

Dataset Integrity Check for The Environmental Determinants of Diabetes in the Young (TEDDY) M_27 CAronsson

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October 22, 2015

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1 Standard Disclaimer

The intent of this DSIC is to provide confidence that the data distributed by the NIDDK repository is a true copy of the study data. Our intent is not to assess the integrity of the statistical analyses reported by study investigators. As with all statistical analyses of complex datasets, complete replication of a set of statistical results should not be expected in secondary analysis. This occurs for a number of reasons including differences in the handling of missing data, restrictions on cases included in samples for a particular analysis, software coding used to define complex variables, etc. Experience suggests that most discrepancies can ordinarily be resolved by consultation with the study data coordinating center (DCC), however this process is labor-intensive for both DCC and Repository staff. It is thus not our policy to resolve every discrepancy that is observed in an integrity check. Specifically, we do not attempt to resolve minor or inconsequential discrepancies with published results or discrepancies that involve complex analyses, unless NIDDK Repository staff suspect that the observed discrepancy suggests that the dataset may have been corrupted in storage, transmission, or processing by repository staff. We do, however, document in footnotes to the integrity check those instances in which our secondary analyses produced results that were not fully consistent with those reported in the target publication.

2 Study Background

The TEDDY study was designed to follow children with and without a family history of T1D to understand the environmental factors that contribute to the disease. Newborn children younger than 4 months were screened for high-risk HLA alleles, and those with qualifying haplotypes were eligible for follow-up. Information is collected on medical information (infections, medication, immunizations), exposure to dietary and other environmental factors, negative life events, family history, tap water, and measurements of psychological stress. Biospecimens, including blood, stool, urine, and nail clippings, are taken at baseline and follow-up study visits. The primary outcome measures include two endpoints—the first appearance of one or more islet cell autoantibodies (GADA, IAA, or IA-2A), confirmed at two consecutive visits, and development of T1D. The cohort will be followed for 15 years, or until the occurrence of one of the primary endpoints.

3 Archived Datasets

All the SAS data files, as provided by the Data Coordinating Center (DCC), are located in the TEDDY folder in the data package. For this replication, variables were taken from “M_27_CARonsson_NIDDK_Submission” dataset.

4 Statistical Methods

Analyses were performed to duplicate results for the data published by Carin Aronsson et al [1] Public Health Nutrition: 16(8), 1390–1402. Doi:10.1017/S1368980013000293. To verify the integrity of the dataset, Cohort characteristics_(table 1) and non-users and any supplement users by respondent characteristics (table 2) were computed, by country.

5 Results

Table A and C lists the variables that were used in the replication and Table B, and D compares the results calculated from the archived data file to the results published in Table 1, and Table 2. The results of the replication are the similar to the published results. One typo in table 1 for Finland since percentage of none Maternal diabetes status during pregnancy by Finland and Sweden are the same as 93.8.

6 Conclusions

The NIDDK repository is confident that the TEDDY M_27_CARonsson data files to be distributed are a true copy of the study data.

7 References

Carin Andre´n Aronsson, Kendra Vehik, Jimin Yang, Ulla Uusitalo, Kristen Hay, Gesa Joslowski, Anne Riikonen, Lori Ballard, Suvi M Virtanen, and Jill M Norris, on behalf of the TEDDY Study Group. Use of dietary supplements in pregnant women in relation to sociodemographic factors – a report from The Environmental Determinants of Diabetes in the Young (TEDDY) study. Public Health Nutrition: 16(8), 1390–1402. doi:10.1017/S1368980013000293

Table A: Variables used to replicate Tables 1 in the publication.

Table Variable	Variables Used in Replication from the "Table 1"
Maternal age	maternal_age
Pre-pregnancy BMI (kg/m2) continuous variable	bmi
Maternal education:	education_mom_g1
Mother's first child:	mom_first_child
Pre-pregnancy BMI (kg/m2) category variable	BMI_cate
Smoking during pregnancy:	smoker
Drinking during pregnancy :	drinker
Maternal diabetes status during pregnancy	diab_order
TEDDY child with T1D in FDR :	fdr
Race/ethnicity*	race_ethnicity

Table B: Comparison of values computed in integrity check to reference article Table 1 values: Action to prevent type 1 diabetes by category

USA
(n 2961)

	Mean /N [Manuscript]	Mean /N [DSIC]	Mean /N [Difference]	Mean /% [Manuscript]	Mean /% [DSIC]	Mean /% [Difference]
Maternal age (years)	30.6	30.6	0	5.7	5.7	0
Pre-pregnancy BMI (kg/m2)	25.6	25.6	0	6.0	6.0	0
Maternal education: Basic primary	483	483	0	16.3	16.3	0
Maternal education: Higher education	2478	2478	0	83.7	83.7	0
Mother's first child: Yes	1247	1247	0	42.1	42.1	0
Mother's first child: No	1714	1714	0	57.9	57.9	0
Pre-pregnancy BMI (kg/m2): <18.5	86	86	0	2.9	2.9	0
Pre-pregnancy BMI (kg/m2): 18.5–24.9	1604	1604	0	54.2	54.2	0
Pre-pregnancy BMI (kg/m2): >=25.0	1271	1271	0	42.9	42.9	0
Smoking during pregnancy: Yes	294	294	0	9.9	9.9	0
Smoking during pregnancy: No	2667	2667	0	90.1	90.1	0
Drinking during pregnancy : Yes	1164	1164	0	39.3	39.3	0
Drinking during pregnancy : No	1797	1797	0	60.7	60.7	0
Maternal diabetes status during pregnancy None	2644	2644	0	89.3	89.3	0
Maternal diabetes status during pregnancy T1D	102	102	0	3.4	3.4	0
Maternal diabetes status during pregnancy Gestational or T2D	167	167	0	5.7	5.6	0.1
Maternal diabetes status during pregnancy Unknown/missing	48	48	0	1.6	1.6	0
TEDDY child with T1D in FDR : Yes	327	327	0	11.0	11.0	0
TEDDY child with T1D in FDR : NO	2634	2634	0	89.0	89.0	0
Non-Hispanic white	2193	2193	0	74.0	74.1	-0.1
African Americans	62	62	0	2.1	2.1	0
Hispanic	508	508	0	17.2	17.2	0
All other	130	130	0	4.4	4.4	0
Unknown/missing	68	68	0	2.3	2.3	0

**Sweden
(n 2231)**

	Mean /N [Manuscript]	Mean /N [DSIC]	Mean /N [Difference]	Mean /% [Manuscript]	Mean /% [DSIC]	Mean /% [Difference]
Maternal age (years)	30.8	30.8	0	4.6	4.6	0
Pre-pregnancy BMI (kg/m2)	24.3	24.4	0.1	4.6	4.6	0
Maternal education: Basic primary	751	751	0	33.7	33.7	0
Maternal education: Higher education	1480	1480	0	66.3	66.3	0
Mother's first child: Yes	1064	1064	0	47.7	47.7	0
Mother's first child: No	1167	1167	0	52.3	52.3	0
Pre-pregnancy BMI (kg/m2): <18.5	64	64	0	2.9	2.9	0
Pre-pregnancy BMI (kg/m2): 18.5–24.9	1398	1398	0	62.7	62.7	0
Pre-pregnancy BMI (kg/m2): >=25.0	769	769	0	34.4	34.5	0
Smoking during pregnancy: Yes	276	276	0	12.4	12.4	0
Smoking during pregnancy: No	1955	1955	0	87.6	87.6	0
Drinking during pregnancy : Yes	624	624	0	28	28.0	0
Drinking during pregnancy : No	1607	1607	0	72	72.0	0
Maternal diabetes status during pregnancy None	2092	2092	0	93.8	93.8	0
Maternal diabetes status during pregnancy T1D	39	39	0	1.8	1.7	0
Maternal diabetes status during pregnancy Gestational or T2D	68	68	0	3	3.0	0
Maternal diabetes status during pregnancy Unknown/missing	32	32	0	1.4	1.4	0
TEDDY child with T1D in FDR : Yes	144	144	0	6.5	6.5	0
TEDDY child with T1D in FDR : NO	2087	2087	0	93.5	93.5	0

Finland
(n 1622)

	Mean /N [Manuscript]	Mean /N [DSIC]	Mean /N [Difference]	Mean /% [Manuscript]	Mean /% [DSIC]	Mean /% [Difference]
Maternal age (years)	30.5	30.0	0.5	5.0	5.0	0
Pre-pregnancy BMI (kg/m ²)	24.2	24.3	0.1	4.6	4.6	0
Maternal education: Basic primary	157	157	0	9.7	9.7	0
Maternal education: Higher education	1465	1465	0	90.3	90.3	0
Mother's first child: Yes	731	731	0	45.1	45.1	0
Mother's first child: No	891	891	0	54.9	54.9	0
Pre-pregnancy BMI (kg/m ²): <18.5	54	54	0	3.3	3.3	0
Pre-pregnancy BMI (kg/m ²): 18.5–24.9	1042	1042	0	64.2	64.2	0
Pre-pregnancy BMI (kg/m ²): ≥25.0	526	526	0	32.4	32.4	0
Smoking during pregnancy: Yes	227	227	0	14	14.0	0
Smoking during pregnancy: No	1395	1395	0	86	86.0	0
Drinking during pregnancy : Yes	493	493	0	30.4	30.4	0
Drinking during pregnancy : No	1129	1129	0	69.6	69.6	0
Maternal diabetes status during pregnancy None	1336	1336	0	93.8	82.4	11
Maternal diabetes status during pregnancy T1D	61	61	0	3.8	3.8	0
Maternal diabetes status during pregnancy Gestational or T2D	175	175	0	10.8	10.8	0
Maternal diabetes status during pregnancy Unknown/missing	50	50	0	3	3.1	-0.1
TEDDY child with T1D in FDR : Yes	147	147	0	9.1	9.1	0
TEDDY child with T1D in FDR : NO	1475	1475	0	90.9	90.9	0

**Germany
(n 512)**

	Mean /N [Manuscript]	Mean /N [DSIC]	Mean /N [Difference]	Mean /% [Manuscript]	Mean /% [DSIC]	Mean /% [Difference]
Maternal age (years)	31.6	31.6	0	4.9	4.9	0
Pre-pregnancy BMI (kg/m2)	24.2	24.2	0	4.9	4.9	0
Maternal education: Basic primary	70	70	0	13.7	13.7	0
Maternal education: Higher education	442	442	0	86.3	86.3	0
Mother's first child: Yes	259	259	0	50.6	50.6	0
Mother's first child: No	253	253	0	49.4	49.4	0
Pre-pregnancy BMI (kg/m2): <18.5	26	26	0	5.1	5.1	0
Pre-pregnancy BMI (kg/m2): 18.5–24.9	316	316	0	61.7	61.7	0
Pre-pregnancy BMI (kg/m2): >=25.0	170	170	0	33.2	33.2	0
Smoking during pregnancy: Yes	104	104	0	20.3	20.3	0
Smoking during pregnancy: No	408	408	0	79.7	79.7	0
Drinking during pregnancy : Yes	237	237	0	46.3	46.3	0
Drinking during pregnancy : No	275	275	0	53.7	53.7	0
Maternal diabetes status during pregnancy None	344	344	0	67.2	67.2	0
Maternal diabetes status during pregnancy T1D	94	94	0	18.4	18.4	0
Maternal diabetes status during pregnancy Gestational or T2D	21	21	0	4.1	4.1	0
Maternal diabetes status during pregnancy Unknown/missing	53	53	0	10.3	10.4	-0.1
TEDDY child with T1D in FDR : Yes	196	196	0	38.3	38.3	0
TEDDY child with T1D in FDR : NO	316	316	0	61.7	61.7	0

Table C: Variables used to replicate Tables 2 in the publication.

Table Variable	Variables Used in Replication from the "Table 2"
Mother's first child	mom_first_child
Maternal education	education_mom_g1
Maternal age (years)	maternal_age_4cate
Smoking	smoker
Drinking	drinker
Maternal diabetes status	diab_order
TEDDY child's birth year	yob
Pre-pregnancy BMI (kg/m ²)	BMI_cate

Table D: Comparison of values computed in integrity check to reference article Table 2 values: Socio demographic variables associated with actions to prevent diabetes

	USA Non-User N [Manuscript]	USA Non-User N [DSIC]	USA Non-User N [Difference]	USA Non-User % [Manuscript]	USA Non-User % [DSIC]	USA Non-User % [Difference]	USA User N [Manuscript]	USA User N [DSIC]	USA User N [Difference]	USA User % [Manuscript]	USA User % [DSIC]	USA User % [Difference]
	106	106	0	3.6	3.6	0	2855	2855	0	96.4	96.4	0
Mother's first child	23	23	0	21.7	21.7	0	1224	1224	0	42.9	42.9	0
Maternal education	60	60	0	56.6	56.6	0	2418	2418	0	84.7	84.7	0
Maternal age (years) <25.0	35	35	0	33	33	0	433	433	0	15.2	15.2	0
Maternal age (years) 25.0–29.9	28	28	0	26.4	26.4	0	731	731	0	25.6	25.6	0
Maternal age (years) 30.0–34.9	31	31	0	29.3	29.2	0	953	953	0	33.4	33.4	0
Maternal age (years) >=35.0	12	12	0	11.3	11.3	0	738	738	0	25.8	25.8	0
Smoking	23	23	0	21.7	21.7	0	271	271	0	9.5	9.5	0
Drinking	31	31	0	29.2	29.2	0	1133	1133	0	39.7	39.7	0
Maternal diabetes status during pregnancy None	90	90	0	84.9	84.9	0	2554	2554	0	89.5	89.5	0
Maternal diabetes status during pregnancy T1D	4	4	0	3.8	3.8	0	98	98	0	3.4	3.4	0
Maternal diabetes status during pregnancy Gestational or T2D	10	10	0	9.4	9.4	0	157	157	0	5.5	5.5	0

	USA Non-User N [Manuscript]	USA Non-User N [DSIC]	USA Non-User N [Difference]	USA Non-User % [Manuscript]	USA Non-User % [DSIC]	USA Non-User % [Difference]	USA User N [Manuscript]	USA User N [DSIC]	USA User N [Difference]	USA User % [Manuscript]	USA User % [DSIC]	USA User % [Difference]
Maternal diabetes status during pregnancy Unknown/missing	2	2	0	1.9	1.9	0	46	46	0	1.6	1.6	0
TEDDY child's birth year 2004/2005	12	12	0	11.3	11.3	0	292	292	0	10.2	10.2	0
TEDDY child's birth year 2006	20	20	0	18.9	18.9	0	456	456	0	16	16	0
TEDDY child's birth year 2007	26	26	0	24.5	24.5	0	624	624	0	21.9	21.9	0
TEDDY child's birth year 2008	22	22	0	20.8	20.8	0	680	680	0	23.8	23.8	0
TEDDY child's birth year 2009/2010	26	26	0	24.5	24.5	0	803	803	0	28.1	28.1	0
Pre-pregnancy BMI (kg/m2) <18.5	2	2	0	1.9	1.9	0	84	84	0	2.9	2.9	0
Pre-pregnancy BMI (kg/m2) 18.5–24.9	47	47	0	44.3	44.3	0	1557	1557	0	54.5	54.5	0
Pre-pregnancy BMI (kg/m2) >=25.0	57	57	0	53.8	53.8	0	1214	1214	0	42.5	42.5	0

	Sweden Non-User N [Manuscript]	Sweden Non-User N [DSIC]	Sweden Non-User N [Difference]	Sweden Non-User % [Manuscript]	Sweden Non-User % [DSIC]	Sweden Non-User % [Difference]	Sweden User N [Manuscript]	Sweden User N [DSIC]	Sweden User N [Difference]	Sweden User % [Manuscript]	Sweden User % [DSIC]	Sweden User % [Difference]
	245	245	0	11	11	0	1986	1986	0	89	89	0
Mother's first child	91	91	0	37.1	37.1	0	973	973	0	49	49	0
Maternal education	121	121	0	49.4	49.4	0	1359	1359	0	68.4	68.4	0
Maternal age (years) <25.0	41	41	0	16.7	16.7	0	140	140	0	7	7	0
Maternal age (years) 25.0–29.9	76	76	0	31	31	0	603	603	0	30.4	30.4	0
Maternal age (years) 30.0–34.9	87	87	0	35.5	35.5	0	808	808	0	40.7	40.7	0
Maternal age (years) >=35.0	41	41	0	16.7	16.7	0	435	435	0	21.9	21.9	0
Smoking	52	52	0	21.2	21.2	0	224	224	0	11.3	11.3	0
Drinking	56	56	0	22.9	22.9	0	568	568	0	28.6	28.6	0
Maternal diabetes status during pregnancy None	220	220	0	89.8	89.8	0	1872	1872	0	94.3	94.3	0
Maternal diabetes status during pregnancy T1D	10	10	0	4.1	4.1	0	29	29	0	1.5	1.5	0

	Sweden Non-User N [Manuscript]	Sweden Non-User N [DSIC]	Sweden Non-User N [Difference]	Sweden Non-User % [Manuscript]	Sweden Non-User % [DSIC]	Sweden Non-User % [Difference]	Sweden User N [Manuscript]	Sweden User N [DSIC]	Sweden User N [Difference]	Sweden User % [Manuscript]	Sweden User % [DSIC]	Sweden User % [Difference]
Maternal diabetes status during pregnancy Gestational or T2D	9	9	0	3.7	3.7	0	59	59	0	3	3	0
Maternal diabetes status during pregnancy Unknown/missing	6	6	0	2.4	2.4	0	26	26	0	1.3	1.3	0
TEDDY child's birth year 2004/2005	67	67	0	27.4	27.3	0.1	424	424	0	21.4	21.3	0.1
TEDDY child's birth year 2006	45	45	0	18.4	18.4	0	385	385	0	19.4	19.4	0
TEDDY child's birth year 2007	50	50	0	20.4	20.4	0	394	394	0	19.8	19.8	0
TEDDY child's birth year 2008	37	37	0	15.1	15.1	0	352	352	0	17.7	17.7	0
TEDDY child's birth year 2009/2010	46	46	0	18.8	18.8	0	431	431	0	21.7	21.7	0
Pre-pregnancy BMI (kg/m2) <18.5	9	9	0	3.7	3.7	0	55	55	0	2.8	2.8	0
Pre-pregnancy BMI (kg/m2) 18.5–24.9	122	122	0	49.8	49.8	0	1276	1276	0	64.2	64.2	0
Pre-pregnancy BMI (kg/m2) >=25.0	114	114	0	46.5	46.5	0	655	655	0	33	33	0

	Finland Non-User N [Manuscript]	Finland Non-User N [DSIC]	Finland Non-User N [Difference]	Finland Non-User % [Manuscript]	Finland Non-User % [DSIC]	Finland Non-User % [Difference]	Finland User N [Manuscript]	Finland User N [DSIC]	Finland User N [Difference]	Finland User % [Manuscript]	Finland User % [DSIC]	Finland User % [Difference]
	209	209	0	12.9	12.9	0	1413	1413	0	87.1	87.1	0
Mother's first child	72	72	0	34.5	34.4	0.1	659	659	0	46.6	46.6	0
Maternal education	187	187	0	89.5	89.5	0	1278	1278	0	90.5	90.4	0.1
Maternal age (years) <25.0	40	40	0	19.1	19.1	0	180	180	0	12.7	12.7	0
Maternal age (years) 25.0–29.9	58	58	0	27.8	27.8	0	503	503	0	35.6	35.6	0
Maternal age (years) 30.0–34.9	63	63	0	30.1	30.1	0	472	472	0	33.4	33.4	0
Maternal age (years) >=35.0	48	48	0	23	23	0	258	258	0	18.3	18.3	0
Smoking	45	45	0	21.5	21.5	0	182	182	0	12.9	12.9	0
Drinking	49	49	0	23.4	23.4	0	444	444	0	31.4	31.4	0
Maternal diabetes status during pregnancy None	169	169	0	80.9	80.9	0	1167	1167	0	82.6	82.6	0
Maternal diabetes status during pregnancy T1D	7	7	0	3.4	3.3	0.1	54	54	0	3.8	3.8	0

	Finland Non-User N [Manuscript]	Finland Non-User N [DSIC]	Finland Non-User N [Difference]	Finland Non-User % [Manuscript]	Finland Non-User % [DSIC]	Finland Non-User % [Difference]	Finland User N [Manuscript]	Finland User N [DSIC]	Finland User N [Difference]	Finland User % [Manuscript]	Finland User % [DSIC]	Finland User % [Difference]
Maternal diabetes status during pregnancy Gestational or T2D	24	24	0	11.5	11.5	0	151	151	0	10.7	10.7	0
Maternal diabetes status during pregnancy Unknown/missing	9	9	0	4.3	4.3	0	41	41	0	2.9	2.9	0
TEDDY child's birth year 2004/2005	62	62	0	29.7	29.7	0	291	291	0	20.6	20.6	0
TEDDY child's birth year 2006	37	37	0	17.7	17.7	0	261	261	0	18.5	18.5	0
TEDDY child's birth year 2007	38	38	0	18.2	18.2	0	306	306	0	21.7	21.7	0
TEDDY child's birth year 2008	37	37	0	17.7	17.7	0	235	235	0	16.6	16.6	0
TEDDY child's birth year 2009/2010	35	35	0	16.8	16.7	0.1	320	320	0	22.6	22.6	0
Pre-pregnancy BMI (kg/m2) <18.5	4	4	0	1.9	1.9	0	50	50	0	3.5	3.5	0
Pre-pregnancy BMI (kg/m2) 18.5–24.9	126	126	0	60.3	60.3	0	916	916	0	64.8	64.8	0
Pre-pregnancy BMI (kg/m2) >=25.0	79	79	0	37.8	37.8	0	447	447	0	31.6	31.6	0

	Germany Non-User N [Manuscript]	Germany Non- User N [DSIC]	Germany Non-User N [Difference]	Germany Non-User % [Manuscript]	Germany Non- User % [DSIC]	Germany Non-User % [Difference]	Germany User N [Manuscript]	Germany User N [DSIC]	Germany User N [Difference]	Germany User % [Manuscript]	Germany User % [DSIC]	Germany User % [Difference]
	38	38	0	7.4	7.4	0	474	474	0	92.6	92.6	0
Mother's first child	14	14	0	36.8	36.8	0	245	245	0	51.7	51.7	0
Maternal education	31	31	0	81.6	81.6	0	411	411	0	86.7	86.7	0
Maternal age (years) <25.0	7	7	0	18.4	18.4	0	37	37	0	7.8	7.8	0
Maternal age (years) 25.0–29.9	10	10	0	26.3	26.3	0	118	118	0	24.9	24.9	0
Maternal age (years) 30.0–34.9	15	15	0	39.5	39.5	0	179	179	0	37	37.8	-0.8
Maternal age (years) >=35.0	6	6	0	15.8	15.8	0	140	140	0	29.5	29.5	0
Smoking	14	14	0	36.8	36.8	0	90	90	0	19	19	0
Drinking	22	22	0	57.9	57.9	0	215	215	0	45.4	45.4	0
Maternal diabetes status during pregnancy None	23	23	0	60.5	60.5	0	321	321	0	67.7	67.7	0
Maternal diabetes status during pregnancy T1D	5	5	0	13.2	13.2	0	89	89	0	18.8	18.8	0

	Germany Non-User N [Manuscript]	Germany Non-User N [DSIC]	Germany Non-User N [Difference]	Germany Non-User % [Manuscript]	Germany Non-User % [DSIC]	Germany Non-User % [Difference]	Germany User N [Manuscript]	Germany User N [DSIC]	Germany User N [Difference]	Germany User % [Manuscript]	Germany User % [DSIC]	Germany User % [Difference]
Maternal diabetes status during pregnancy Gestational or T2D	2	2	0	5.3	5.3	0	19	19	0	4	4	0
Maternal diabetes status during pregnancy Unknown/missing	8	8	0	21	21.1	-0.1	45	45	0	9.5	9.5	0
TEDDY child's birth year 2004/2005	2	2	0	5.3	5.3	0	65	65	0	13.7	13.7	0
TEDDY child's birth year 2006	13	13	0	34.2	34.2	0	86	86	0	18.1	18.1	0
TEDDY child's birth year 2007	6	6	0	15.8	15.8	0	89	89	0	18.8	18.8	0
TEDDY child's birth year 2008	7	7	0	18.4	18.4	0	107	107	0	22.6	22.6	0
TEDDY child's birth year 2009/2010	10	10	0	26.3	26.3	0	127	127	0	26.8	26.8	0
Pre-pregnancy BMI (kg/m ²) <18.5	4	4	0	10.5	10.5	0	22	22	0	4.6	4.6	0
Pre-pregnancy BMI (kg/m ²) 18.5–24.9	12	12	0	31.6	31.6	0	304	304	0	64.1	64.1	0
Pre-pregnancy BMI (kg/m ²) ≥25.0	22	22	0	57.9	57.9	0	148	148	0	31.2	31.2	0

Attachment A: SAS Code

```
*****
***Program:
***Programmer: Jane Wang
***Date Created: 10/20/2015
***Purpose:
*****;

title1 "%sysfunc(getoption(sysin))";
title2 " ";

options nofmterr;

libname sas_data "/prj/niddk/ims_analysis/TEDDY/private_orig_data/M_27_Caronsson_NIDDK_Submission/";
%include '/prj/niddk/ims_analysis/sas_macros/redaction_data_summary.sas';

*** Reading in the analysis datasets used for the DSIC;
data m_27_caronsson_niddk_30sep2011; set sas_data.m_27_caronsson_niddk_30sep2011;

proc sort data = m_27_caronsson_niddk_30sep2011;
  by country;

%macro baseline_freq3(dataset_name,var_name);

  *** Creating a frequency table in the format of Table 1 in the primary outcome paper;
  proc freq data = &dataset_name ;
    table (&var_name.)*country ;
    title3 "Frequency table of the &var_name. variable in the analysis dataset";

    *** Outputting the frequency data to work.&var_name._cross using the ODS output;
    ods output CrossTabFreqs = work.&var_name._cross;

  proc print data = &var_name._cross;

  data &var_name._cross(keep = &var_name country Frequency colpercent );
    set &var_name._cross;
    if &var_name ne '';
    if country ne .;

  proc sort data = &var_name._cross;
    by &var_name country;
  proc print data = &var_name._cross;

  data &var_name._cross(drop =&var_name i country Frequency colpercent);;
    set &var_name._cross;
    by &var_name country;
```

```

length table_name $30.;
table_name = "&var_name";
levels = &var_name;
array temp1(4) us_count finland_count germany_count sweden_count ;
array temp2(4) us_pert finland_pert germany_pert sweden_pert ;
retain us_count finland_count germany_count sweden_count us_pert finland_pert germany_pert sweden_pert;
if first.table_name then do i = 1 to 4;
    temp1(i) = .;
    temp2(i) = .;
end;
temp1(country) = Frequency;
temp2(country) = colpercent;
if last.&var_name;
proc print data = &var_name._cross;
/*
proc transpose data=&var_name._cross out=&var_name._transpose ;
by &var_name ;

proc print data = &var_name._transpose;

data &var_name._transpose (drop = _LABEL_ &var_name COL5) ;
set &var_name._transpose ;
if _name_ ne 'country';
length table_name levels $30.;
table_name = "&var_name";
levels = &var_name;
rename coll = US
        col2 = FINLAND
        col3 = Germany
        col4 = SWEDEN
        _NAME_ = count_pert;

proc print data = &var_name._transpose;
proc sort data = &var_name._transpose;
by levels;

data &var_name._transpose;
set &var_name._transpose ;
by levels;
array
*/
%mend;

*****;
***** Check Table 1 *****;

```

```

*****;

*** Running the baseline_freq on the categorical variables in the Table 1 manuscript file;
%baseline_freq3(m_27_caronsson_niddk_30sep2011,education_mom_g1      );
%baseline_freq3(m_27_caronsson_niddk_30sep2011,mom_first_child      );
%baseline_freq3(m_27_caronsson_niddk_30sep2011,BMI_cate              );
%baseline_freq3(m_27_caronsson_niddk_30sep2011,smoker              );
%baseline_freq3(m_27_caronsson_niddk_30sep2011,drinker              );
%baseline_freq3(m_27_caronsson_niddk_30sep2011,diab_order            );
%baseline_freq3(m_27_caronsson_niddk_30sep2011,fdr                  );
%baseline_freq3(m_27_caronsson_niddk_30sep2011,race_ethnicity        );

data table1_compare;
  set education_mom_g1_cross
  mom_first_child_cross
  BMI_cate_cross
  smoker_cross
  drinker_cross
  diab_order_cross
  fdr_cross
  race_ethnicity_cross
;

*****;
***** Check Table 2 *****;
*****;

*** Running the baseline_freq on the categorical variables in the Table 2 manuscript file;
data m_27_user m_27_nonuser;
  set m_27_caronsson_niddk_30sep2011;
  if mother_supple = 0 then output m_27_nonuser;
  else if mother_supple = 1 then output m_27_user;

%baseline_freq3(m_27_user,mom_first_child      );
%baseline_freq3(m_27_user,education_mom_g1      );
%baseline_freq3(m_27_user,maternal_age_4cate    );
%baseline_freq3(m_27_user,smoker              );
%baseline_freq3(m_27_user,drinker              );
%baseline_freq3(m_27_user,diab_order            );
%baseline_freq3(m_27_user,yob                  );
%baseline_freq3(m_27_user,BMI_cate              );

data table2_user_compare;
  set
  mom_first_child_cross
  education_mom_g1_cross
  maternal_age_4cate_cross
  smoker_cross
  drinker_cross

```

```

diab_order_cross
yob_cross
BMI_cate_cross ;

%baseline_freq3(m_27_nonuser,mom_first_child      );
%baseline_freq3(m_27_nonuser,education_mom_g1     );
%baseline_freq3(m_27_nonuser,maternal_age_4cate   );
%baseline_freq3(m_27_nonuser,smoker               );
%baseline_freq3(m_27_nonuser,drinker              );
%baseline_freq3(m_27_nonuser,diab_order           );
%baseline_freq3(m_27_nonuser,yob                  );
%baseline_freq3(m_27_nonuser,BMI_cate             );

data table2_nouser_compare;
  set
mom_first_child_cross
education_mom_g1_cross
maternal_age_4cate_cross
smoker_cross
drinker_cross
diab_order_cross
yob_cross
BMI_cate_cross
;

proc print data = table1_compare;
  title3 'table 1 from data set';
proc print data = table2_user_compare;
  title3 'table 2 user from data set';
proc print data = table2_nouser_compare;
  title3 'table 2 no-user from data set';

proc means data = m_27_caronsson_niddk_30sep2011;
  by country;
  var maternal_age bmi;

```