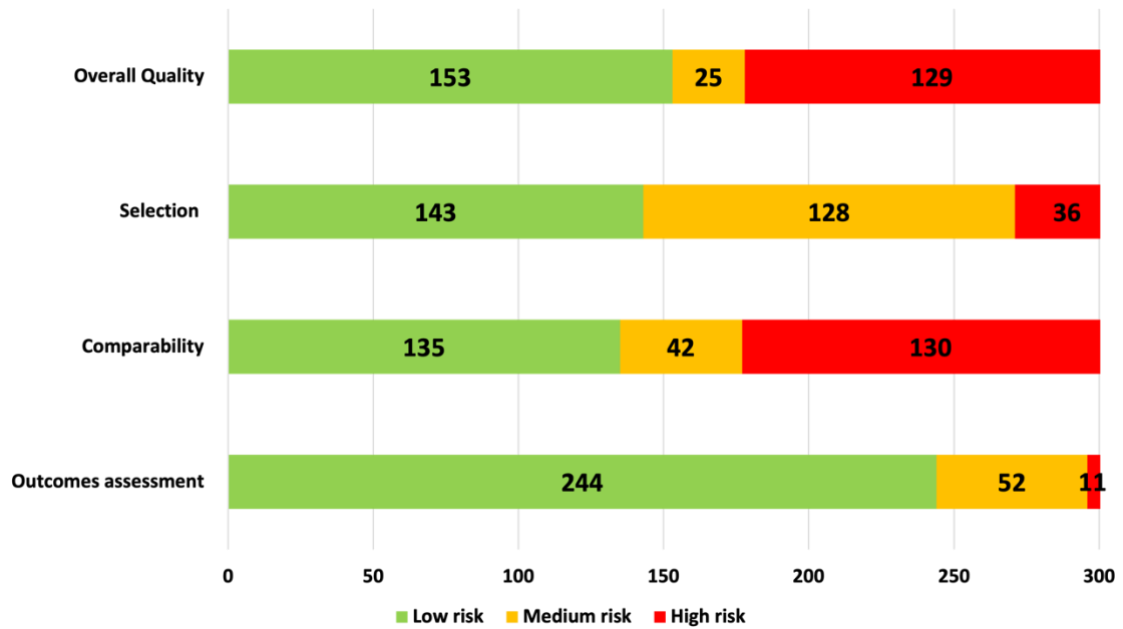


# SUPPLEMENTAL MATERIAL

## Appendix 1: Quality Assessment (risk of bias)



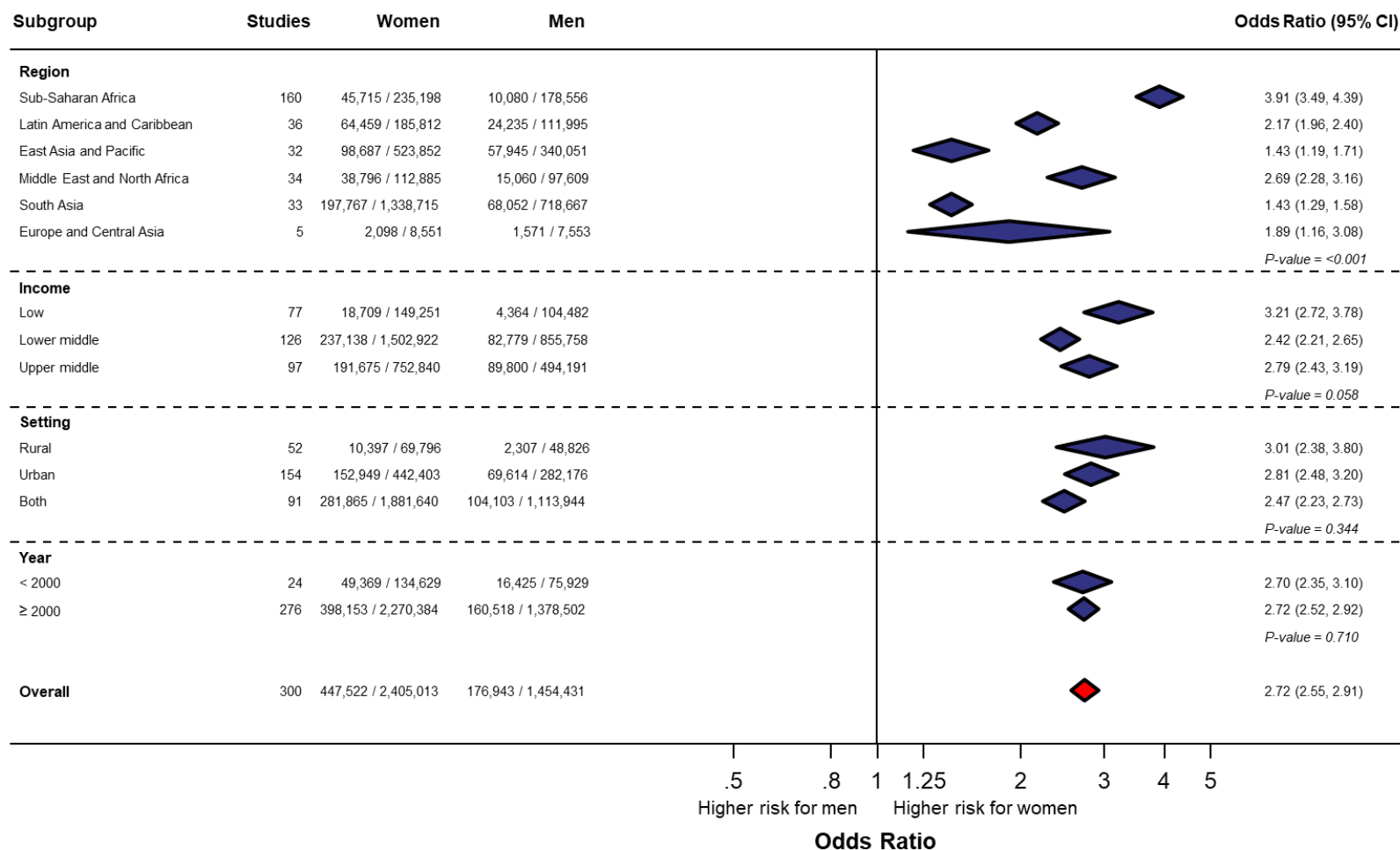
**Appendix 2: Risk of obesity and cardiometabolic diseases in men vs women in low- and middle-income countries**

<b>Risk factor</b>	<b>Number of studies</b>	<b>Women n/N</b>	<b>Men n/N</b>	<b>OR (95% CI)</b>	<b>I<sup>2</sup> (%)</b>	<b>τ<sup>2</sup></b>
<b>Obesity</b>	300	447,522 / 2,405,013	176,943 / 1,454,431	2.72 (2.55, 2.91)	98.7	0.29
<b>Hypertension</b>	177	341,666 / 1,516,430	253,473 / 886,948	0.95 (0.91, 0.99)	95.7	0.07
<b>Type 2 diabetes</b>	130	123,984 / 1,839,096	91,127 / 1,042,110	1.07 (1.00, 1.14)	95.2	0.08
<b>Impaired glucose tolerance</b>	43	5,164 / 64,607	4,752 / 51,618	1.02 (0.82, 1.26)	94.1	0.41
<b>Dyslipidaemia</b>	25	7,244 / 25,083	6,087 / 22,513	1.27 (1.09, 1.48)	85.8	0.10
<b>Non-alcoholic fat liver disease</b>	3	1,660 / 11,876	4,195 / 12,951	0.54 (0.14, 2.06)	99.7	1.38
<b>Coronary heart disease</b>	11	2,924 / 145,232	2,188 / 85,179	0.93 (0.75, 1.14)	80.8	0.07
<b>Myocardial infarction</b>	2	189 / 6,940	225 / 6,632	0.84 (0.69, 1.03)	0.0	0.00
<b>Stroke</b>	13	774 / 120,960	742 / 65,893	0.94 (0.71, 1.26)	75.3	0.15

**Appendix 3: Differences in reported prevalence of obesity in men vs women in low- and middle-income countries stratified by World Bank region, country's income status, setting and year**

Group	Subgroup	Studies	Women	Men	OR (95% CI)	I <sup>2</sup> (%)	$\tau^2$	P-value
Region	Sub-Saharan Africa	160	45,715 / 235,198	10,080 / 178,556	3.91 (3.49; 4.49)	94.6	0.45	< 0.001
	Latin America and Caribbean	36	64,459 / 185,812	24,235 / 111,995	2.17 (1.96; 2.40)	93.4	0.06	
	East Asia and Pacific	32	98,687 / 523,852	57,945 / 340,051	1.43 (1.19; 1.71)	98.9	0.24	
	Middle East and North Africa	34	38,796 / 112,885	15,060 / 97,609	2.69 (2.28; 3.16)	97.5	0.20	
	South Asia	33	197,767 / 1,338,715	68,052 / 718,667	1.43 (1.29; 1.59)	97.7	0.06	
	Europe and Central Asia	5	2,098 / 8,551	1,571 / 7,553	1.89 (1.16; 3.08)	93.3	0.27	
Income	Low	77	18,709 / 149,251	4,364 / 104,482	3.21 (2.72; 3.78)	94.0	0.45	0.058
	Lower-middle	126	237,138 / 1,502,922	82,779 / 855,758	2.42 (2.21; 2.65)	98.3	0.20	
	Upper-middle	97	191,675 / 752,840	89,800 / 494,191	2.79 (2.43; 3.19)	99.3	0.41	
Setting	Rural	52	10,397 / 69,796	2,307 / 48,826	3.01 (2.38; 3.80)	94.1	0.61	0.344
	Urban	154	152,949 / 442,403	69,614 / 282,176	2.81 (2.48; 3.20)	98.7	0.58	
	Both	91	281,865 / 1,881,640	104,103 / 1,113,944	2.47 (2.23; 2.73)	99.0	0.19	
Year	< 2000	24	49,369 / 134,629	16,425 / 75,929	2.70 (2.35; 3.10)	89.5	0.08	0.710
	≥ 2000	276	398,153 / 2,270,384	160,518 / 1,378,502	2.72 (2.52; 2.92)	98.8	0.32	

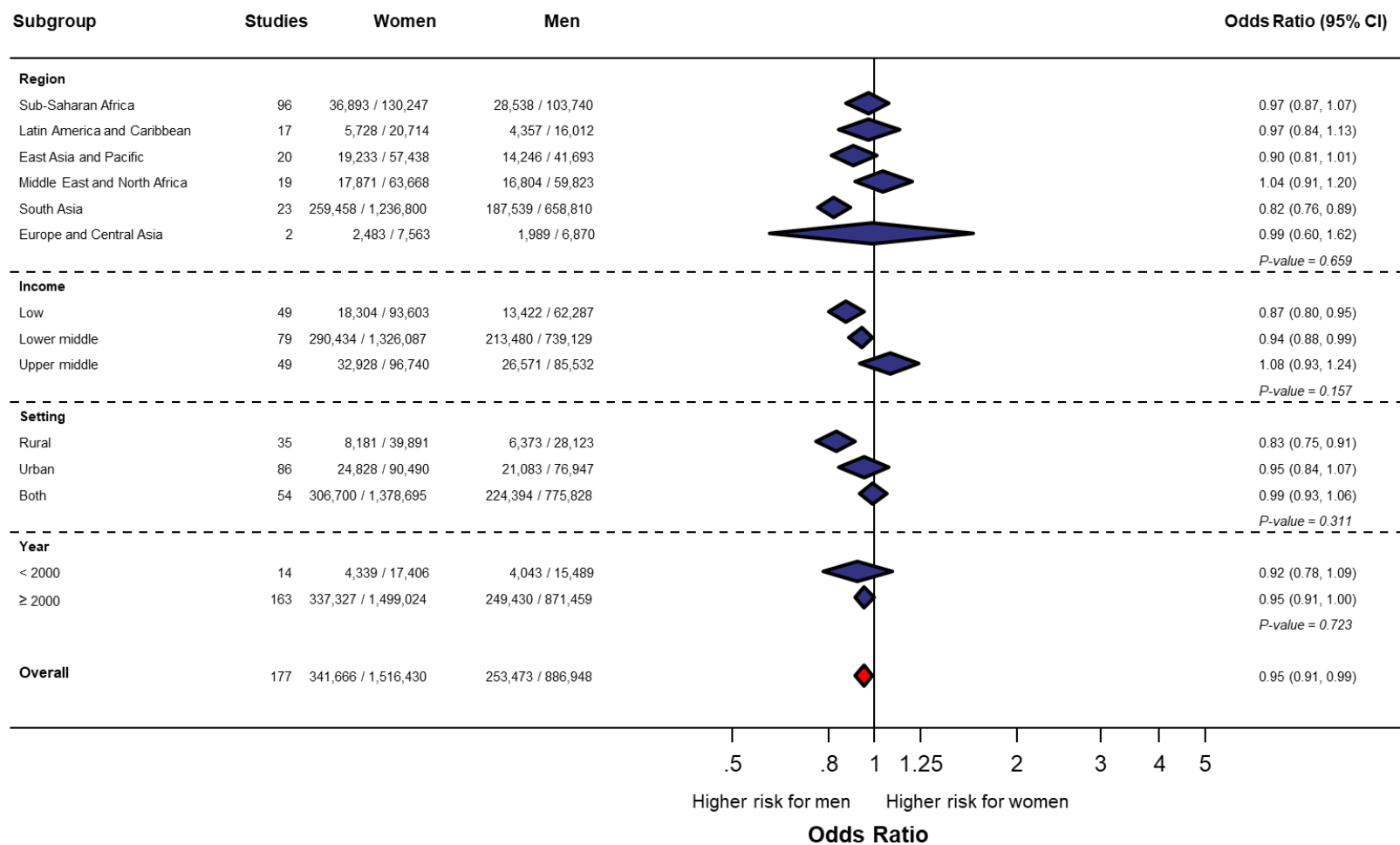
**Appendix 4: ‘Forest’ plot of the differences in reported prevalence of obesity between men and women in low- and middle-income countries stratified by World Bank region, country’s income status, setting and year**



**Appendix 5: Differences in reported prevalence of hypertension in men vs. women in low- and middle-income countries stratified by World Bank region, country's income status, setting and year**

Group	Subgroup	Studies	Women n/N	Men n/N	OR (95% CI)	I <sup>2</sup> (%)	τ <sup>2</sup>	P-value
Region	Sub-Saharan Africa	96	36,893 / 130,247	28,538 / 103,740	0.97 (0.87; 1.07)	94.6	0.21	0.659
	Latin America and Caribbean	17	5,728 / 20,714	4,357 / 16,012	0.97 (0.84; 1.13)	78.3	0.06	
	East Asia and Pacific	20	19,233 / 57,438	14,246 / 41,693	0.90 (0.81; 1.01)	92.0	0.05	
	Middle East and North Africa	19	17,871 / 63,668	16,804 / 59,823	1.04 (0.91; 1.20)	93.8	0.07	
	South Asia	23	259,458 / 1,236,800	187,539 / 658,810	0.82 (0.76; 0.89)	96.5	0.02	
	Europe and Central Asia	2	2,483 / 7,563	1,989 / 6,870	0.99 (0.60; 1.62)	94.0	0.12	
Income	Low	49	18,304 / 93,603	13,422 / 62,287	0.87 (0.80; 0.95)	86.9	0.06	0.157
	Lower-middle	79	290,434 / 1,326,087	213,480 / 739,129	0.94 (0.88; 0.99)	95.3	0.04	
	Upper-middle	49	32,928 / 96,740	26,571 / 85,532	1.08 (0.93; 1.24)	97.0	0.22	
Setting	Rural	35	8,181 / 39,891	6,373 / 28,123	0.83 (0.75; 0.91)	75.9	0.05	0.311
	Urban	86	24,828 / 90,490	21,083 / 76,947	0.95 (0.84; 1.07)	95.3	0.28	
	Both	54	306,700 / 1,378,695	224,394 / 775,828	0.99 (0.93; 1.06)	97.4	0.04	
Year	< 2000	14	4,339 / 17,406	4,043 / 15,489	0.92 (0.78; 1.09)	86.5	0.08	0.723
	≥ 2000	163	337,327 / 1,499,024	249,430 / 871,459	0.95 (0.91; 1.00)	95.9	0.07	

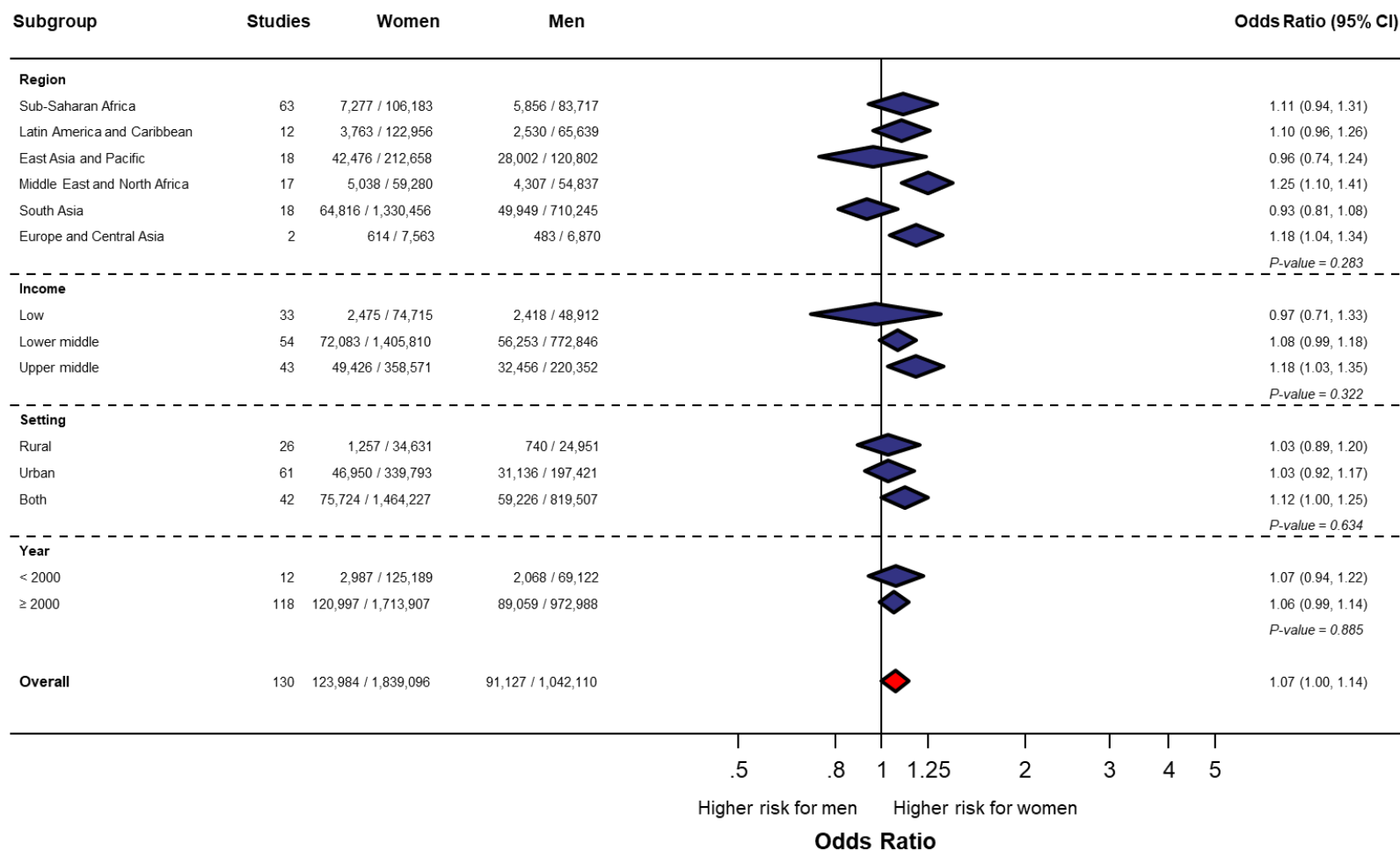
**Appendix 6: Forest plot showing differences in reported prevalence of hypertension between men and women in low- and middle-income countries stratified by region, income, setting and year**



**Appendix 7: Differences in reported prevalence of type 2 diabetes between men and women in low- and middle-income countries stratified by World Bank region, country's income status, setting and year**

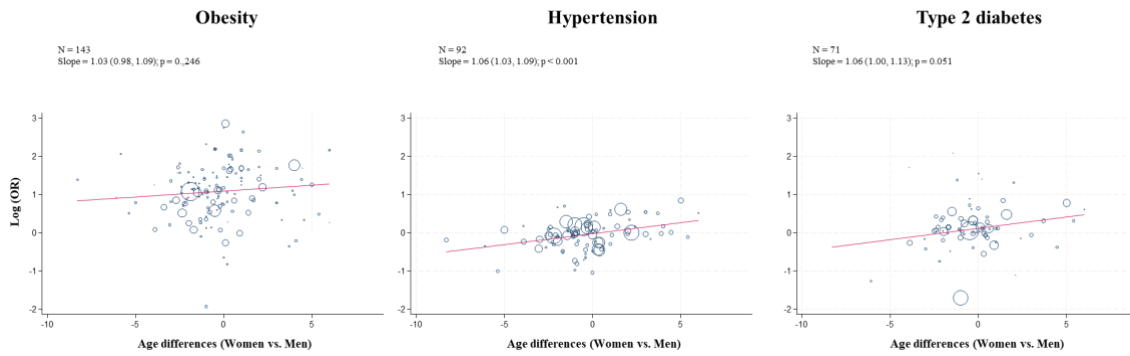
Group	Subgroup	Studies	Women n/N	Men n/N	OR (95% CI)	I <sup>2</sup> (%)	τ <sup>2</sup>	P-value
Region	Sub-Saharan Africa	63	7,277 / 106,183	5,856 / 83,717	1.11 (0.94; 1.31)	89.7	0.31	0.283
	Latin America and Caribbean	12	3,763 / 122,956	2,530 / 65,639	1.10 (0.96; 1.26)	65.7	0.02	
	East Asia and Pacific	18	42,476 / 212,658	28,002 / 120,802	0.96 (0.74; 1.24)	98.1	0.27	
	Middle East and North Africa	17	5,038 / 59,280	4,307 / 54,837	1.25 (1.10; 1.41)	80.6	0.05	
	South Asia	18	64,816 / 1,330,456	49,949 / 710,245	0.93 (0.81; 1.08)	96.9	0.06	
	Europe and Central Asia	2	614 / 7,563	483 / 6,870	1.18 (1.04; 1.34)	-	-	
Income	Low	33	2,475 / 74,715	2,418 / 48,912	0.97 (0.71; 1.33)	95.0	0.69	0.322
	Lower-middle	54	72,083 / 1,405,810	56,253 / 772,846	1.08 (0.99; 1.18)	92.9	0.05	
	Upper-middle	43	49,426 / 358,571	32,456 / 220,352	1.18 (1.03; 1.35)	95.9	0.14	
Setting	Rural	26	1,257 / 34,631	740 / 24,951	1.03 (0.89; 1.20)	41.9	0.05	0.634
	Urban	61	46,950 / 339,793	31,136 / 197,421	1.03 (0.92; 1.17)	93.6	0.16	
	Both	42	75,724 / 146,427	59,226 / 819,507	1.12 (1.00; 1.25)	97.5	0.11	
Year	< 2000	12	2,987 / 125,189	2,068 / 69,122	1.07 (0.94; 1.22)	68.4	0.01	0.885
	≥ 2000	118	120,997 / 1,713,907	89,059 / 972,988	1.06 (0.99; 1.14)	95.6	0.08	

**Appendix 8: ‘Forest’ plot of differences in reported prevalence of type 2 diabetes between men and women in low- and middle-income countries stratified by World Bank region, country’s income status, setting and year**





## Appendix 9: Effect of the age difference between women and men on the sex-specific odds of obesity, hypertension, and type 2 diabetes in low- and middle-income countries



**Appendix 10: Individual country sex-differences in prevalence of obesity in low- and middle-income countries**

Country	Studies	Women n/N	Men n/N	OR (95%CI)
Jamaica	2	530 / 1,493	87 / 1,000	6.71 (3.58, 12.58)
Ivory Coast	2	79 / 739	14 / 1,777	6.47 (3.00, 13.97)
Malawi	9	8,504 / 66,084	981 / 41,438	6.09 (5.29, 7.00)
Uganda	8	931 / 11,099	117 / 8,612	5.98 (4.18, 8.56)
Yemen	1	198 / 1,581	23 / 919	5.58 (3.59, 8.66)
Kenya	10	3,026 / 16,812	584 / 14,441	5.23 (3.86, 7.09)
Ghana	9	1,220 / 6,656	321 / 5,632	5.12 (3.41, 7.69)
South Africa	35	17,248 / 42,038	3,173 / 29,489	5.04 (3.63, 7.01)
Algeria	1	133 / 409	34 / 378	4.88 (3.24, 7.34)
Tunisia	3	4,627 / 6,305	501 / 3,512	4.80 (1.01, 22.92)
Mozambique	1	81 / 117	12 / 35	4.31 (1.94, 9.61)
Angola	2	186 / 639	53 / 585	4.12 (2.96, 5.73)
Senegal	4	471 / 2,127	89 / 1,323	4.03 (2.30, 7.06)
United Republic of Tanzania	7	1,386 / 9,940	285 / 5,885	3.79 (2.79, 5.16)
Republic of the Congo	1	23 / 175	101 / 2,574	3.70 (2.29, 6.00)
Eritrea	2	76 / 1,084	30 / 1,077	3.69 (0.92, 14.84)
Zambia	1	50 / 358	14 / 332	3.69 (2.00, 6.81)
Grenada	1	633 / 1,626	178 / 1,201	3.66 (3.04, 4.42)
Botswana	2	225 / 627	64 / 458	3.29 (2.41, 4.51)
Mauritius	1	425 / 2,797	125 / 2,363	3.21 (2.61, 3.95)
Namibia	1	493 / 1,795	136 / 1,273	3.17 (2.58, 3.89)
Turkey	1	20 / 74	27 / 250	3.06 (1.60, 5.86)
Myanmar	2	108 / 741	40 / 745	3.01 (2.06, 4.40)
Suriname	2	290 / 625	83 / 375	3.01 (1.70, 5.33)
Benin	4	319 / 2,581	75 / 1,594	2.91 (2.24, 3.78)
Ethiopia	10	534 / 4,123	182 / 4,155	2.91 (1.89, 4.51)
Guatemala	7	954 / 3,536	288 / 2,557	2.76 (2.35, 3.26)
Iran	17	30,578 / 97,473	11,901 / 85,009	2.74 (2.56, 2.94)
Nigeria	22	1,937 / 8,563	600 / 7,229	2.74 (2.00, 3.76)
Cameroon	15	1,081 / 6,109	354 / 5,157	2.73 (2.38, 3.13)
Kyrgyzstan	2	320 / 940	116 / 712	2.66 (2.09, 3.39)
Peru	4	946 / 3,134	512 / 3,009	2.55 (1.78, 3.64)
Egypt	4	1,131 / 1,962	1,242 / 3,035	2.52 (1.95, 3.26)
Seychelles	4	996 / 2,190	498 / 1,810	2.47 (1.79, 3.42)
Indonesia	2	2,791 / 9,957	1,406 / 8,767	2.33 (1.61, 3.38)
Trinidad and Tobago	1	109 / 269	27 / 118	2.30 (1.40, 3.76)
Democratic Republic of the Congo	3	291 / 2,468	263 / 3,001	2.27 (0.75, 6.89)
Sudan	1	1,126 / 4,276	409 / 2,963	2.23 (1.97, 2.53)
Thailand	2	2,114 / 8,176	823 / 5,915	2.19 (2.00, 2.39)
Syria	2	854 / 1,728	462 / 1,478	2.18 (1.88, 2.52)
Brazil	10	9,979 / 39,793	5,069 / 30,791	2.07 (1.47, 2.90)
Sri Lanka	2	865 / 2,231	466 / 1,980	2.04 (1.78, 2.34)
Colombia	2	1,342 / 6,430	428 / 3,622	1.97 (1.75, 2.21)
Jordan	2	571 / 1,157	281 / 846	1.95 (1.43, 2.64)
Burkina Faso	3	123 / 2,331	50 / 2,094	1.87 (0.50, 6.99)
Malaysia	4	3,944 / 11,455	2,076 / 9,105	1.83 (1.70, 1.97)
Nepal	5	879 / 7,020	299 / 4,602	1.83 (1.27, 2.64)
Samoa	1	245 / 358	183 / 331	1.75 (1.28, 2.39)
Mexico	2	46,190 / 116,648	15,621 / 60,495	1.72 (1.43, 2.06)
Saudi Arabia	1	345 / 1,016	238 / 1,033	1.72 (1.41, 2.09)
Bolivia	1	1,472 / 6,143	722 / 4,561	1.68 (1.52, 1.85)
Bangladesh	2	893 / 4,880	469 / 4,794	1.65 (0.73, 3.68)
Lebanon	1	147 / 322	61 / 179	1.62 (1.11, 2.37)
Liberia	1	20 / 63	8 / 32	1.40 (0.53, 3.64)
India	26	196,853 / 1,353,378	67,348 / 730,065	1.33 (1.19, 1.50)
Moldova	1	242 / 737	79 / 288	1.29 (0.96, 1.75)
Vietnam	1	21 / 1,023	18 / 993	1.14 (0.80, 2.14)
China	13	88,252 / 470,737	52,558 / 302,245	1.10 (0.86, 1.41)
Republic of Serbia	1	1,516 / 6,800	1,349 / 6,303	1.05 (0.97, 1.14)
Honduras	1	57 / 237	35 / 145	1.00 (0.61, 1.61)
Cambodia	4	407 / 12,694	283 / 5,278	0.95 (0.21, 4.32)
Philippines	1	321 / 1,983	428 / 2,480	0.93 (0.79, 1.09)
Argentina	2	253 / 1,519	175 / 956	0.82 (0.66, 1.02)
Palestine	1	163 / 704	312 / 1,146	0.81 (0.65, 1.00)

**Appendix 11: Individual country sex-differences in prevalence of hypertension in low- and middle-income countries**

Country	Studies	Women n/N	Men n/N	OR (95%CI)
Jamaica	1	68 / 244	18 / 153	2.90 (1.65, 5.10)
Zambia	1	37 / 358	18 / 332	2.01 (1.12, 3.61)
Egypt	2	1,182 / 1,757	1,285 / 2,237	1.46 (0.60, 3.57)
Grenada	1	532 / 1,626	317 / 1,201	1.36 (1.15, 1.60)
Democratic Republic of the Congo	2	355 / 2,173	279 / 2,516	1.33 (0.98, 1.80)
Argentina	1	258 / 679	117 / 365	1.30 (0.99, 1.70)
South Africa	16	4,401 / 7,856	2,243 / 8,138	1.29 (0.55, 3.01)
Republic of Serbia	1	2,250 / 6,800	1,781 / 6,303	1.26 (1.17, 1.35)
Thailand	1	383 / 4,969	241 / 3,822	1.24 (1.05, 1.47)
Bangladesh	2	1,833 / 4,880	1,439 / 4,794	1.22 (0.53, 2.81)
Iran	9	14,585 / 54,375	13,693 / 51,750	1.18 (1.02, 1.37)
Tunisia	3	1,402 / 4,701	941 / 3,512	1.17 (1.06, 1.29)
Ghana	2	292 / 930	192 / 670	1.16 (0.92, 1.47)
Trinidad and Tobago	1	58 / 269	23 / 118	1.14 (0.66, 1.95)
Benin	4	829 / 2,581	475 / 1,594	1.12 (0.98, 1.29)
Cambodia	4	3,779 / 12,694	1,375 / 5,278	1.12 (0.96, 1.31)
Eritrea	2	244 / 1,328	236 / 1,323	1.12 (0.80, 1.57)
Peru	2	587 / 1,474	554 / 1,452	1.11 (0.95, 1.29)
Sri Lanka	1	930 / 1,627	741 / 1,358	1.11 (0.96, 1.28)
Brazil	3	130 / 1,162	234 / 1,301	1.10 (0.47, 2.55)
Namibia	1	813 / 1,795	556 / 1,273	1.07 (0.92, 1.23)
Burkina Faso	1	36 / 161	32 / 149	1.05 (0.61, 1.80)
Mexico	1	3,366 / 11,335	2,510 / 8,727	1.05 (0.98, 1.11)
Myanmar	2	309 / 741	302 / 745	1.05 (0.85, 1.29)
Indonesia	2	3,162 / 9,961	2,721 / 8,772	1.03 (0.97, 1.09)
United Republic of Tanzania	3	1,003 / 4,002	500 / 1,961	0.99 (0.68, 1.44)
Kenya	4	2,485 / 8,802	1,714 / 5,987	0.98 (0.91, 1.06)
Uganda	6	1,282 / 6,254	863 / 4,256	0.97 (0.88, 1.07)
Angola	2	282 / 639	271 / 585	0.92 (0.73, 1.15)
Suriname	1	259 / 625	163 / 375	0.92 (0.71, 1.19)
Algeria	1	80 / 409	80 / 378	0.91 (0.64, 1.28)
Lebanon	1	114 / 322	68 / 179	0.89 (0.61, 1.31)
Mauritius	1	305 / 2,797	286 / 2,363	0.89 (0.75, 1.06)
Republic of the Congo	1	29 / 175	470 / 2,574	0.89 (0.59, 1.34)
Cameroon	12	1,106 / 4,834	863 / 4,438	0.88 (0.66, 1.17)
Nigeria	15	1,519 / 4,775	1,250 / 3,849	0.88 (0.70, 1.10)
Liberia	1	12 / 63	7 / 32	0.84 (0.29, 2.40)
China	4	4,270 / 12,080	3,785 / 10,286	0.83 (0.72, 0.95)
Botswana	2	269 / 627	228 / 458	0.81 (0.47, 1.39)
Malaysia	3	4,834 / 8,884	3,765 / 7,274	0.81 (0.42, 1.58)
Senegal	2	103 / 429	160 / 573	0.79 (0.59, 1.06)
India	18	269,725 / 1253043	195,274 / 671,934	0.77 (0.71, 0.85)
Kyrgyzstan	1	233 / 763	208 / 567	0.76 (0.60, 0.95)
Ethiopia	7	479 / 3,221	539 / 2,733	0.70 (0.59, 0.84)
Malawi	4	3,214 / 36,734	2,736 / 22,730	0.70 (0.63, 0.78)
Nepal	4	2,271 / 6,683	1,842 / 4,499	0.68 (0.36, 1.26)
Seychelles	3	368 / 1,503	414 / 1,242	0.68 (0.31, 1.48)
Guatemala	6	470 / 3,300	421 / 2,320	0.67 (0.58, 0.78)
Samoa	1	94 / 358	118 / 331	0.64 (0.46, 0.89)
Syria	1	347 / 1,117	400 / 921	0.59 (0.49, 0.70)
Vietnam	1	124 / 1,023	222 / 993	0.48 (0.38, 0.61)
Jordan	2	161 / 987	337 / 846	0.47 (0.13, 1.69)
Ivory Coast	1	11 / 412	110 / 1,618	0.38 (0.20, 0.71)

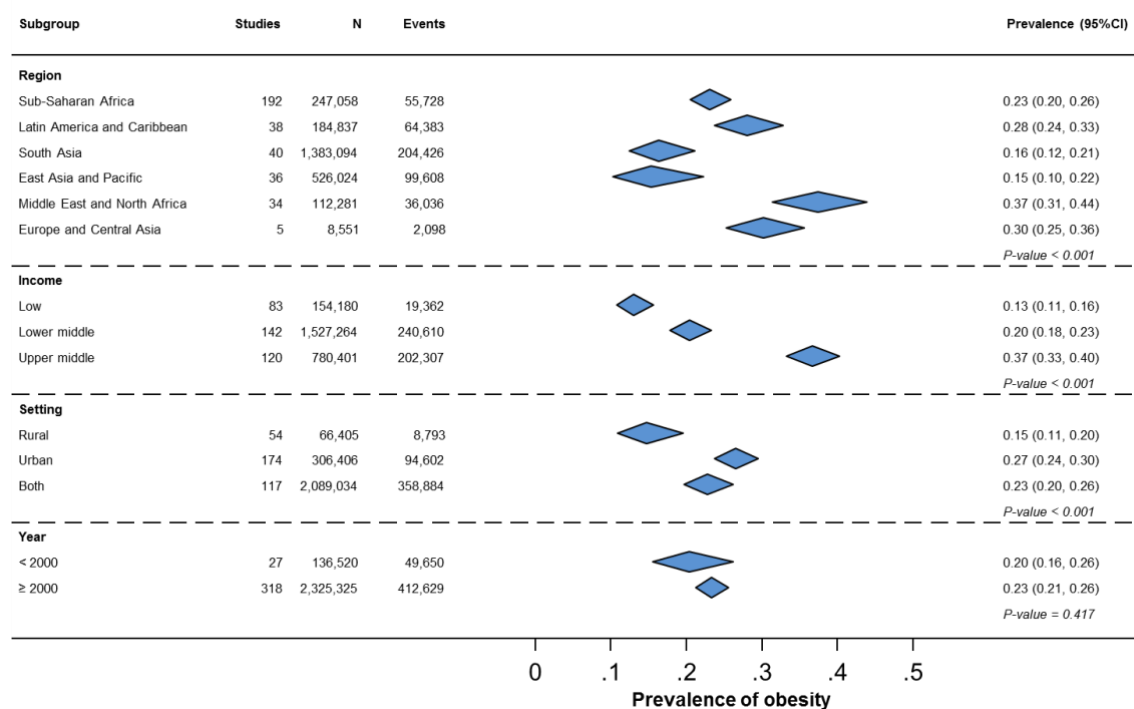
**Appendix 12: Individual country sex-differences in prevalence of type 2 diabetes in low- and middle-income countries**

Country	Studies	Women n/N	Men n/N	OR (95%CI)
Uganda	2	51 / 1,259	7 / 675	3.84 (1.73, 8.54)
Zambia and Zimbabwe	1	6 / 305	1 / 176	3.51 (0.42, 29.41)
Jamaica	1	2 / 244	0 / 153	3.16 (0.15, 66.37)
Malaysia	2	1,456 / 8,470	1,132 / 7,002	1.92 (0.53, 7.00)
Grenada	1	260 / 1,626	125 / 1,201	1.64 (1.30, 2.06)
Kenya	5	282 / 7,524	136 / 5,671	1.59 (1.29, 1.96)
Republic of the Congo	1	28 / 175	294 / 2,574	1.48 (0.97, 2.25)
Ghana	5	342 / 4,585	175 / 3,640	1.40 (0.95, 2.07)
Lebanon	1	45 / 322	19 / 179	1.37 (0.77, 2.42)
Brazil	3	58 / 1,162	98 / 1,301	1.36 (0.92, 2.00)
Egypt	2	323 / 1,757	494 / 2,025	1.36 (0.53, 3.50)
Samoa	1	76 / 358	56 / 331	1.32 (0.90, 1.94)
Indonesia	1	632 / 9,001	424 / 7,788	1.31 (1.16, 1.49)
Iran	10	4,023 / 50,575	3,294 / 47,248	1.28 (1.11, 1.48)
Saudi Arabia	1	203 / 1,016	169 / 1,033	1.28 (1.02, 1.60)
Thailand	2	500 / 8,178	282 / 5,915	1.28 (0.95, 1.73)
South Africa	13	1,087 / 6,454	501 / 7,228	1.25 (0.64, 2.44)
Botswana	2	41 / 474	20 / 415	1.23 (0.57, 2.65)
Myanmar	2	106 / 741	90 / 745	1.22 (0.87, 1.72)
Republic of Serbia	1	585 / 6,800	462 / 6,303	1.19 (1.05, 1.35)
Guatemala	3	202 / 1,432	122 / 952	1.18 (0.92, 1.50)
Tunisia	1	311 / 4,590	202 / 3,417	1.16 (0.96, 1.39)
Democratic Republic of the Congo	2	200 / 2,173	159 / 2,516	1.14 (0.87, 1.49)
Nigeria	8	311 / 3,307	173 / 2,248	1.14 (0.93, 1.40)
Bangladesh	2	529 / 4,880	397 / 4,794	1.12 (0.55, 2.32)
United Republic of Tanzania	1	45 / 649	19 / 303	1.11 (0.64, 1.94)
Angola	2	38 / 639	32 / 585	1.09 (0.67, 1.77)
Argentina	1	102 / 679	53 / 365	1.04 (0.73, 1.49)
Kyrgyzstan	1	29 / 763	21 / 567	1.03 (0.58, 1.82)
Syria	1	95 / 611	87 / 557	0.99 (0.72, 1.36)
Mozambique	1	16 / 81	7 / 35	0.98 (0.36, 2.66)
Mexico	2	2,941 / 116,648	1,909 / 60,495	0.96 (0.85, 1.09)
Namibia	1	120 / 1,795	89 / 1,273	0.95 (0.72, 1.27)
India	15	66,107 / 134,7751	51,334 / 724,397	0.89 (0.77, 1.02)
Mauritius	1	352 / 2,797	328 / 2,363	0.89 (0.76, 1.05)
Peru	1	198 / 1,165	223 / 1,172	0.87 (0.71, 1.08)
Algeria	1	38 / 409	42 / 378	0.82 (0.52, 1.30)
Cameroon	3	131 / 2,443	104 / 1,460	0.82 (0.62, 1.10)
Malawi	4	296 / 36,734	225 / 22,730	0.82 (0.62, 1.08)
China	5	38,507 / 168,031	24,561 / 90,544	0.80 (0.68, 0.95)
Ethiopia	2	18 / 336	32 / 571	0.80 (0.42, 1.51)
Benin	4	85 / 2,581	66 / 1,594	0.76 (0.52, 1.11)
Seychelles	2	38 / 794	40 / 711	0.73 (0.27, 1.97)
Nepal	2	360 / 5,391	326 / 3,340	0.66 (0.57, 0.77)
Cambodia	4	859 / 12,694	1,147 / 5,278	0.62 (0.21, 1.88)
Zambia	1	2 / 358	3 / 332	0.62 (0.10, 3.71)
Senegal	1	8 / 136	31 / 266	0.47 (0.21, 1.06)

**Appendix 13: Reported prevalence of obesity in women in low- and middle-income countries according to World Bank region, country's income status, setting and over time**

Group	Subgroup	Studies	N	Events	Prevalence (95%CI)	I <sup>2</sup> (%)	τ <sup>2</sup>	P-value
Region	Sub-Saharan Africa	192	247,058	55,728	0.23 (0.20, 0.26)	97.1	1.13	<0.001
	Latin America and Caribbean	38	184,837	64,383	0.28 (0.24, 0.33)	96.9	0.49	
	South Asia	40	1,383,094	204,426	0.16 (0.12, 0.21)	96.7	1.02	
	East Asia and Pacific	36	526,024	99,608	0.15 (0.10, 0.22)	99.1	1.99	
	Middle East and North Africa	34	112,281	36,036	0.37 (0.31, 0.44)	97.7	0.63	
	Europe and Central Asia	5	8,551	2,098	0.30 (0.25, 0.36)	75.2	0.06	
Income	Low	83	154,180	19,362	0.13 (0.11, 0.16)	95.8	0.97	<0.001
	Lower-middle	142	1,527,264	240,610	0.20 (0.18, 0.23)	97.1	1.03	
	Upper-middle	120	780,401	202,307	0.37 (0.33, 0.40)	97.6	0.70	
Setting	Rural	54	66,405	8,793	0.15 (0.11, 0.20)	97.0	1.64	<0.001
	Urban	174	306,406	94,602	0.27 (0.24, 0.30)	97.2	1.00	
	Both	117	2,089,034	358,884	0.23 (0.20, 0.26)	98.2	1.04	
Year	< 2000	27	136,520	49,650	0.20 (0.16, 0.26)	96.7	0.73	0.417
	≥ 2000	318	2,325,325	412,629	0.23 (0.21, 0.26)	97.7	1.22	

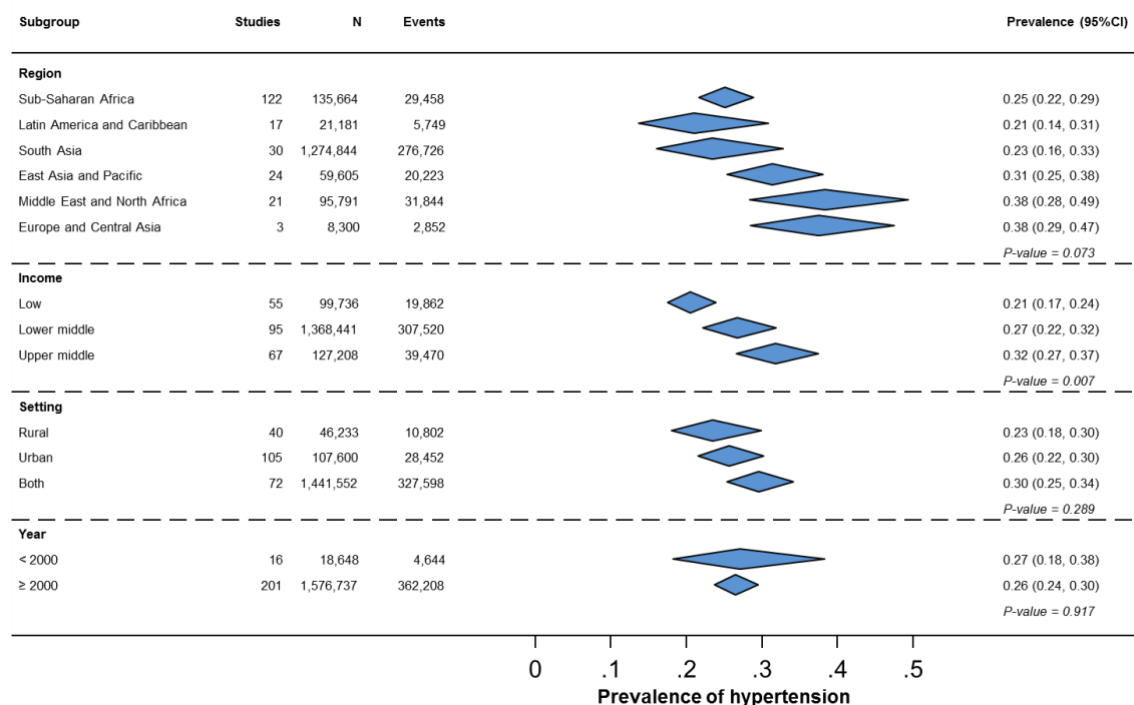
**Appendix 14: Reported prevalence of obesity in women in low- and middle-income countries according to World Bank region, country's income status, setting and year**



**Appendix 15: Reported prevalence of hypertension in women in low- and middle-income countries according to World Bank region, country's income status, setting and year**

Group	Subgroup	Studies	Number of women	Events	Prevalence (95%CI)	I <sup>2</sup> (%)	τ <sup>2</sup>	P-value
Region	Sub-Saharan Africa	122	135,664	29,458	0.25 (0.22, 0.29)	97.0	1.13	0.073
	Latin America and Caribbean	17	21,181	5,749	0.21 (0.14, 0.31)	97.3	1.15	
	South Asia	30	1,274,844	276,726	0.23 (0.16, 0.33)	98.2	1.66	
	East Asia and Pacific	24	59,605	20,223	0.31 (0.25, 0.38)	98.6	0.54	
	Middle East and North Africa	21	95,791	31,844	0.38 (0.28, 0.49)	98.5	1.10	
	Europe and Central Asia	3	8,300	2,852	0.38 (0.29, 0.47)	96.5	0.13	
Income	Low	55	99,736	19,862	0.21 (0.17, 0.24)	95.9	0.55	0.007
	Lower-middle	95	1,368,441	307,520	0.27 (0.22, 0.32)	97.8	1.47	
	Upper-middle	67	127,208	39,470	0.32 (0.27, 0.37)	97.8	1.07	
Setting	Rural	40	46,233	10,802	0.23 (0.18, 0.30)	97.6	1.12	0.289
	Urban	105	107,600	28,452	0.26 (0.22, 0.30)	97.3	1.40	
	Both	72	1,441,552	327,598	0.30 (0.25, 0.34)	98.2	0.81	
Year	< 2000	16	18,648	4,644	0.27 (0.18, 0.38)	98.0	1.08	0.917
	≥ 2000	201	1,576,737	362,208	0.26 (0.24, 0.30)	97.6	1.15	

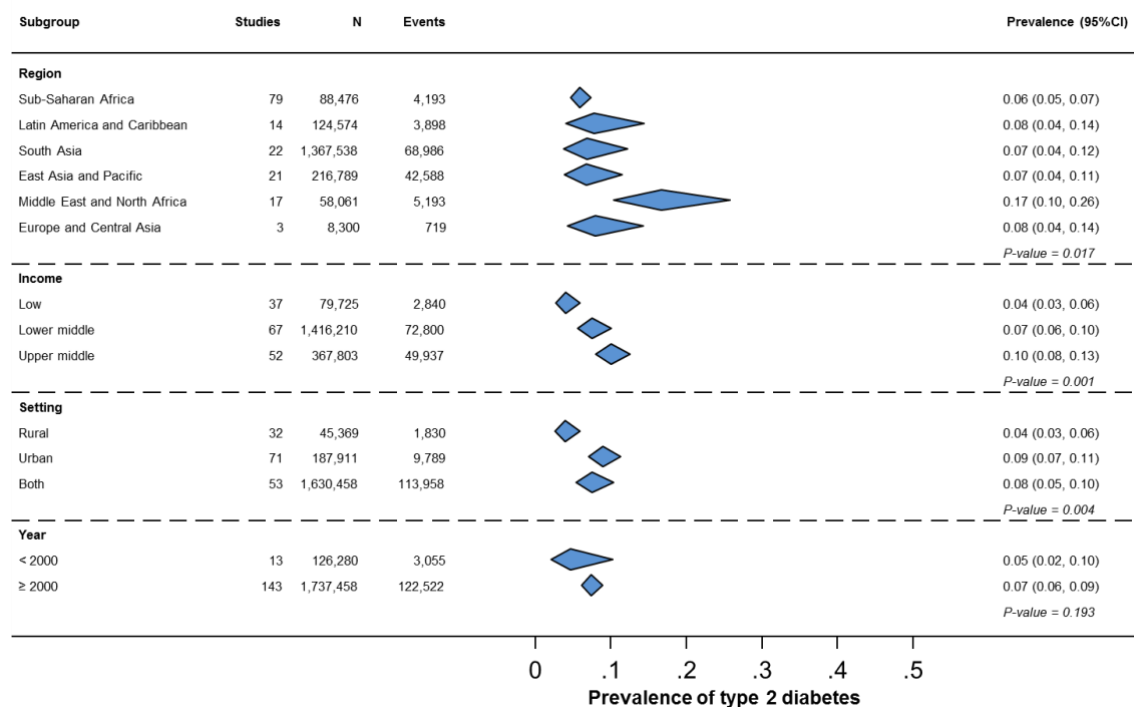
**Appendix 16: 'Forest' plot of the reported prevalence of hypertension in women in low- and middle-income countries according to World Bank region, country's income status, setting and year**



**Appendix 17: Reported prevalence of type 2 diabetes in women in low- and middle-income countries according to World Bank region, country's income status, setting and year**

Group	Subgroup	Studies	Number of women	Events	Prevalence (95%CI)	I <sup>2</sup> (%)	τ <sup>2</sup>	P-value
Region	Sub-Saharan Africa	79	88,476	4,193	0.06 (0.05, 0.07)	90.2	1.13	0.017
	Latin America and Caribbean	14	124,574	3,898	0.08 (0.04, 0.14)	94.2	1.65	
	South Asia	22	1,367,538	68,986	0.07 (0.04, 0.12)	95.9	2.29	
	East Asia and Pacific	21	216,789	42,588	0.07 (0.04, 0.11)	98.0	1.82	
	Middle East and North Africa	17	58,061	5,193	0.17 (0.10, 0.26)	98.6	1.32	
	Europe and Central Asia	3	8,300	719	0.08 (0.04, 0.14)	95.6	0.32	
Income	Low	37	79,725	2,840	0.04 (0.03, 0.06)	91.6	1.56	0.001
	Lower-middle	67	1,416,210	72,800	0.07 (0.06, 0.10)	95.5	1.76	
	Upper-middle	52	367,803	49,937	0.10 (0.08, 0.13)	93.4	0.83	
Setting	Rural	32	45,369	1,830	0.04 (0.03, 0.06)	90.7	1.46	0.004
	Urban	71	187,911	9,789	0.09 (0.07, 0.11)	93.9	1.22	
	Both	53	1,630,458	113,958	0.08 (0.05, 0.10)	96.4	1.68	
Year	< 2000	13	126,280	3,055	0.05 (0.02, 0.10)	97.9	2.42	0.193
	≥ 2000	143	1,737,458	122,522	0.07 (0.06, 0.09)	94.2	1.44	

**Appendix 18: 'Forest' plot of the reported prevalence of type 2 diabetes in women in low- and middle-income countries according to World Bank region, country's income status, setting and year**



## Appendix 19: Effect of the women's age on the prevalence of obesity, hypertension, and type 2 diabetes in women in low- and middle-income countries

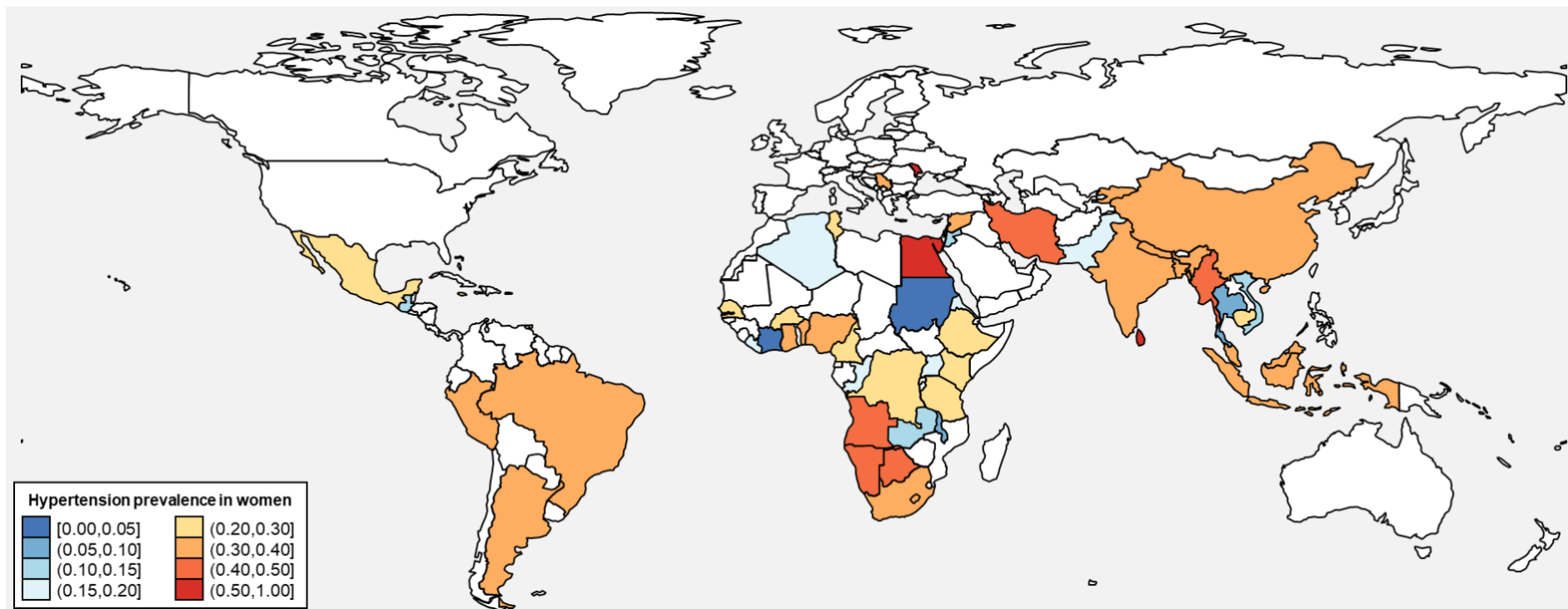




**Appendix 20: Individual-country prevalence of obesity in women in low- and middle-income countries**

Country	Studies	Number of women	Events	Prevalence (95%CI)
Egypt	4	2,379	1,130	0.571 (0.302, 0.839)
Syria	2	1,728	854	0.494 (0.471, 0.518)
Jordan	1	811	401	0.494 (0.460, 0.529)
Suriname	2	625	290	0.464 (0.425, 0.503)
Lebanon	1	322	147	0.457 (0.402, 0.511)
Mozambique	1	81	36	0.444 (0.336, 0.553)
South Africa	34	29,986	11,850	0.433 (0.388, 0.479)
Seychelles	4	2,190	996	0.426 (0.238, 0.613)
Trinidad and Tobago	1	269	109	0.405 (0.347, 0.464)
Chile	1	4,359	1,704	0.391 (0.376, 0.405)
Uruguay	1	4,359	1,704	0.391 (0.376, 0.405)
Grenada	1	1,626	633	0.389 (0.366, 0.413)
Tunisia	3	4,701	1,641	0.368 (0.140, 0.595)
Botswana	2	627	225	0.358 (0.321, 0.396)
Sri Lanka	2	2,231	865	0.356 (0.337, 0.375)
Jamaica	2	1,493	530	0.353 (0.329, 0.377)
Kyrgyzstan	2	940	320	0.340 (0.310, 0.370)
Saudi Arabia	1	1,016	345	0.340 (0.310, 0.369)
Morocco	1	811	276	0.340 (0.308, 0.373)
Moldova	1	737	242	0.328 (0.294, 0.362)
Iran	14	85,885	25,635	0.328 (0.294, 0.361)
Algeria	1	409	133	0.325 (0.280, 0.371)
Mexico	3	116,969	46,282	0.321 (0.206, 0.437)
Liberia	1	63	20	0.317 (0.203, 0.432)
Namibia	3	2,273	640	0.308 (0.247, 0.368)
Indonesia	3	11,038	3,202	0.299 (0.233, 0.364)
Angola	2	639	186	0.291 (0.256, 0.326)
Brazil	10	7,421	2,098	0.289 (0.156, 0.422)
Malaysia	4	11,454	3,944	0.280 (0.195, 0.365)
Nepal	4	5,782	614	0.279 (0.038, 0.520)
Peru	4	3,134	946	0.273 (0.173, 0.372)
Turkey	1	74	20	0.270 (0.169, 0.371)
Sudan	1	4,276	1,126	0.263 (0.250, 0.277)
Thailand	2	8,176	2,114	0.257 (0.247, 0.266)
Nigeria	21	8,659	1,985	0.250 (0.186, 0.314)
Argentina	3	5,878	1,957	0.247 (0.046, 0.448)
Honduras	1	237	57	0.241 (0.186, 0.295)
Guatemala	5	2,318	563	0.241 (0.153, 0.328)
Bolivia	1	6,143	1,472	0.240 (0.229, 0.250)
Kenya	11	15,541	3,019	0.236 (0.194, 0.278)
Republic of Serbia	1	6,800	1,516	0.223 (0.213, 0.233)
Senegal	4	2,127	471	0.222 (0.115, 0.329)
Pakistan	2	8,669	1,890	0.215 (0.206, 0.223)
United Republic of Tanzania	7	9,940	1,386	0.211 (0.156, 0.266)
Ivory Coast	1	327	64	0.196 (0.153, 0.239)
India	26	708,640	81,739	0.188 (0.164, 0.213)
Ghana	12	17,153	2,662	0.182 (0.135, 0.230)
Cameroon	14	6,055	1,048	0.181 (0.121, 0.240)
Bangladesh	2	4,880	893	0.173 (0.162, 0.183)
Zambia	2	545	95	0.165 (0.135, 0.196)
Mauritius	1	2,797	425	0.152 (0.139, 0.165)
Myanmar	2	741	108	0.141 (0.116, 0.166)
China	11	305,107	16,921	0.137 (0.109, 0.165)
Benin	4	2,581	319	0.134 (0.098, 0.171)
Republic of the Congo	1	175	23	0.131 (0.081, 0.181)
Ethiopia	10	4,123	534	0.127 (0.083, 0.172)
Yemen	1	1,581	198	0.125 (0.109, 0.142)
Malawi	7	52,998	6,701	0.117 (0.079, 0.156)
Uganda	7	8,478	743	0.102 (0.077, 0.126)
Democratic Republic of the Congo	2	593	80	0.060 (0.042, 0.078)
Burkina Faso	4	2,446	127	0.058 (0.010, 0.105)
Eritrea	2	1,328	76	0.048 (0.036, 0.059)
Cambodia	4	12,694	407	0.033 (0.021, 0.044)
Vietnam	1	1,023	21	0.021 (0.012, 0.029)

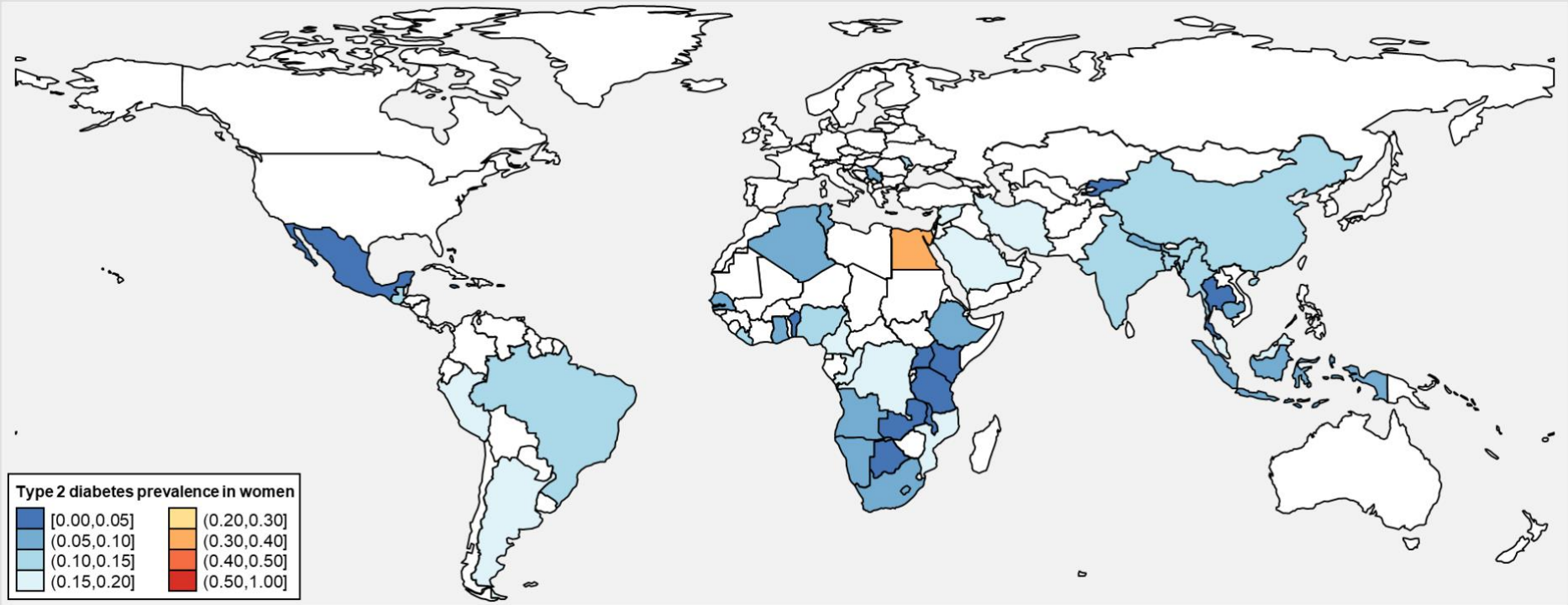
Appendix 21: World map of reported prevalence of hypertension in women in low- and middle-income countries



**Appendix 22: Individual-country prevalence of hypertension in women in low- and middle-income countries**

Country	Studies	Number of women	Events	Prevalence (95%CI)
Egypt	3	2,289	1,630	0.733 (0.617, 0.849)
Sri Lanka	1	1,627	930	0.572 (0.548, 0.596)
Moldova	1	737	369	0.501 (0.465, 0.537)
Namibia	3	2,273	1,024	0.450 (0.426, 0.474)
Angola	2	639	282	0.441 (0.403, 0.480)
Botswana	2	627	269	0.428 (0.389, 0.467)
Myanmar	2	741	309	0.417 (0.381, 0.453)
Iran	10	85,796	28,110	0.411 (0.307, 0.515)
Argentina	1	679	258	0.380 (0.343, 0.416)
China	4	12,080	4,270	0.380 (0.205, 0.555)
Indonesia	4	11,558	3,881	0.371 (0.289, 0.452)
South Africa	31	37,234	10,672	0.367 (0.299, 0.436)
Ghana	3	2,258	1,011	0.366 (0.070, 0.663)
Malaysia	4	9,041	4,884	0.364 (0.120, 0.609)
Lebanon	1	322	114	0.354 (0.302, 0.406)
Peru	2	1,474	587	0.341 (0.319, 0.364)
Republic of Serbia	1	6,800	2,250	0.331 (0.320, 0.342)
Nigeria	17	5,280	1,581	0.329 (0.234, 0.423)
Brazil	4	2,254	410	0.327 (0.102, 0.552)
Grenada	1	1,626	532	0.327 (0.304, 0.350)
Bangladesh	2	4,880	1,833	0.321 (0.309, 0.333)
India	22	1,259,863	271,669	0.316 (0.283, 0.349)
Benin	4	2,581	829	0.315 (0.257, 0.372)
Syria	1	1,117	347	0.311 (0.284, 0.338)
Kyrgyzstan	1	763	233	0.305 (0.273, 0.338)
Nepal	4	6,948	2,271	0.301 (0.233, 0.369)
Mexico	1	11,335	3,366	0.297 (0.289, 0.305)
Tunisia	3	4,701	1,402	0.287 (0.165, 0.409)
Jamaica	1	244	68	0.279 (0.222, 0.335)
Cameroon	13	4,930	1,159	0.267 (0.186, 0.348)
Samoa	1	358	94	0.263 (0.217, 0.308)
Kenya	5	9,797	2,621	0.252 (0.192, 0.312)
United Republic of Tanzania	3	4,002	1,003	0.250 (0.178, 0.321)
Cambodia	4	12,694	3,779	0.247 (0.161, 0.332)
Senegal	2	429	103	0.238 (0.198, 0.279)
Democratic Republic of the Congo	3	2,468	366	0.237 (0.062, 0.411)
Seychelles	3	1,503	368	0.220 (0.073, 0.366)
Trinidad and Tobago	1	269	58	0.216 (0.166, 0.265)
Ethiopia	7	3,221	853	0.211 (0.157, 0.265)
Burkina Faso	2	276	57	0.205 (0.157, 0.253)
Algeria	1	409	80	0.196 (0.157, 0.234)
Uganda	7	6,673	1,345	0.191 (0.161, 0.220)
Liberia	1	63	12	0.190 (0.094, 0.287)
Pakistan	1	151	26	0.172 (0.112, 0.232)
Eritrea	2	1,328	244	0.167 (0.148, 0.187)
Republic of the Congo	1	175	29	0.166 (0.111, 0.221)
Guatemala	6	3,300	470	0.148 (0.089, 0.207)
Zambia	2	545	91	0.139 (0.110, 0.167)
Vietnam	1	1,023	124	0.121 (0.101, 0.141)
Jordan	2	1,157	161	0.120 (0.102, 0.139)
Mauritius	1	2,797	305	0.109 (0.097, 0.121)
Malawi	4	36,734	3,214	0.087 (0.085, 0.090)
Thailand	1	4,967	382	0.077 (0.069, 0.084)
Sudan	1	368	10	0.027 (0.011, 0.044)
Ivory Coast	1	412	11	0.027 (0.011, 0.042)

Appendix 23: World map of reported prevalence of type 2 diabetes in women in low- and middle-income countries



**Appendix 24: Individual-country prevalence of type 2 diabetes in women in low- and middle-income countries**

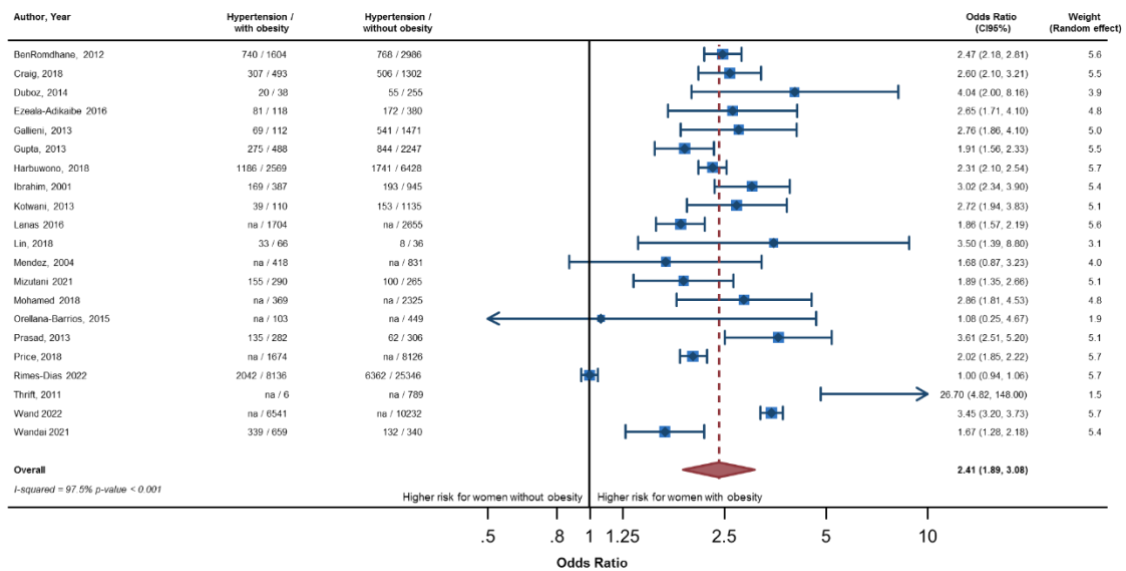
Country	Studies	Number of women	Events	Prevalence (95%CI)
Egypt	3	2,289	637	0.397 (0.013, 0.781)
Samoa	1	358	76	0.212 (0.170, 0.255)
Saudi Arabia	1	1,016	203	0.200 (0.175, 0.224)
Mozambique	1	81	16	0.198 (0.111, 0.284)
Iran	9	48,824	3,864	0.197 (0.154, 0.241)
Democratic Republic of the Congo	3	2,468	205	0.179 (0.067, 0.291)
Cameroon	5	2,741	220	0.174 (0.112, 0.235)
Malaysia	2	8,470	1,456	0.170 (0.162, 0.178)
Peru	1	1,165	198	0.170 (0.148, 0.192)
Grenada	1	1,626	261	0.161 (0.143, 0.178)
Republic of the Congo	1	175	28	0.160 (0.106, 0.214)
Syria	1	611	95	0.155 (0.127, 0.184)
Argentina	1	679	102	0.150 (0.123, 0.177)
Moldova	1	737	105	0.142 (0.117, 0.168)
Lebanon	1	322	45	0.140 (0.102, 0.178)
Myanmar	2	741	106	0.136 (0.111, 0.161)
Mauritius	1	2,797	352	0.126 (0.114, 0.138)
Guatemala	4	1,958	268	0.122 (0.070, 0.173)
Brazil	4	2,254	126	0.117 (0.052, 0.182)
Liberia	1	63	7	0.111 (0.034, 0.189)
Nigeria	11	4,549	393	0.109 (0.075, 0.143)
Bangladesh	2	4,880	529	0.103 (0.094, 0.111)
India	18	1,354,349	66,557	0.102 (0.087, 0.118)
China	6	170,672	38,559	0.102 (-0.017, 0.221)
South Africa	19	13,324	1,464	0.095 (0.075, 0.114)
Algeria	1	409	38	0.093 (0.065, 0.121)
Republic of Serbia	1	6,800	585	0.086 (0.079, 0.093)
Cambodia	4	12,694	859	0.079 (0.055, 0.102)
Indonesia	1	10,078	632	0.070 (0.065, 0.076)
Seychelles	3	1,481	121	0.069 (0.019, 0.118)
Tunisia	1	4,590	311	0.068 (0.060, 0.075)
Nepal	2	5,391	360	0.066 (0.060, 0.073)
Ghana	6	5,913	401	0.065 (0.038, 0.093)
Namibia	3	2,273	149	0.065 (0.055, 0.075)
Angola	2	639	38	0.059 (0.041, 0.078)
Senegal	1	136	8	0.059 (0.019, 0.098)
Ethiopia	2	336	18	0.053 (0.029, 0.077)
Thailand	2	8,176	500	0.049 (0.044, 0.053)
Kenya	4	6,472	239	0.040 (0.028, 0.052)
Uganda	3	1,681	68	0.039 (0.006, 0.072)
Kyrgyzstan	1	763	29	0.038 (0.024, 0.052)
Benin	3	2,481	85	0.034 (0.023, 0.045)
Mexico	2	116,648	2,941	0.015 (0.015, 0.016)
United Republic of Tanzania	2	2,871	66	0.012 (0.008, 0.016)
Botswana	1	411	4	0.010 (0.000, 0.019)
Jamaica	1	244	2	0.008 (0.000, 0.020)
Zambia	2	545	9	0.008 (0.001, 0.015)
Malawi	4	36,734	296	0.008 (0.007, 0.009)

## Appendix 24 Reported prevalence of obesity and cardiometabolic diseases in women in low- and middle-income countries in low risk of bias studies

Risk factor	Studies	Number of women	Events	Prevalence (95%CI)	$\tau^2$
Obesity	186	2,099,091	361,014	0.22 (0.20, 0.25)	1.25
Hypertension	116	1,411,562	303,561	0.24 (0.21, 0.28)	0.98
Type 2 diabetes	83	1,597,965	108,333	0.07 (0.05, 0.09)	1.64
Impaired glucose tolerance	29	60,733	4,411	0.08 (0.05, 0.12)	1.90

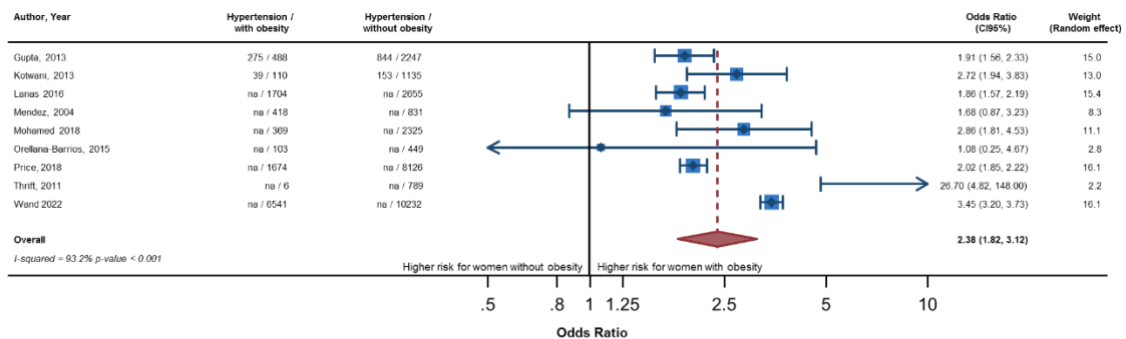
## Appendix 25: Associations between obesity and hypertension in women in low-and middle-income countries – a) All studies b) Adjusted studies

a)



na: the number of events was not available. We used published OR for this analysis

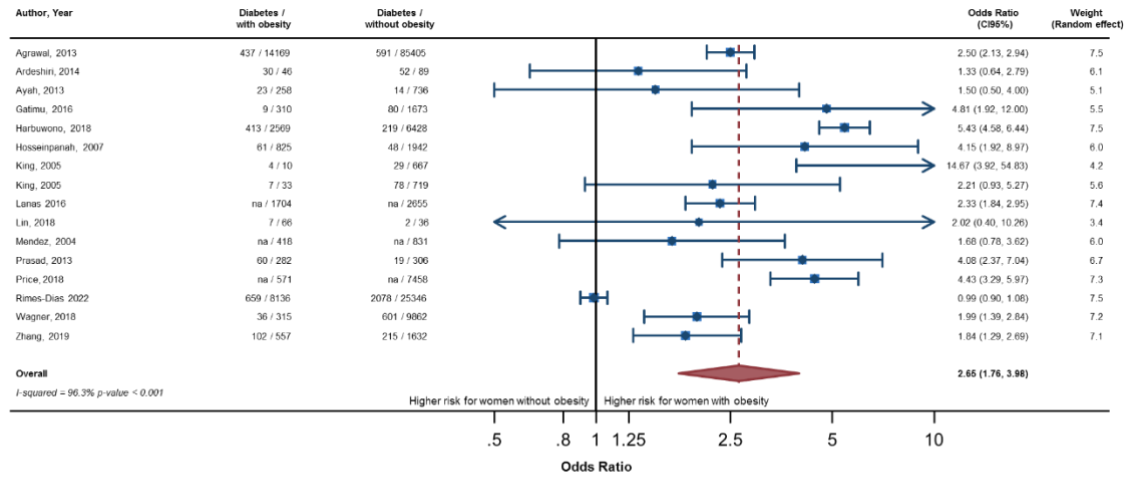
b)



na: the number of events was not available. We used published OR for this analysis

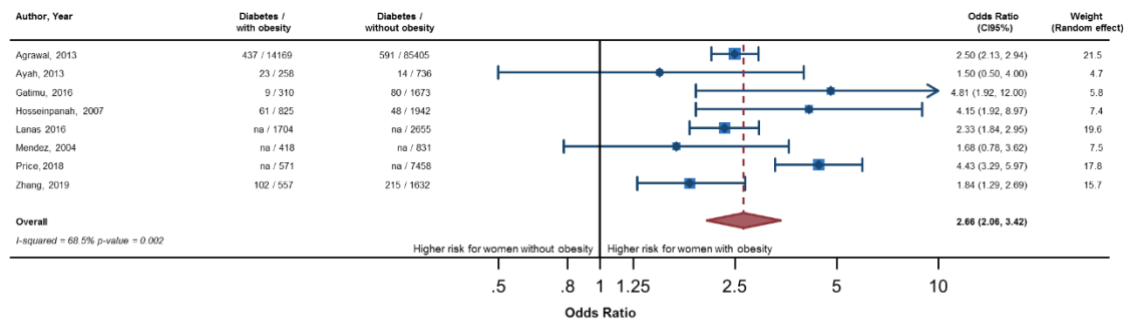
## Appendix 26: Associations between obesity and type 2 diabetes in women in low-and middle-income countries – a) All studies; b) adjusted studies

a)



na: the number of events was not available. We used published OR for this analysis

b)



na: the number of events was not available. We used published OR for this analysis

## Appendix 27: Associations between obesity and impaired glucose tolerance in women in low-and middle-income countries – All studies

