark '??' means that the variable names are not annotated.

2. **Description of original questions:** MoBa specific single questions

3. **Rationale for choosing the questions:**
   This is a measure of pregnant women's intake of supplements during this pregnancy.

4. **Revision during the data collection period:**
   Revisions have been made between KOST_A and KOST_B.

References

References for validation of questionnaire 2cdew (KOST_B) [3; 4; 5; 6]

1. Meltzer HM, Brantsæter AL, Ydersbond T *et al.* (2008) Methodological challenges when monitoring the diet of pregnant women in a large study; experiences from the Norwegian Mother and Child Cohort Study. *Maternal and Child Nutrition* **4**, 14-27.
2. Brantsæter AL, Haugen M, Alexander J *et al.* (2008) Validity of a new Food Frequency Questionnaire for pregnant women in the Norwegian Mother and Child Cohort Study (MoBa. *Maternal and Child Nutrition* **4**, 28-43.
3. Brantsaeter AL, Haugen M, Hagve TA *et al.* (2007) Self-reported dietary supplement use is confirmed by biological markers in the Norwegian Mother and Child Cohort Study (MoBa). *Ann Nutr Metab* **51**, 146-154.
4. Brantsaeter AL, Haugen M, Julshamn K *et al.* (2009) Evaluation of urinary iodine excretion as a biomarker for intake of milk and dairy products in pregnant women in the Norwegian Mother and Child Cohort Study (MoBa). *Eur J Clin Nutr* **63**, 347-354.
5. Brantsaeter AL, Haugen M, Rasmussen SE *et al.* (2007) Urine flavonoids and plasma carotenoids in the validation of fruit, vegetable and tea intake during pregnancy in the Norwegian Mother and Child Cohort Study (MoBa). *Public Health Nutr* **10**, 838-847.
6. Brantsaeter AL, Haugen M, Thomassen Y *et al.* (2010) Exploration of biomarkers for total fish intake in pregnant Norwegian women. *Public Health Nutr* **13**, 54-62.