Questions documentation
Young men's health and fertility Clinical form

The Norwegian Mother and Child Cohort Study (MoBa)

Clinical questionnaire filled out by clinician performing a clinical examination of 2nd generation MoBa men in the MoBa collection Young men's health and fertility

Version	Date	Performed by	Description
1.0		Siri Håberg (FHI) Katrine Kranstad (FHI)	Original version

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NOTE

This instrument documentation was written based on version C of the questionnaire.

General information)

1. Name of original scale: MoBa specific questions.

Q		Response options	Variable name
Version A, B, C			
1	Date of examination *[Calendar field]*		KM11
2	Examining clinician's initials *[Text field]*		KM12
2	Examining clinician's initials pseudonym	Random number	KM12_K
4	When did the participant get up today? *[Time field/clock]*		KM13
Version B, C			
3	Examination clinic *[Radio buttons]*	1. Volvat Spiren 2.Haukeland Universitetssykehus 3.Fertilitetssenteret Sykehuset Telemark Fertilitetsavdelingen Sør	KM123
7	Specify the time of blood sampling *[Time field/clock]*	Manually plotted	KM17
9	Did the clinician ask the participant if he wants further follow-up if the quality of the sperm sample is severly reduced? *[Radio buttons]*	1. Yes, the participant has been asked 2. No, the participant has not been asked	KM124
10	Does the participant want to be contacted with a offer of further follow-up if the quality of the sperm sample is severly reduced? *[Radio buttons]*	1. Yes, wished to be contacted 2. No, does not wish to be contacted	KM125
Version A, B			
5	Number of awake hours since awakening? *[Number field]*	min: 0 hours, max: 24 hours, integers only	KM14
6	Number of hours of sleep in the last 24 hours? *[Number field]*	min: 0 hours, max: 24 hours, two decimals	KM15
7	Number of hours since last meal *[Number field]*	min: 0, max: 48, integers only	KM16
Version C			
5.1	For how long has the participant been awake since he got out of bed? Enter number of full hours. *[Number field]*	min: 0 hours, max: 72 hours, integers only	KM126
5.2	and…Number of minutes. *[Number field]*	min: 0 hours, max: 59 hours, integers only	KM127

6.1	For how long has the participant slept in total in the last 24 hours?Enter number of full hours *[Number field]*	min: 0 hours, max: 24 hours, integers only	KM128
6.2	and…Number of minutes [*Number field]*	min: 0 hours, max: 59 hours, integers only	KM129
7.1	Time since last meal? Enter number of full hours. *[Number field]*	(min: 0 hours, max: 24 hours, integers only)	KM130
7.2	and…Number of minutes *[Number field]*	(min: 0 hours, max: 59 hours, integers only)	KM131

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

3. Rationale for choosing the questions:
The variables give neccessary background information for analysis of biological material collected in the MoBa clinical data collections "Unge menns helse og fruktbarhet".

4. Revision during the data collection period:

Physical measures

1. Name of original scale: MoBa specific questions, based on clinical practice

Q		Response options	Variable name
11	Provide the height of the person in nearest cm. *[Number field]*	min: 90, Max 250, integers only	KM18
12	Provide the person's waist measurement in nearest cm *[Number field]*	min: 0, Max 250, integers only	KM19
13	Provide the person's hip measurement in nearest cm *[Number field]*	min: 0, Max 250, integers only	KM20
14	Provide the person's weight in kilograms (nearest Kg) *[Number field]*	min: 0, Max 500, integers only	KM21
16	Provide the person's viceral fat measure (number 1-59) *[Number field]*	(min: 1, Max 59, integers only	KM23
20	Provide the person's resting metabolism in kcal per day (nearest kcal. Pr. day) [Number field]	min: 0, Max 15.000, integers only	KM27
15	Provide the person's bodyfat measure in percentage (nearest full %-point)) *[Number field]*	min: 0, Max 100, integers only	KM22
17	Provide the person's water content in percentage (nearest full %-point) *[Number field]*	min: 0, Max 100, integers only	KM24
18	Provide the person's muscle-mass in kilograms (nearest Kg) *[Number field]*	min: 0, Max 400, integers only	KM25
19	Provide the person's metabolic age (nearest full year) *[Number field]*	min: 0, Max 110, integers only	KM26
21	Provide the person's bone mineral mass in Kg *[Number field]*	min: 0 hours, max: 500, two decimals	KM28

2. Description of original instrument:

Based on clinical practices. Measures are taken while participant is fasting.

Reference for hip/waist: UiO, Procedures for anthropometric measurements. 2012, University of Oslo medical faculty):

A "Tanita" is used for obtaining all weight/body mass/metabolic age/motabolism etc. measures. Equipment type: TANITA DC-240 M

3. Rationale for choosing the questions:

These are relevant clinical measures to obtain from the MoBa second generation

4. Revision during the data collection period:

No changes in the questions between versions. Only changes in the order of thenumbering.

Blood pressure and EKG

1. Name of original scale: MoBa specific questions, based on clinical practice

Q		Response options	Variable name
First measure			
21	**Systolic** *mmHg*	min: 0, max: 500 integers only	KM29
22	***Diastolic*** *mmHg*	min: 0, max: 500 integers only	KM30
Second measure			
23	**Systolic** *mmHg*	min: 0, max: 500 integers only	KM31
24	**Diastolic** *mmHg*	min: 0, max: 500 integers only	KM32
Third measure			
26	**Systolic** *mmHg*	min: 0, max: 500 integers only	KM33
26	**Diastolic** *mmHg*	min: 0, max: 500 integers only	KM34
Average measure			
27	**Systolic** *mmHg*	min: 0, max: 500 integers only	KM35
28	**Diastolic** *mmHg*	min: 0, max: 500 integers only	KM36
EKG			
29	**EKG-file upload** *Follow instructions for uploading the EKG-file. Sensitive data must be removed from the file before uploading. Do not include participant PIN-ID, name or other sensitive information in the file name.*	File attatchment	KM37
30	**Resting heart rate per minute** *Number field (min: 0, Max 300, integers only)*	min: 0, max: 300 integers only	KM38

2. Description of original instrument:

Based on clinical practice. Reference for blood pressure: Dahlum, A.B. and I. Ottosen. Non-invasiv blodtrykksmåling (NIBP)- metoder og feilkilder. 2016; Available from: https://ehandboken.ous-hf.no/document/122459. Reference for EKG: Ingrid H. Johansen, J.B., Cecilie Arentz-Hansen, Kåre Moen. LEGEVAKT håndboken. 2021. Cited 2023; available from: https://lvh.no/symptomer_og_sykdommer/hjerte_og_kar/ekg/elektrodeplassering

3. **Rationale for choosing the questions:**
These are relevant clinical measures to obtain from the MoBa second generation.

4. **Revision during the data collection period:**
No changes in the questions between versions. Only changes in the order of the numbering.

Finger length - Right hand

1. Name of original scale: MoBa specific questions.

Q		Response options	Variable name
31	Finger 1 (thumb), length in mm *[Number field]*	min: 0, max: 600 integers only	KM39
32	Finger 2 (index), length in mm *[Number field]*	min: 0, max: 600 integers only	KM40
33	Finger 3 (middle), length in mm *[Number field])*	min: 0, max: 600 integers only	KM41
34	Finger 4 (ring), length in mm *[Number field]*	min: 0, max: 600 integers only	KM42
35	Finger 5 (pinky), length in mm *[Number field])*	min: 0, max: 600 integers only	KM43

2. Description of original instrument:

Inspired by the following reference: Manning, J.T., et al., The ratio of 2nd to 4th digit length: a predictor of sperm numbers and concentrations of testosterone, luteinizing hormone and oestrogen. Hum Reprod, 1998. 13(11): p. 3000-4.)

3. Rationale for choosing the questions:

These are relevant clinical measures to obtain from the MoBa second generation

4. Revision during the data collection period:

No changes in the questions between versions, only changes in the order of the numbering.

Manual measurement of testicular size using an orchidometer

1. Name of original scale: MoBa specific question, based on clinical practice

Q	Response options		Variable name
37	*Is testucular size measured?* *[Radio buttons]*	1.Yes 2. No	KM44
39	*Size of left testicle (millilitre)* *[Pull-down menu9*	1. 1 2. 2 3. 3 …. 9. 9 10. 10 11. 12 12. 15 13. 20 14. 25	KM46
38	*Size of right testicle (millilitre)* *[Pull-down menu]*	1. 1 2. 2 3. 3 …. 9. 9 10. 10 11. 12 12. 15 13. 20 14. 25	KM45

2. Description of original instrument:
Based on clinical practice.

3. Rationale for choosing the questions:
These are relevant clinical measures to obtain from the MoBa second generation

4. Revision during the data collection period:
Variations in the order of the numbering.

Ultrasound examination of the testicles

1. Name of original scale: MoBa specific question, based on clinical practice.

Q		Response options	Variable name
Right testicle			
Version A, B, C			
40	Length (in whole millimeters) *[Number field]*	min: 0, max: 300, integers only	KM47
41	Width (in whole millimeters) *[Number field]*	min: 0, max: 300, integers only	KM48
42	Depth (in whole millimeters) *[Number field]*	min: 0, max: 300, integers only	KM49
43	Is pathology present? (right testicle) *[Radio buttons]*	1. No pathology 2. Yes	KM51
44	What type of pathology? Fill out ONLY if pathology is present. *[Multiple choice]*	Solid mass	KM52
		Varicocele	KM53
		Microlithiasis	KM54
		Epididymis	KM55
Version A			
40	Testicular volume right testicle *Calculated with the above numbers: length x width x depth.* *[Number field]*	min: 0, max: 40 000, integers only	KM50
Left testicle			
Version A, B, C			
45	Length (in whole millimeters) *[Number field]*	min: 0, max: 300, integers only	KM56
46	Width (in whole millimeters) *[Number field]*		KM57
47	Depth (in whole millimeters) *[Number field]*		KM58
48	Is pathology present? (left testicle) *[Radio buttons]*	1.No pathology 2. Yes	KM60
49	What type of pathology? *Fill out ONLY if pathology is present.* *[Multiple choice]*	Solid mass	KM61
		Varicocele	KM62
		Microlithiasis	KM63
		Epididymis	KM64
Version A			

46	Testicular volume left testicle *Calculated with the above numbers: length x width x depth.* *[Number field]*	min: 0, max: 40 000, integers only	KM59

2. Description of original instrument:
Based on clinical practice.

3. Rationale for choosing the questions:
These are relevant clinical measures to obtain from the MoBa second generation.

4. Revision during the data collection period:
Variations in the order of the numbering.

Fields for uploading ultrasound files

1. Name of original scale: MoBa specific question.

Q		Response options	Variable name
Version A			
49	*2D image of testicle, right* *Attachment field*	File attachement	KM65
	2D image of testicle, left *Attachment field*		KM66
	Video of testicle, right *Attachment field*		KM67
	Video of testicle, left *Attachment field*		KM68

2. Description of original instrument:
MoBa specific question.

3. Rationale for choosing the questions:
Included as a means of collecting ultrasound pictures and videos.

4. Revision during the data collection period:
Only included in version 1A, but NEVER USED. A solution containing direct import of filed into TSD was preferred.

Anogenital distance

1. Name of original scale: MoBa specific question, inspired by clinical practice.

Q		Response options	Variable name
50	Ano-scrotal distance (in whole millimeters) *AGDAS: From the center of the anus to the transition between the perineum and the scrotum (posterior base of the scrotum).* *[Number field]*	min 0, max 400, integers only	KM69
51	Ano-Penil distance 1 (in whole millimeters) *AGDAP1: From center of anus to upper (superior) base of penis ("cephalad insertion".* *[Number field]*		KM70
52	Ano-Penil distance 2 (in whole millimeters) *AGDAP2: From center of anus to posterior (caudal) base of penis.* *[Number field]*		KM71

2. Description of original instrument:
N/A.

3. Rationale for choosing the questions:
These are relevant clinical measures to obtain from the MoBa second generation.

4. Revision during the data collection period:
Variations in the order of the numbering.

General questions (Manual sperm analysis)

1. **Name of original scale:** All measurements defined in the WHO laboratory manual for the examination and processing of human semen, 6th edition.

Q		Response options	Variable name
53	Did the participant complete a sperm sample? *[Radio buttons]*	1.Yes 2. No	KM72
54	Date of the sperm sample *[Calendar field]*		KM73
55	Abstinence, number of days *[Number field]*	min: 0, max: 300, integers only	KM74
56	What time was the sperm sample taken, (time of ejaculation) *[Time/Clock field]*	Hour and minute	KM75
57	Has the participant experienced fever in the last 3 months? *[Radio buttons]*	1. Yes 2. No 3. Don't remember/Don't know	KM76
58	Did the whole sperm sample end up in the sperm cup? *[Radio buttons]*	1.Yes 2. No	KM77
59	If part of the sperm sample ended up outside the sperm cup, which part was this? *[Radio buttons]*	1. First part of the sample 2. Last part of the sample 3. Don't know/Don't remember	KM78
60	Write down the intervall in minutes between time of ejaculation and when the analysis started *[Number field]*	*min: 0, max: 1000, integers only*	KM79
Volume			
	Weight of the sperm cup without the sperm sample. *In grams, two decimals.* *[Number field]*	min: 0, max: 500, two decimals	KM80
	Weight of the sperm cup with the sperm sample *In grams, two decimals.* *[Number field]*	min: 0, max: 500, two decimals	KM81
	Weight of the sperm sample. *In grams, two decimals.* *[Number field]*	min: 0, max: 500, two decimals	KM82
Description of the sperm sample			
64	Viscosity *[Radio buttons]*	1. Normal 2. Abnormal	KM83
65	Smell *[Radio buttons]*	1. Normal 2. Abnormal	KM84

66	Colour *[Radio buttons]*	1. Normal 2.Abnormal	KM85
67	Other cells/Leukocytes in the sample *[Radio buttons]*	1.Normal 2. Many	KM86
Motility - 1st count			
68	Rapid progressive (%) *[Number field]*	min: 0, max: 1000, two decimals	KM87
69	Slow progressive (%) *[Number field]*		KM88
70	Non-progressive (%) *[Number field]*		KM89
71	Immotile (%) *[Number field]*		KM90
72	Number of sperm cells counted in 1st count *[Number field]*	min: 0, max: 500, two decimals)	KM91
Motility - 2nd count			
73	Rapid progressive (%) *[Number field]*	min: 0, max: 1000, two decimals	KM92
74	Slow progressive (%) *[Number field]*		KM93
75	Non-progressive (%) *[Number field]*		KM94
76	Immotile (%) *[Number field]*		KM95
77	Number of sperm cells counted in 2nd count *[Number field]*	min: 0, max: 500, two decimals	KM96
Motility - 3rd count			
78	Rapid progressive (%) *[Number field]*	min: 0, max: 1000, two decimals	KM97
79	Slow progressive (%) *[Number field]*		KM98
80	Non-progressive (%) *[Number field]*		KM99
81	Immotile (%) *[Number field]*		KM100
82	Number of sperm cells counted in 3rd count *[Number field]*	min: 0, max: 500, two decimals	KM101
Motility - Average in percentage			
83	Average Rapid progressive (%) *[Number field]*	(min: 0, max: 1000, two decimals	KM102

84	Average Slow progressive (%) *[Number field]*		KM103
85	Average Non-progressive (%) *[Number field]*		KM104
86	Average Immotile (%) *[Number field]*		KM105
87	Aggregring/agglutunerin i prøven *[Radio Buttons]*	1. Ingen 2. Litt 3. Kraftig	KM106
Sperm concentration			
88	Which dilution factor is used to determine the sperm concentration? *[Small text field]*	maximum 100 characters	KM107
89	First count *[Number field]*	min: 0, max: 1000, integers only	KM108
90	Second count *[Number field]*		KM109
91	Third count (enter 0 if third count is not performed) *Only performed if the difference between the first and second count differs from the pre-determined numbers in table 3 in the clinical protocol.* *[Number field]*		KM110
92	Sum (1st count, 2nd count and third count if perfomed) *[Number field]*	min: 0, max: 5000, integers only	KM111
93	Difference *[Number field]*	min: 0, max: 1000, integers only	KM112
94	Number of fields counted *[Number field]*	min: 0, max: 500, integers only	KM113
95	Dilution factor *[Number field]*	min: 0, max: 500, integers only	KM114
96	Sperm concentration *[Number field]*	min: 0, max: 500, integers only	KM115
97	Total sperm number *[Number field]*	min: 0, max: 10.000, integers only	KM116
Sperm morphology			
98	Number of smears of ejaculate made (for further analysis of morphology) *2 smears should be made. One for analysis and one for back-up (to be stored at the data collection clinics).* *[Number field]*	min: 0, maks: 5000, integers only	KM117

DNA Fragmentation Index (DFI)			
99	Is 500 microlitres of sperm pipetted into a cryo tube? (for analysis of DFI) *[Radio buttons]*	1.Yes 2. No	KM118
Sperm samples to be sent to the Biobak at the Norwegian Institute of Public Health (NIPH)			
100	Is the remaining sperm sample transferred to cryo tubes? *[Radio buttons]*	1. Yes 2. No	KM119
101	Number of cryo tubes containing remaining sperm (1-3 cryo tubes) *[Number field]*	(min: 0, max: 5, integers only)	KM120
	Notes about the manual sperm analysis *Use only if something unexpected occurs during the analysis that is crucial to document* *[Large text field]*	maximum 2500 characters.	KM121

2. Description of original instrument:

All measurements defined in the WHO laboratory manual for the examination and processing of human semen, 6th edition. https://www.who.int/publications/i/item/9789240030787

3. Rationale for choosing the questions:

All measurements defined in the WHO laboratory manual for the examination and processing of human semen, 6th edition. https://www.who.int/publications/i/item/9789240030787.

4. Revision during the data collection period:

Variations in the order of the numbering.