

اپیدمیولوژی فشار خون بالا در کودکان و نوجوانان

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خلاصه ای از واقعیات

- همزمان با اپیدمی چاقی و بی حرکتی، فشارخون بالا در کودکان و نوجوانان یک مشکل بهداشتی جدی و روز افزون است
- شیوع کلی فشارخون افزایش یافته و هایپرتنشن در کودکان ۶٪ است (هر کدام ۳٪).
- این شیوع کلی در نوجوانان چاق، ۵ برابر می شود و به ۳۰٪ می رسد

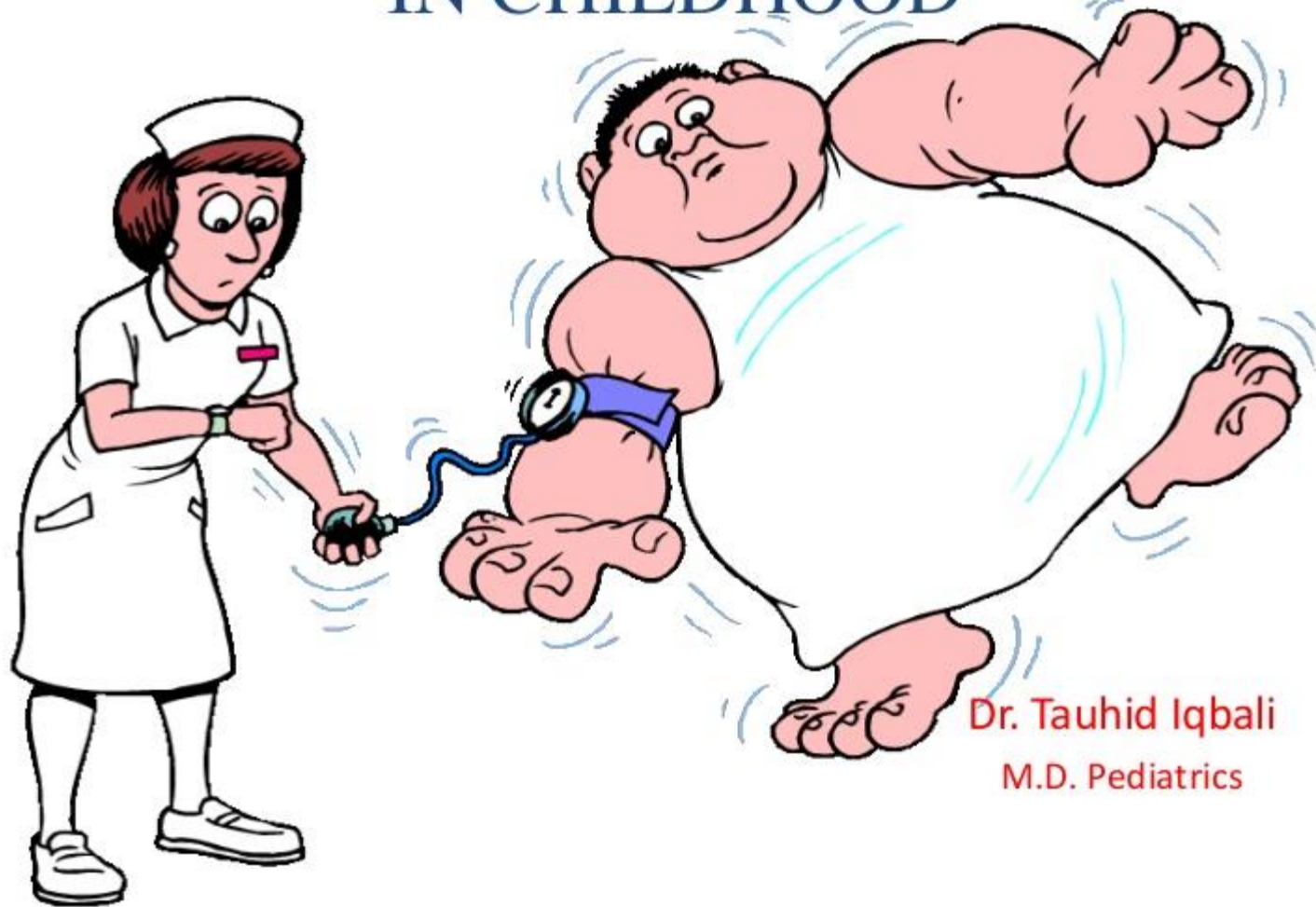
خلاصه ای از واقعیات

- فشارخون بالا در کودکی باعث افزایش فشارخون و بیماریهای قلبی عروقی در بزرگسالی می شود و این رابطه با افزایش سن بیشتر می شود.
- فشارخون اولیه در کودکان با سایر عوامل خطر بیماریهای قلبی عروقی مانند هایپرلیپیدمی و مقاومت به انسولین همراه است.
- فشارخون بالا باعث آسیب ارگانها مانند بزرگی بطن چپ و یا آسیب به عروق (اینتمای شریان کاروتید) در کودکان می شود.

خلاصه ای از واقعیات

- کودکان باید از ۳ سالگی هر سال از نظر فشارخون بالا غربالگری شوند. و اگر عامل خطری دارند اینکار در هر ویزیت پزشک انجام شود
- در کودکان زیر ۱۳ سال، فشارخون افزایش یافته به فشارخون بالاتر از صدک ۹۰ برای سن، قد و جنسیت و هایپرتنشن به فشارخون بالاتر از صدک ۹۵ تعریف می شود.
- در نوجوانان بالای ۱۳ سال، فشارخون افزایش یافته به صورت فشارخون سیستولیک ۱۲۰ تا ۱۲۹ همراه با فشارخون دیاستولیک کمتر از ۸۰ تعریف می شود. در این گروه سنی، هایپرتنشن به فشارخون به فشارخون ۱۳۰/۸۰ یا بالاتر اطلاق می شود.

APPROACH TO HYPERTENSION IN CHILDHOOD



Dr. Tauhid Iqbali
M.D. Pediatrics

2017 American Academy of Pediatrics updated definitions for pediatric blood pressure categories

	For children aged 1 to <13 years	For children aged ≥13 years
Normal BP	Systolic and diastolic BP <90 th percentile	Systolic BP <120 and diastolic BP <80 mmHg
Elevated BP	Systolic and diastolic BP ≥90 th percentile to <95 th percentile, or 120/80 mmHg to <95 th percentile (whichever is lower)	Systolic BP 120 to 129 and diastolic BP <80 mmHg
Stage 1 HTN	Systolic and diastolic BP ≥95 th percentile to <95 th percentile+12 mmHg, or 130/80 to 139/89 mmHg (whichever is lower)	130/80 to 139/89 mmHg
Stage 2 HTN	Systolic and diastolic BP ≥95 th percentile+12 mmHg, or ≥140/90 mmHg (whichever is lower)	≥140/90 mmHg

BP: blood pressure; HTN: hypertension.

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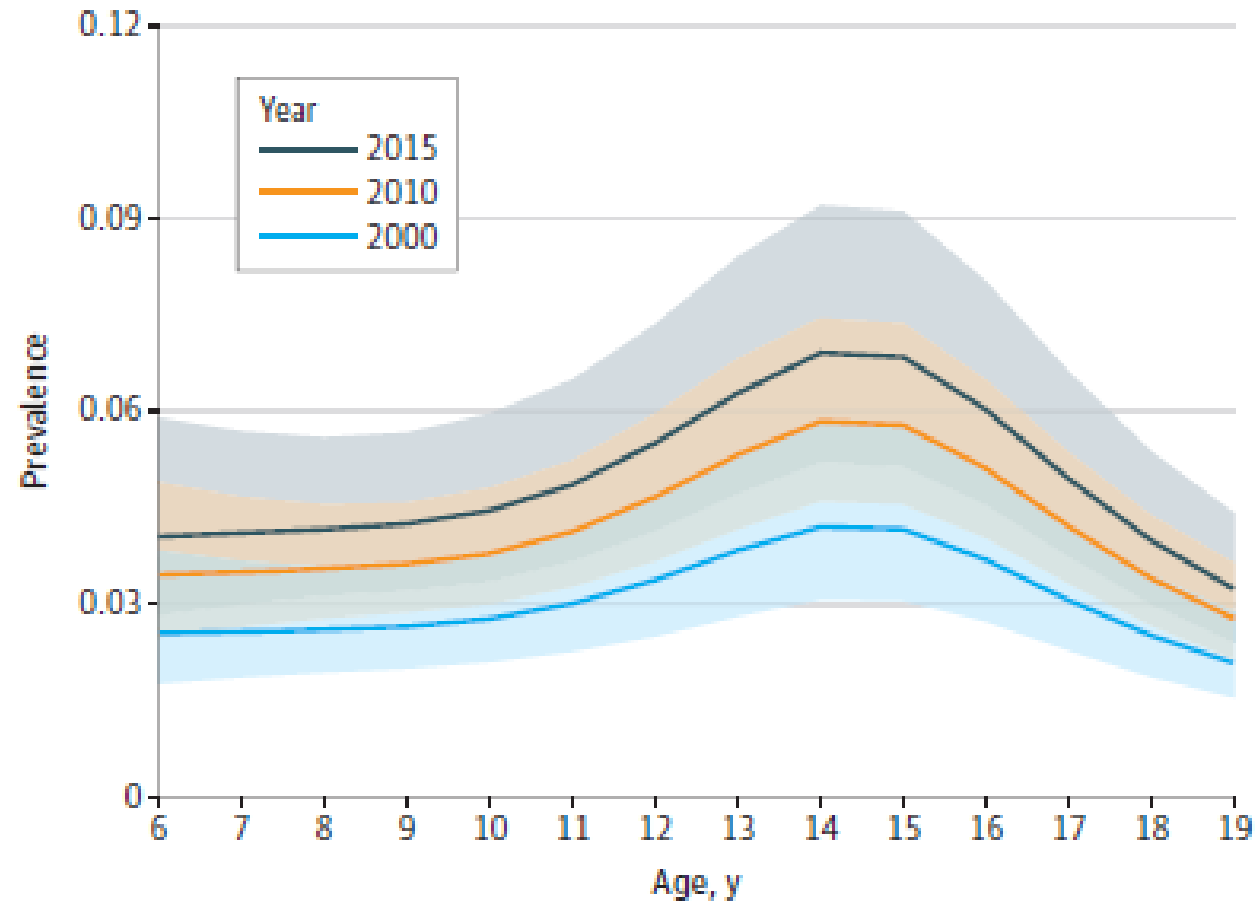
Blood pressure levels for boys by age and height percentile

BP (percentile)	Systolic BP (mmHg)							Diastolic BP (mmHg)						
	Height percentile or measured height							Height percentile or measured height						
	5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%
1 year														
Height (in)	30.4	30.8	31.6	32.4	33.3	34.1	34.6	30.4	30.8	31.6	32.4	33.3	34.1	34.6
Height (cm)	77.2	78.3	80.2	82.4	84.6	86.7	87.9	77.2	78.3	80.2	82.4	84.6	86.7	87.9
50 th	85	85	86	86	87	88	88	40	40	40	41	41	42	42
90 th	98	99	99	100	100	101	101	52	52	53	53	54	54	54
95 th	102	102	103	103	104	105	105	54	54	55	55	56	57	57
95 th + 12 mmHg	114	114	115	115	116	117	117	66	66	67	67	68	69	69
2 years														
Height (in)	33.9	34.4	35.3	36.3	37.3	38.2	38.8	33.9	34.4	35.3	36.3	37.3	38.2	38.8
Height (cm)	86.1	87.4	89.6	92.1	94.7	97.1	98.5	86.1	87.4	89.6	92.1	94.7	97.1	98.5
50 th	87	87	88	89	89	90	91	43	43	44	44	45	46	46
90 th	100	100	101	102	103	103	104	55	55	56	56	57	58	58
95 th	104	105	105	106	107	107	108	57	58	58	59	60	61	61
95 th + 12 mmHg	116	117	117	118	119	119	120	69	70	70	71	72	73	73

GLOBAL PREVALENCE OF HYPERTENSION IN CHILDREN A SYSTEMATIC REVIEW AND META-ANALYSIS. PEIGE SONG, ET AL

- A total of 47 articles were included in the meta-analysis.
- The pooled prevalence was 4.00% (95% CI, 3.29%-4.78%) for hypertension,
- 9.67% (95% CI, 7.26%-12.38%) for prehypertension,
- 4.00% (95% CI, 2.10%-6.48%) for stage I hypertension, and
- 0.95% (95% CI, 0.48%-1.57%) for stage 2 hypertension in children 19 years and younger.
- A trend of increasing prevalence of childhood hypertension was observed during the past 2 decades, with a relative increasing rate of 75% to 79% from 2000 to 2015.
- In 2015, the prevalence of hypertension ranged from 4.32% (95% CI, 2.79%-6.63%) among children aged 6 years to 3.28% (95% CI, 2.25%-4.77%) among those aged 19 years and peaked at 7.89% (95% CI, 5.75%-10.75%) among those aged 14 years

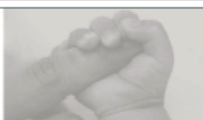
Figure 2. Age-Specific Prevalence of Childhood Hypertension in 2000, 2010, and 2015



Childhood hypertension was based on blood pressure measured by mercury sphygmomanometer. Shaded areas indicate 95% CIs.


عوامل خطر

- مصرف نمک، غذاهای آماده و فراوری شده نمک بسیار بالایی دارند
- چاقی
- وزن کم موقع تولد، به خصوص در کودکان دارای چاقی یا اضافه وزن
- سابقه خانوادگی فشارخون بالا یا بیماریهای قلبی عروقی
- جنسیت مرد
- مصرف سیگار توسط مادر در زمان بارداری



Original Article

Obesity and underweight: Serious health problems in Iranian primary school children

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Abstract

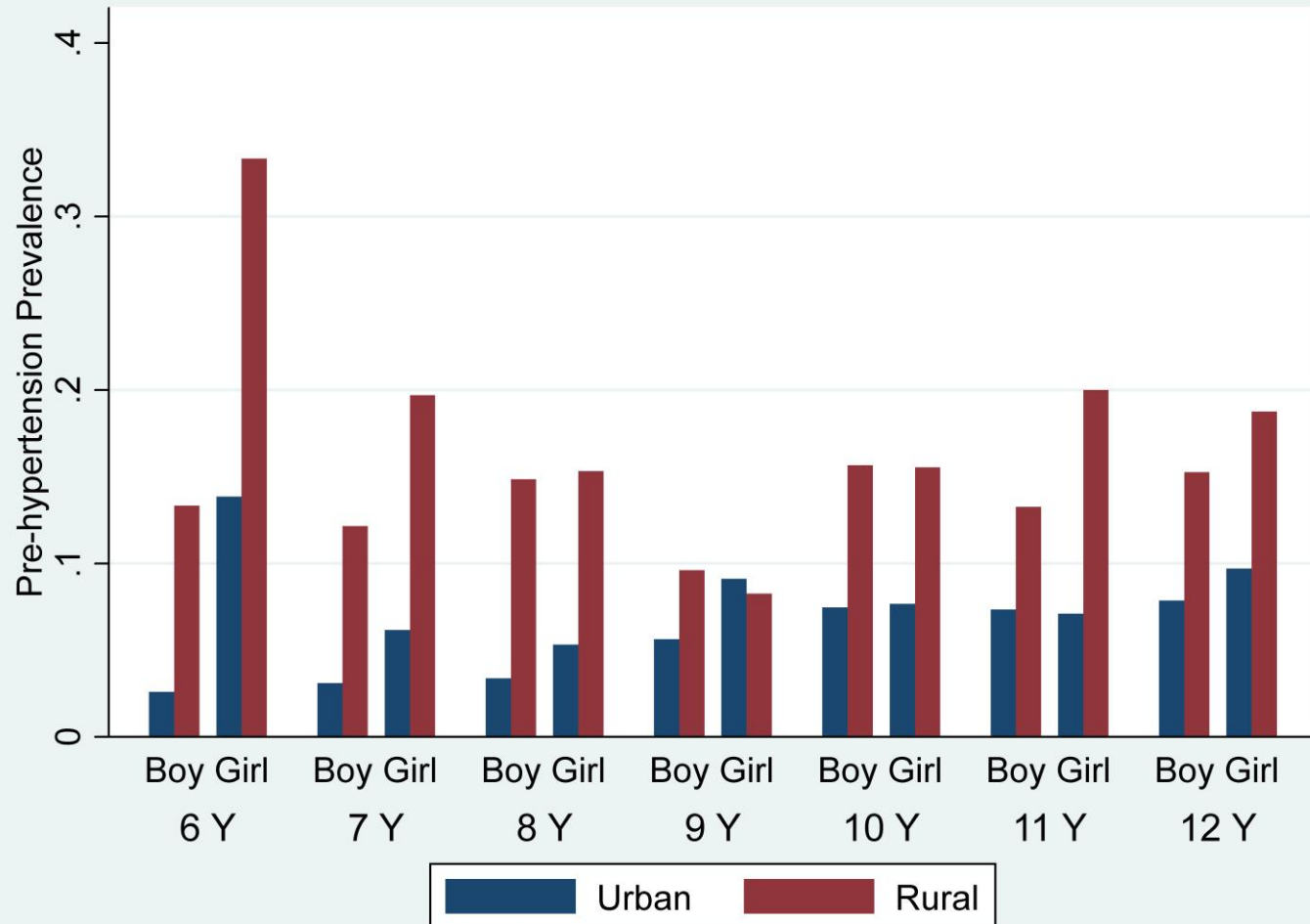
Background: Childhood obesity is increasing around the world. Compared with developed countries, the rate of increase is 30% higher in developing countries, where the monitoring of obesity and overweight is essential. This study investigated the prevalence of obesity, overweight, thinness, and stunting in primary school students in Shahroud, Iran.

Methods: A total of 5,620 primary students were enrolled during 2015. In rural areas all students were invited to participate, while cluster sampling was used in urban areas and 200 classrooms were selected randomly as clusters. Height, weight and body mass index Z-scores for age (HAZ, WAZ and BAZ) were calculated based on World Health Organization standard. The mean indices and prevalence of obesity, overweight, thinness, and stunting were calculated by education level, gender, and place of residence. Prevalence of obesity and overweight was estimated also by international obesity task force definition.

Results: The mean WAZ, HAZ, and BAZ were 0.050 ± 1.25 , 0.005 ± 0.98 , and 0.076 ± 1.35 , respectively. These indices in rural areas were significantly lower than those in urban areas ($P < 0.001$). Overall, 25.7% of children in urban areas (95%CI: 24.1–27.4) and 14.8% in rural areas (95%CI: 12.3–17.3) were overweight or obese, and 5.1% of rural girls (95%CI: 3.1–7.0) were stunted.

PREVALENCE OF PREHYPERTENSION AND HYPERTENSION AND ITS RISK FACTORS IN IRANIAN SCHOOL CHILDREN:A POPULATION-BASED STUDY.

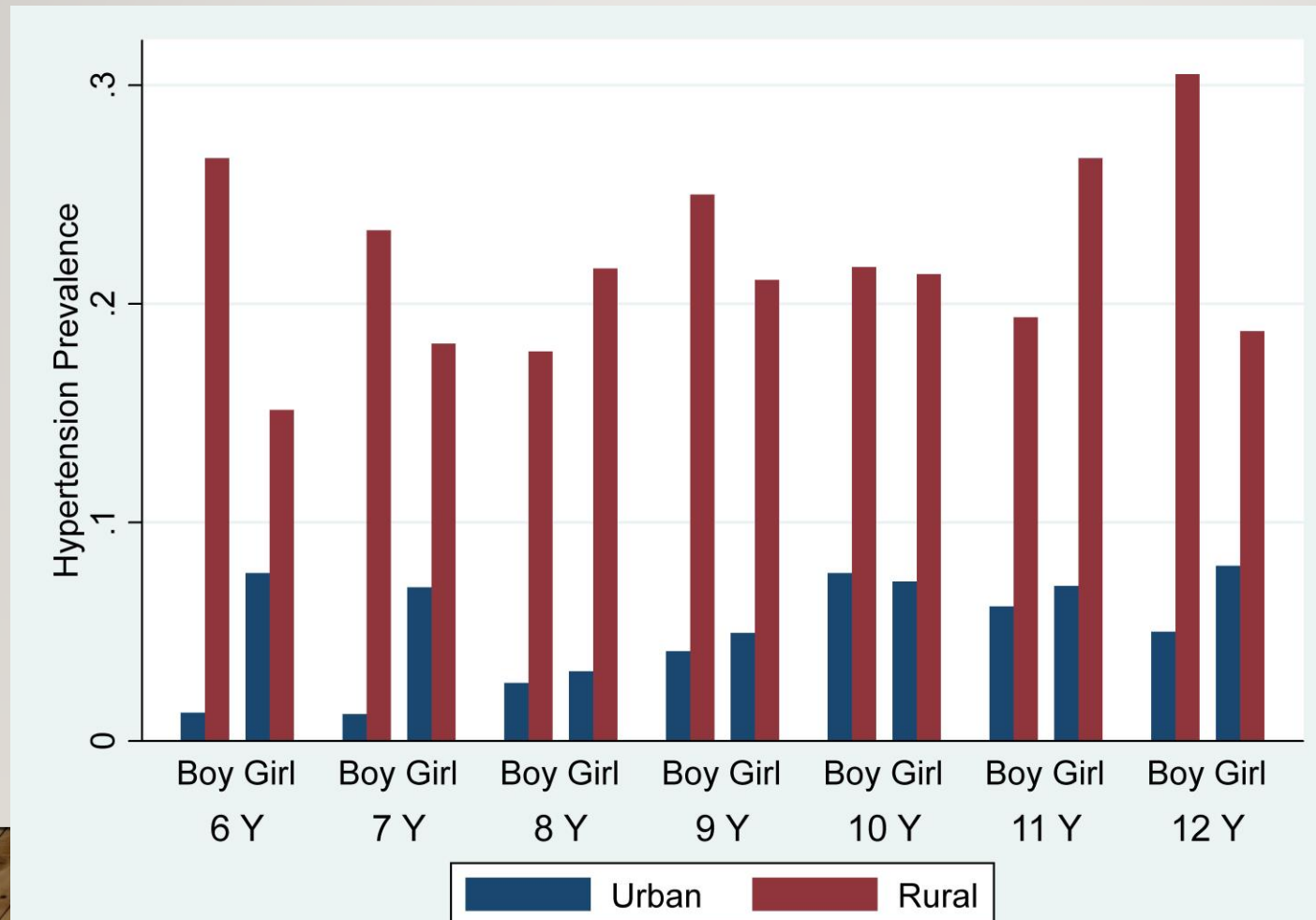
EBRAHIMI ET AL



The prevalence of prehypertension was **7.44%** and the prevalence of hypertension was **6.82%**.

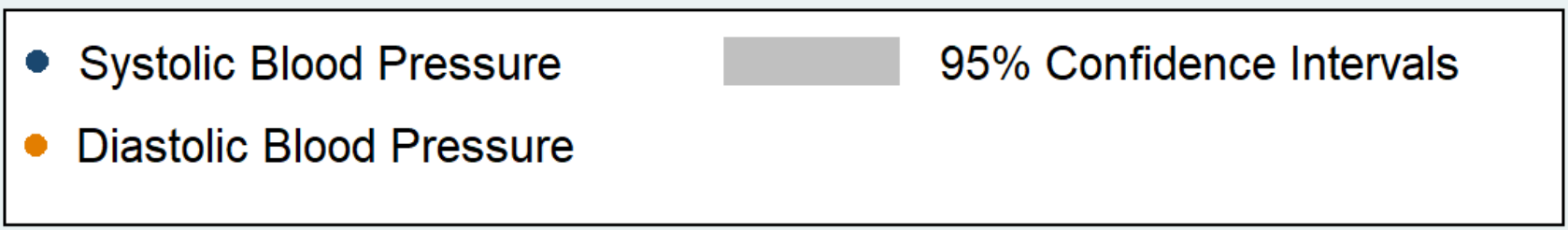
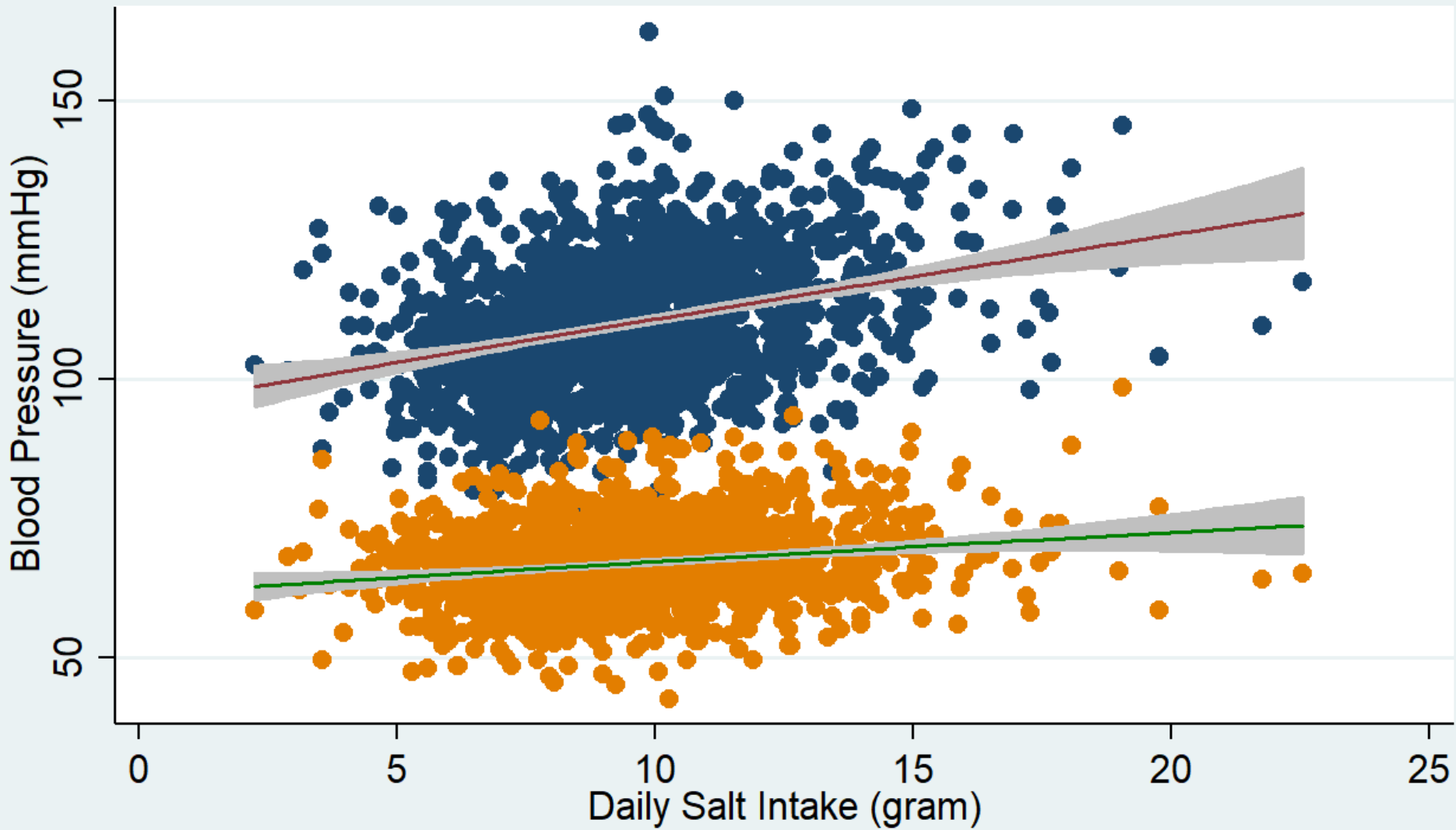
PREVALENCE OF PREHYPERTENSION AND HYPERTENSION AND ITS RISK FACTORS IN IRANIAN SCHOOL CHILDREN:A POPULATION-BASED STUDY.

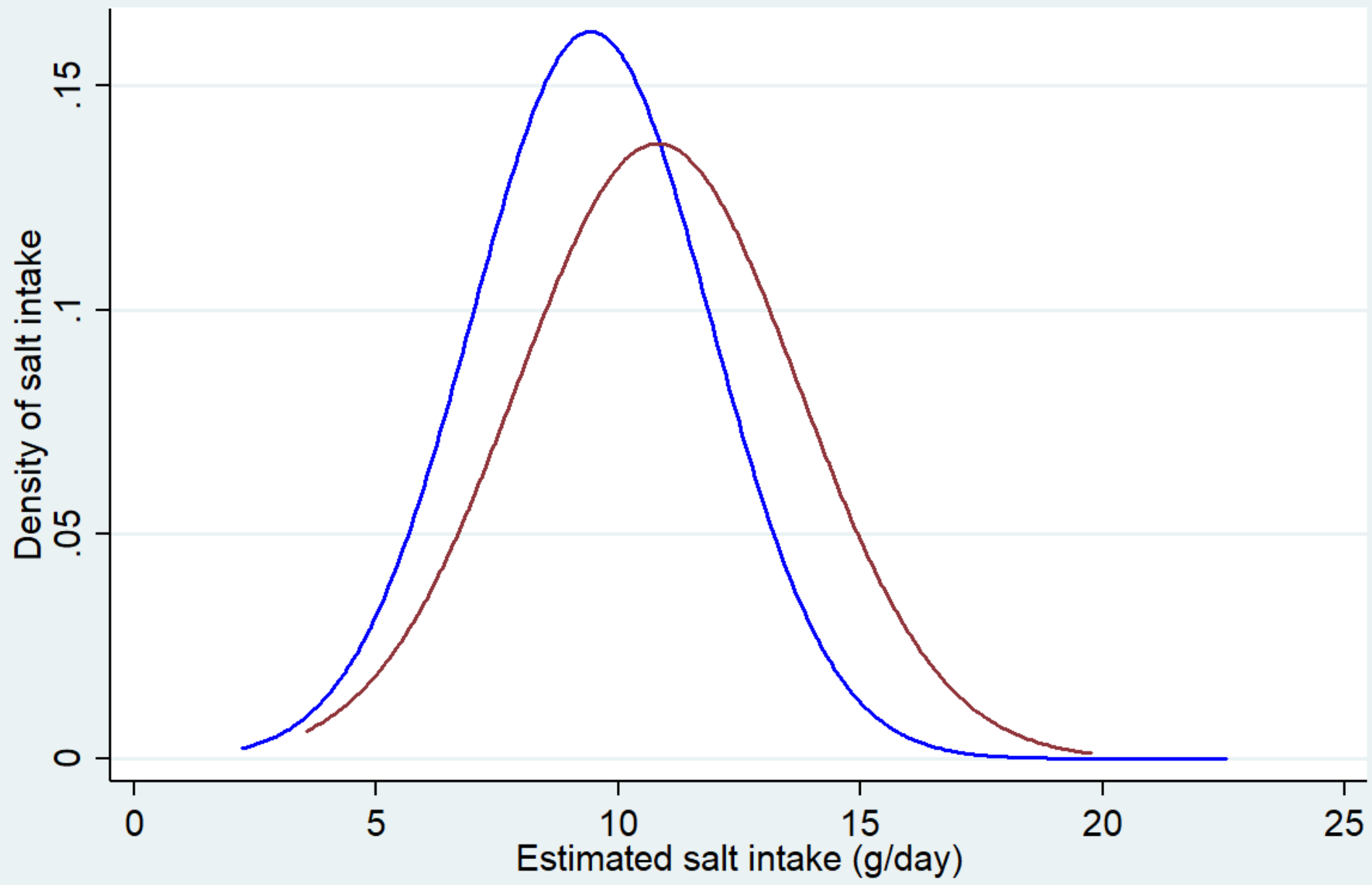
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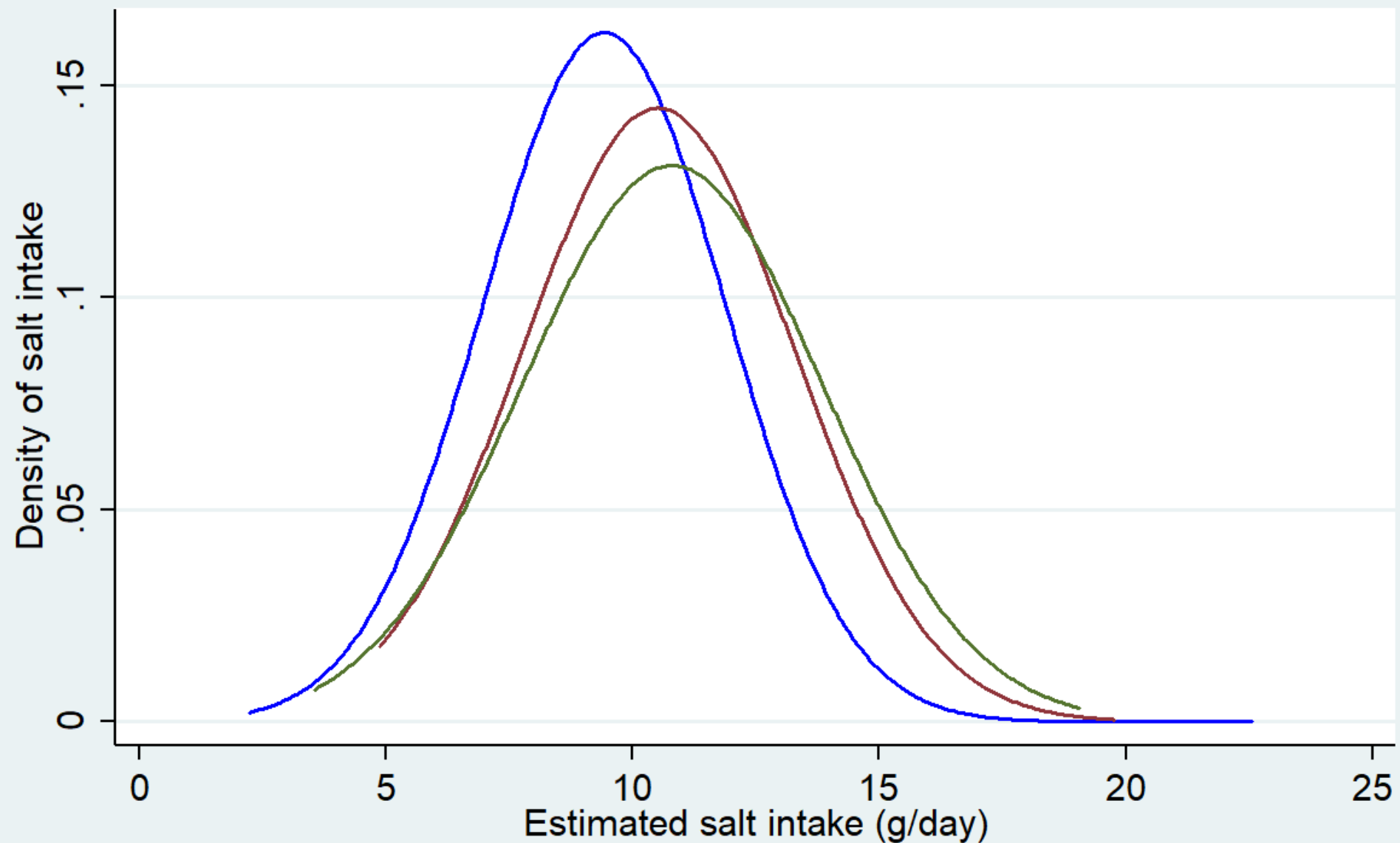
SALT INTAKE AND BLOOD PRESSURE IN IRANIAN CHILDREN AND ADOLESCENTS: A POPULATION-BASED STUDY. EMAMIAN ET AL

- Mean daily salt intake = 9.7 ± 2.6 g (95% CI 9.5–9.8).
- In **rural areas** [10.8 (95% CI 10.4–11.2)] was higher than urban areas [9.4 (95% CI 9.3–9.6)]
- **In people with hypertension** [10.8 (95% CI 10.3–11.3)] was more than people with normal blood pressure [9.4 (95% CI 9.3–9.6)],
- **In boys** [9.8 (95% CI 9.7–10.0)] was more than girls [9.3 (95% CI 9.1–9.6)].
- Increased salt intake was associated with increased systolic and diastolic blood pressure.





— Urban — Rural



با سپاس از
حضور و
توجه شما

