

# Feasibility of innovative dietary assessment in epidemiological studies using an approach of combining instruments

Illner A-K<sup>1</sup>, Harttig U<sup>1</sup>, Bergmann M<sup>1</sup>, Bower E<sup>2</sup>, Amiano P<sup>2</sup>, Tognon G<sup>3</sup>, Palli D<sup>3</sup>, Salvini S<sup>3</sup>, Kaasik T<sup>4</sup>, Engeset D<sup>5,6</sup>, Ward H<sup>7</sup>, Boeing H<sup>1</sup> for the IDAMES project



<sup>1</sup>Department of Epidemiology, German Institute of Human Nutrition Potsdam-Rehbrücke, Germany, <sup>2</sup>Public Health Division of Gipuzkoa, San Sebastian, Basque Government, CIBERESP, Spain <sup>3</sup>Molecular and Nutritional Epidemiology Unit, ISPO Cancer Prevention and Research Institute, Italy, <sup>4</sup>University of Tartu, Tartu, Estonia, <sup>5</sup>Institute of Community Medicine, University of Tromsø, Norway, <sup>6</sup>Akershus University College, Kjeller, Norway, <sup>7</sup>MRC Centre for Nutritional Epidemiology in Cancer Prevention and Survival (CNC), Department of Public Health and Primary Care, University of Cambridge, United Kingdom

## INTRODUCTION, OBJECTIVE

Research have confirmed the methodological advantage to combine dietary assessment instruments, but less is known about the feasibility of this approach.

We applied a multilingual European Food Propensity Questionnaire (EFPQ) in combination with three telephone-administered 24 hour dietary recalls (24HDR) in a multi-centric study including five European countries and compared participation rates, reasons for non-participation, number of contact attempts, acceptance of the instruments and data provided by web analysis. (Figure 1).

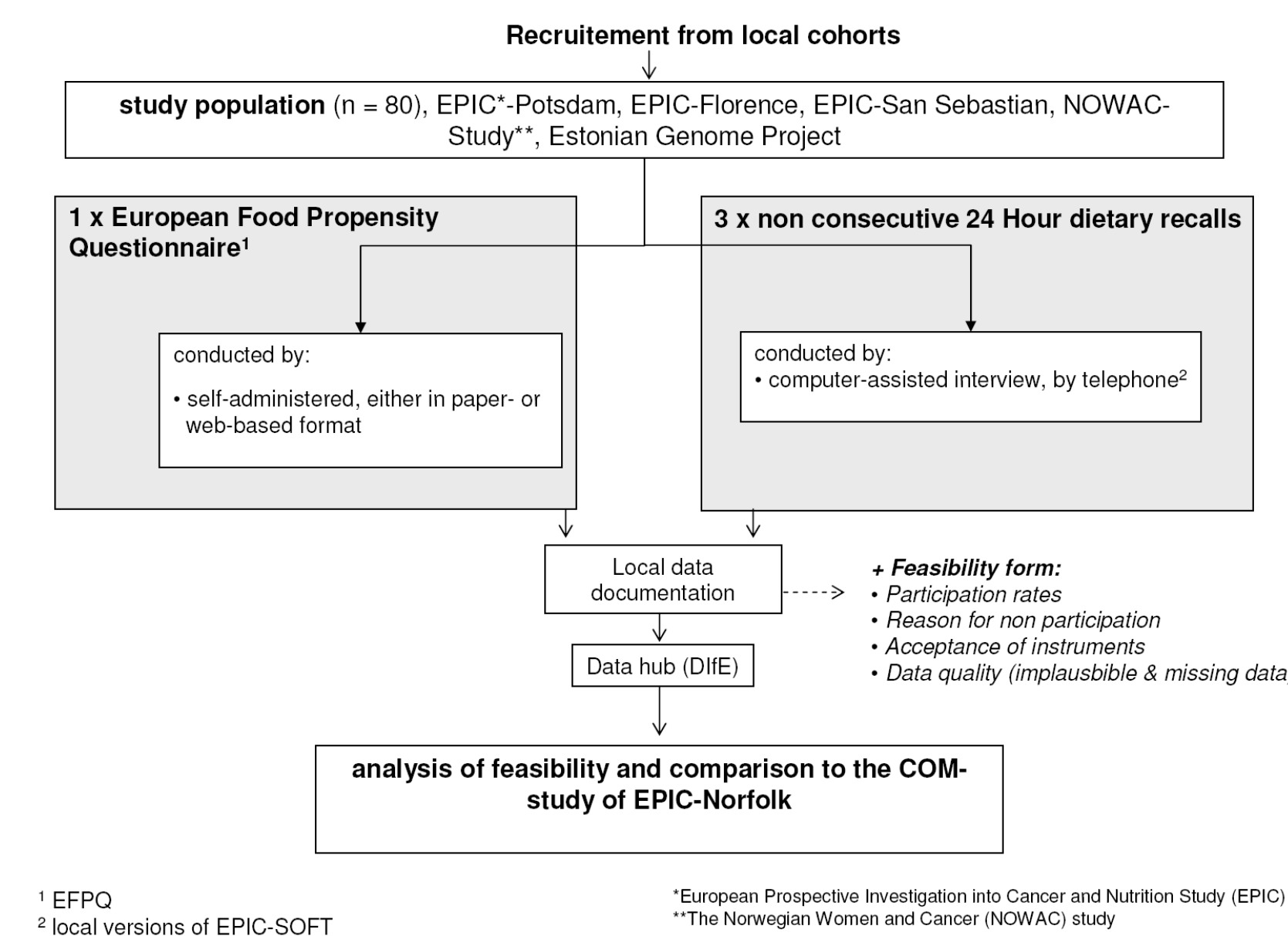


Figure 1: study design

## METHODS

400 participants from five ongoing cohort studies in Estonia (Estonia Genome project, Tartu), Italy (EPIC-Florence), Spain (EPIC-San Sebastian), Norway (NOWAC, Tromsø) and Germany (EPIC-Potsdam) were randomly selected and invited to complete a single, self-administered EFPQ, either web-based or in paper-format. Support to fill in the web-based EFPQ could be requested.

During the subsequent three months three standardised telephone-administered 24-hour dietary recalls (24HDR) were conducted using EPIC-SOFT software. Photographs of portion sizes and household measures depicted in pictures were mailed to the subjects in advance, after completing the EFPQ. In addition an evaluation questionnaire at the end of the web-based EFPQ was given.

The feasibility of this approach was compared to the Calibration of Methods (COM) study conducted in EPIC-Norfolk (UK) with one 24HDR, three 7-day diaries and two FFQs.

## RESULTS

Table 1: Total response, participation and % distributions for the European Food Propensity Questionnaire (EFPQ) by IDAMES Center

IDAMES-center	Total response rate		Total participation rate		% distribution into			
	n	%	n	%	Web-based-EFPQ		Paper-EFPQ	
Florence (I)	66	82.5	48	60.0	26	54.2	22	45.8
Potsdam (D)	74	92.5	55	68.8	19	34.5	36	65.5
San Sebastian (E)	72	90.0	59	73.8	11	18.6	48	81.4
Tartu** (EE)	77	96.3	70	87.5	65	92.9	5	7.1
Tromsø (NOR)	60	75.0	30	37.5	21	70.0	9	30.0

\*\*recruitment within baseline interviews

Overall, the total participation rate was 65.5% (N = 262). Participation rates for the web-based EFPQ varied among the study centres from 18.6% in Spain to 70.0% in Norway and 92.9% in Estonia indicating both the high potential and variability in acceptance of web-based dietary assessment tools (Table 1.). Median completion time was 33.8 minutes and web-users rarely requested support, were more likely to be men and younger (data not shown). On average, preliminary completion of the 24HDR was highest for the first 24HDR and decreased slightly for the second and third 24HDR. Similar results has been found in the COM-study of EPIC-Norfolk (Table 2).

Table 2: Current participation rates for the 24HDR by IDAMES Center

IDAMES-center	First 24 HDR			Second 24 HDR			Third 24 HDR		
	n	%	Number of contact attempts mean (max)	n	%	Number of contact attempts mean (max)	n	%	Number of contact attempts mean (max)
Florence (I)	43	89.6	1.4 (4)	31	64.6	1.6 (5)	3	6.3	1.0 (1)
Potsdam (D)	55	100.0	2.4 (13)	50	90.9	2.5 (7)	48	87.3	6.9 (5)
San Sebastian (E)	19	32.2	3.0 (5)	-	-	-	-	-	-
Tartu (EE)	69	98.6	0.9 (10)	63	90.0	0.8 (6)	29	41.4	0.8 (4)
Tromsø (NOR)	24	80.0	2.0 (5)	11	36.7	1.4 (3)	1	3.3	-
Norfolk (UK)	Diary 1 195 100 -			Diary 2 194 99.5 -			Diary 3 159 81.5 -		

## CONCLUSIONS

Completion of the web- and paper-based EFPQ differed among the study centres and participation in the 24HDRs decreased across the data collection rounds. Overall, this study supports the feasibility of multiple dietary assessment methods within culturally different study populations, including internet-based instruments.

## MORE INFORMATION



## FUNDING



The study is supported by the Executive Agency for Health and Consumers, EU.