

## **Supplementary online appendix**

### **Supplementary Table 1**

*Registries from which data were retrieved for this study.*

### **Supplementary Table 2**

*Diagnosis codes used to identify pregnancy losses.*

### **Supplementary Table 3**

*Incidence rate of pregnancy losses by time in women 15-44 years among pregnant women and among women in general during the period 1978-2017. (Figures for Figure 1).*

### **Supplementary Table 4**

*Incidence rate (%) of pregnancy loss by age in pregnant women and in the general population. (Figures for Figure 2).*

### **Supplementary Table 5**

*Lifetime risk of 1, 2, 3, and 4+ pregnancy losses per 100 women followed from 12 through 49 years during the period 1978-2017. (Figures for Figure 3).*

### **Supplementary Table 6**

*Absolute risk of pregnancy loss according to mode of conception. ART includes IVF, ICSI, FET and OD. (Figures for Figure 5).*

### **Supplementary Figure 1**

*Study populations in different sub-analyses illustrated in lexis diagrams.*

### **Supplementary Figure 2a**

*Pregnancy loss (%) by age in pregnant women (Y1) and in the general population of women (Y2) Induced pregnancy terminations excluded from denominator of pregnant women.*

### **Supplementary Figure 2b**

*Percentage distribution of deliveries, pregnancy losses and induced abortions according to age.*

### **Supplementary Figure 3**

*Incidence rates of specific numbers of pregnancy losses (PL) per 1000 women-years according to age. All women 10-49 years.*

### **Supplementary Figure 4**

*Cumulated rates of specific numbers of pregnancy losses per 1000 women-years according to age. All women 10-49 years. Figures stacked.*

### **Supplementary Figure 5**

*Risk of pregnancy loss according to mode of conception. ART includes IVF, ICSI, FET and OD.*

### Supplementary Table 1

*Registries from which data were retrieved for this study.*

	<b>The Danish National Health Register</b>	<b>The Danish Medical Birth Register</b>	<b>The National Fertility Register</b>
<b>Established</b>	1976	1973	1994
<b>Complete from Information</b>	1977 Discharge diagnoses (>1976) Surgical codes (>1976) Medical treatments (>1994) Outpatients included from 1994 Indication of foreign fertility treatment	1978	1995 Fertility treatments in Denmark including In vitro fertilization ICSI, Frozen Embryo Repl. Oocyte donation Inseminations Stimulation only

### Supplementary Table 2

*Diagnosis codes used to identify pregnancy losses.*

<b>ICD 8</b>	<b>ICD 10</b>	<b>Diagnosis</b>
643.*	D003*	<i>Spontaneous abortion</i>
634.61 +	D0021	<i>Missed abortion</i>
645.1	D0020	<i>Blighted ovum</i>

**Supplementary Table 3.**

*Incidence rate of pregnancy losses by time in women 15-44 years among pregnant women and among women in general during the period 1978-2017. (Figures for Figure 1).*

<b>1978-2017</b>	<b>Women-yrs 15-44</b>	<b>Pregnancies 15-44</b>	<b>PL 15-44</b>	<b>Rate per 100 w-yrs</b>	<b>Rate per 100 pregnancies</b>	<b>Rate per 100 women</b>
<b>1978-79</b>	2,125,777	165,761	12,513	0.59	7.50	23.5
<b>1980-84</b>	5,521,472	400,861	30,215	0.55	7.50	21.9
<b>1985-89</b>	5,671,057	433,215	37,679	0.66	8.70	26.6
<b>1990-94</b>	5,594,209	467,660	44,300	0.79	9.50	31.7
<b>1995-99</b>	5,473,219	477,212	52,194	0.95	10.90	38.1
<b>2000-04</b>	5,341,011	454,465	49,341	0.92	10.90	37.0
<b>2005-09</b>	5,278,853	451,470	47,341	0.90	10.50	35.9
<b>2010-14</b>	5,278,186	418,523	40,634	0.77	9.70	30.8
<b>2015-17</b>	3,196,144	250,288	22,791	0.71	9.10	28.5
<b>1978-17</b>	<b>43,479,928</b>	<b>3,519,455</b>	<b>337,008</b>	<b>0.78</b>	<b>9.58</b>	<b>31.0</b>

*PL = pregnancy loss, w-yrs = women-years*

**Supplementary Table 4.**

*Incidence rate (%) of pregnancy loss by age in pregnant women and in the general population. (Figures for Figure 2)*

<b>1978-2017</b>	<b>Pregnancy loss according to age</b>				
	<b>Women-yrs</b>	<b>Pregn.</b>	<b>PL</b>	<b>Rate per 100 women-yrs</b>	<b>Rate per 100 pregnancies</b>
<b>Age</b>	<b>No</b>	<b>No</b>	<b>No</b>		
<b>10-14</b>	6,540,831	3,152	122	0.00	3.9
<b>15-19</b>	6,767,392	175,116	11,616	0.17	6.6
<b>20-24</b>	7,051,081	659,589	52,563	0.75	8.0
<b>25-29</b>	7,219,234	1,144,731	99,357	1.38	8.7
<b>30-34</b>	7,442,927	970,396	92,716	1.25	9.6
<b>35-39</b>	7,573,717	455,276	58,602	0.77	12.9
<b>40-44</b>	7,425,577	114,347	22,154	0.30	19.4
<b>45-49</b>	5,714,064	8,651	2,328	0.04	26.9

*PL = pregnancy loss*

**Supplementary Table 5.**

*Lifetime risk of 1, 2, 3, and 4+ pregnancy losses per 100 women followed from 12 through 49 years during the period 1978-2017.*

*(Figures for Figure 3).*

1978-2017	Cumulated PL by increasing age					Rates of PL per 100 women					
	0 PL	1 PL	2 PL	3 PL	4+ PL	0 PL	1 PL	2 PL	3 PL	4+ PL	≥1 PL
10-14	364151	27	0	0	0	100.0	0.01	0.0	0.0	0.0	0.007
10-19	361074	2929	159	13	3	99.1	0.80	0.04	0.004	0.001	0.85
10-24	347539	14745	1561	253	80	95.4	4.0	0.43	0.07	0.022	4.6
10-29	322241	35376	5278	972	311	88.5	9.7	1.4	0.27	0.09	11.5
10-34	299058	52980	9551	1900	689	82.1	14.5	2.6	0.52	0.19	17.9
10-39	285033	62482	12883	2724	1056	78.3	17.2	3.5	0.75	0.29	21.7
10-44	280360	65237	14171	3140	1270	77.0	17.9	3.9	0.86	0.35	23.0
10-49	280141	65348	14242	3161	1286	76.9	17.9	3.9	0.87	0.35	23.1

*PL = pregnancy loss (spontaneous abortion + missed abortion + anembryonic pregnancy)*

**Supplementary Table 6.**

*Risk of pregnancy loss according to mode of conception. ART includes IVF, ICSI, FET and OD.*

*(Figures for Figure 5).*

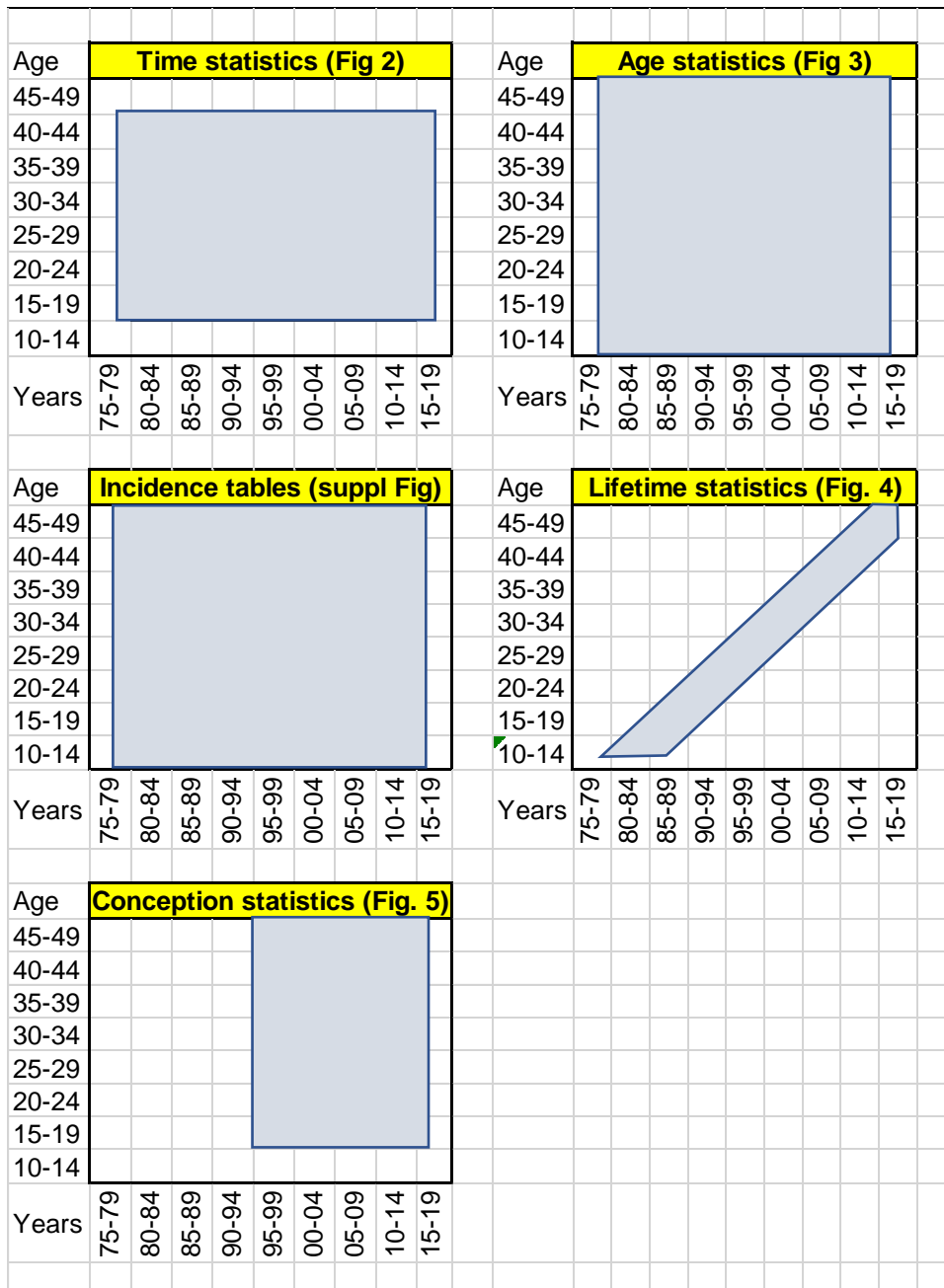
1995-2017	Pregnancy losses according to age and conception							
	Sp. Pregnancies			ART pregnancies			Rate	95% CI
Age	Pregn	Losses	Rate/100	Pregn	Losses	Rate/100	ratio	
10-14	1,778	81	4,6	0	0	0	0	-
15-19	77,693	5,696	7,3	15	3	20.0	2.74	0.99-7.51
20-24	286,300	24,748	8,6	1,515	158	10.4	<b>1.21</b>	1.04-1.40
25-29	617,867	56,213	9,1	14,349	1,532	10.7	<b>1.17</b>	1.12-1.23
30-34	618,936	60,469	9,8	30,076	3,071	10.2	<b>1.05</b>	1.01-1.08
35-39	297,610	39,958	13,4	23,766	3,465	14.6	<b>1.09</b>	1.05-1.12
40-44	71,331	15,494	21,7	6,487	1,300	20.0	<b>0.92</b>	0.87-0.97
45-49	4,880	1,476	30,2	133	32	24.1	0.80	0.59-1.08
<b>Total</b>	1,976,395	204,135	10,3	76,341	9,561	12.5	<b>1.21</b>	1.19-1.24

*ART = assisted reproductive techniques, IVF = in vitro fertilization, OD= oocyte donation*

*ICSI = Intracytoplasmic sperm injection, FET = frozen embryo transfer.*

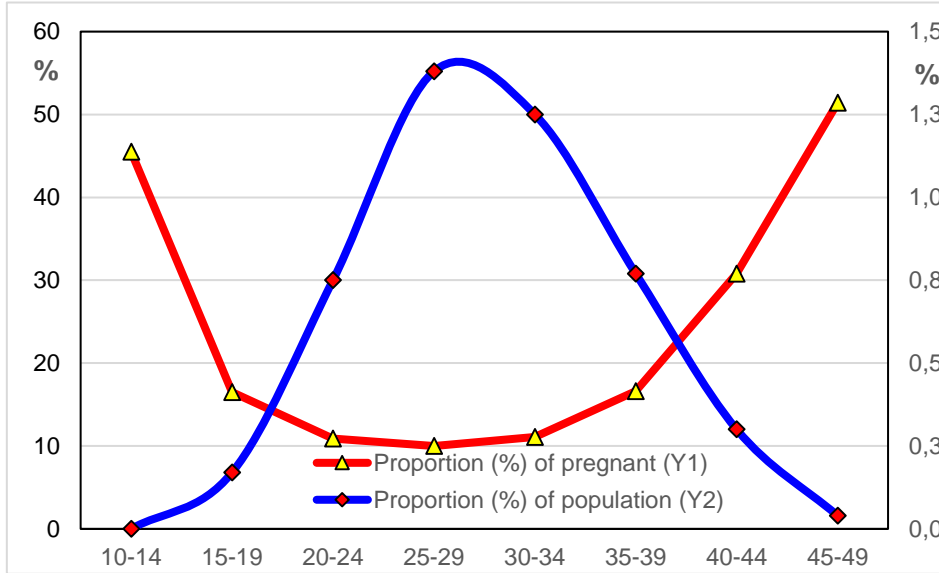
**Supplementary Figure 1.**

*Study populations in different sub-analyses illustrated in lexis diagrams.*



**Supplementary Figure 2a**

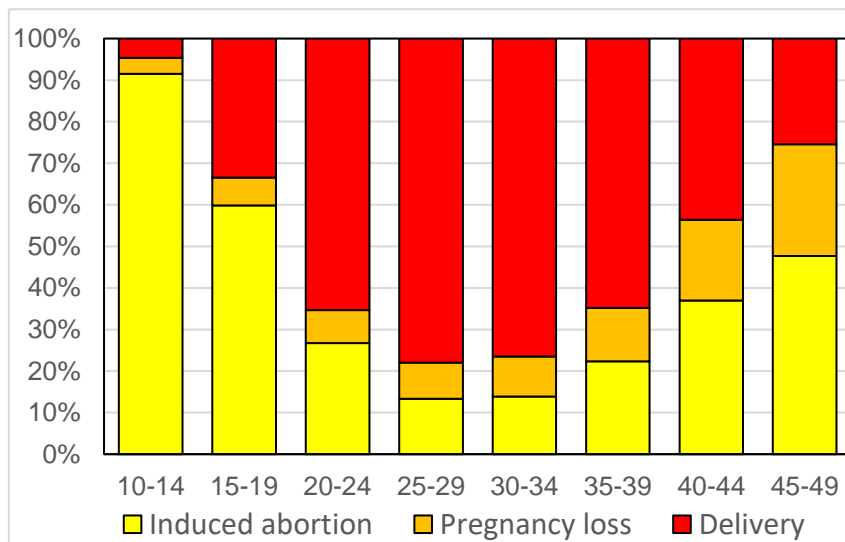
*Pregnancy loss (%) by age in pregnant women (Y1) and in the general population of women (Y2).  
Induced pregnancy terminations excluded from denominator of pregnant women.*



To understand the difference between Fig. 2 and supplementary Figure 2a see Figure below:

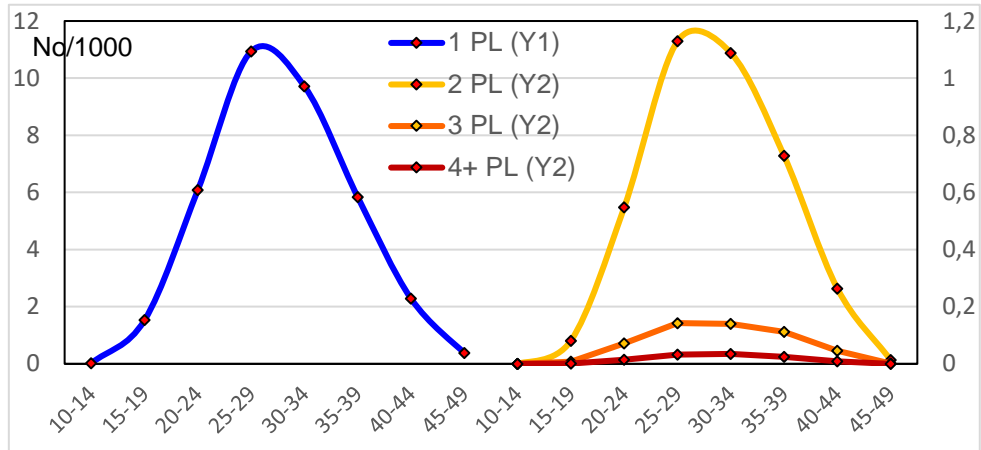
**Supplementary Figure 2b**

*Percentage distribution of deliveries, pregnancy losses and induced abortions according to age.*



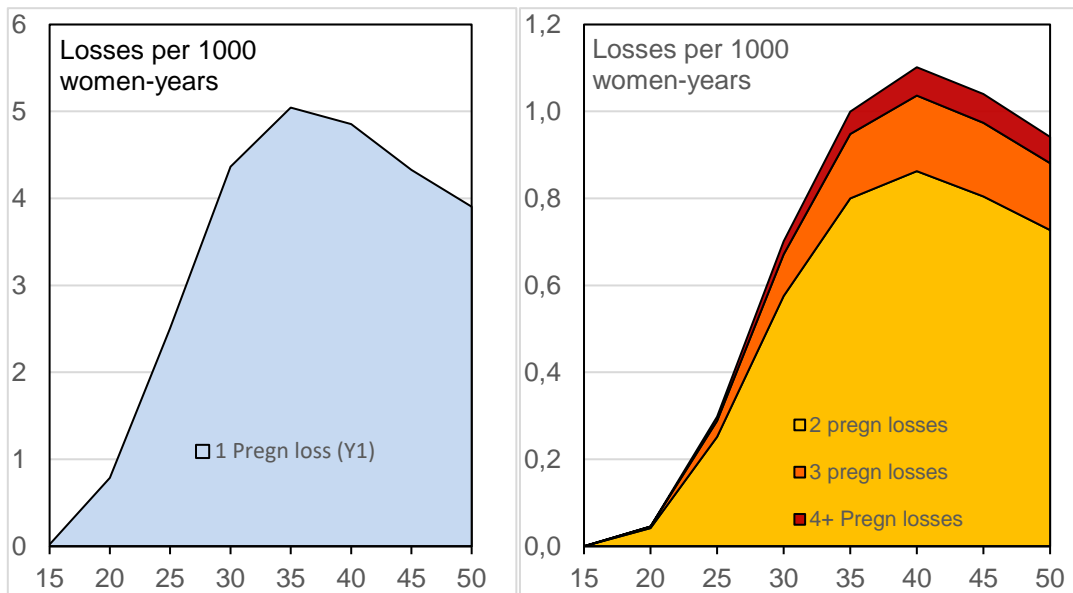
**Supplementary Figure 3**

*Incidence rates of specific numbers of pregnancy losses (PL) per 1000 women-years according to age. All women 10-49 years.*



**Supplementary Figure 4**

*Cumulated rates of specific numbers of pregnancy losses per 1000 women years according to age. All women 10-49 years. Figures stacked.*

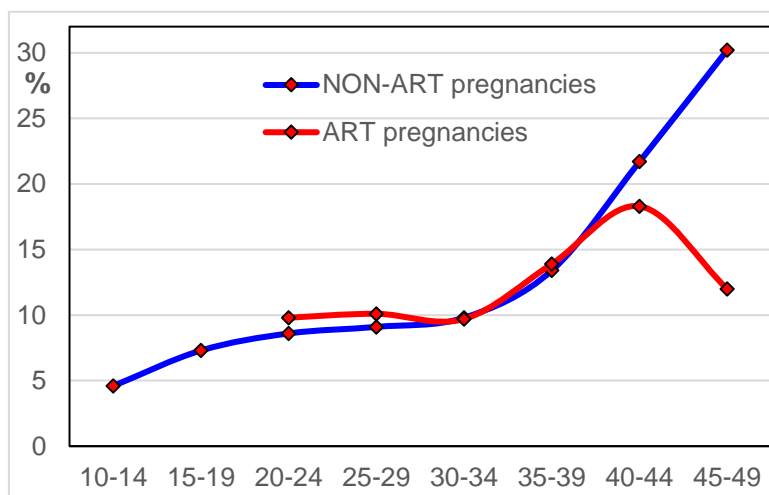


Areas are stacked.

## Supplementary Figure 5

Absolute risk of pregnancy loss by age according to mode of conception.

ART includes IVF, ICSI, FET and OD.



ART = assisted reproductive techniques, IVF = in vitro fertilization, ICSI = Intracytoplasmic sperm injection, FET = frozen embryo transfer. OD = oocyte donation. See figure 5 for comparison.

Figures for supplementary Figure 5

1995-2017	Pregnancy losses according to age and conception							
	Sp. Pregnancies			ART pregnancies			Rate	95% CI
Age	Pregn	Losses	Rate/100	Pregn	Losses	Rate/100	ratio	
10-14	1,778	81	4.6	0	0	0	0	-
15-19	77,693	5,696	7.3	37	5	13.5	1.85	0.82-4.17
20-24	286,300	24,748	8.6	1,713	168	9.8	1.14	0.98-1.31
25-29	617,867	56,213	9.1	15,560	1,579	10.1	<b>1.11</b>	1.06-1.17
30-34	618,936	60,469	9.8	32,277	3,130	9.7	0.99	0.96-1.03
35-39	297,610	39,958	13.4	25,415	3,522	13.9	1.04	1.00-1.07
40-44	71,331	15,494	21.7	7,219	1,319	18.3	<b>0.84</b>	0.80-0.88
45-49	4,880	1,476	30.2	317	38	12.0	<b>0.40</b>	0.29-0.54
<b>Total</b>	<b>1,976,395</b>	<b>204,135</b>	<b>10.3</b>	<b>82,538</b>	<b>9,761</b>	<b>11.8</b>	<b>1.15</b>	1.12-1.17

ART = assisted reproductive techniques, IVF = in vitro fertilization, OD = oocyte donation  
ICSI = Intracytoplasmic sperm injection, FET = frozen embryo transfer.