

Table S1: Terms used on database search.

Database	Search format
PUBMED	<p>((("pediatric*" [All Fields] OR "paediatric*" [All Fields]) OR "child*" [All Fields]) OR "newborn*" [All Fields]) OR "congenital*" [All Fields]) OR "infan*" [All Fields]) OR (((("infant, newborn" [MeSH Terms] OR ("infant" [All Fields] AND "newborn" [All Fields])) OR "newborn infant" [All Fields]) OR "baby" [All Fields]) OR "infant" [MeSH Terms]) OR "infant" [All Fields])) OR (((("baby s" [All Fields] OR "babys" [All Fields]) OR "infant" [MeSH Terms]) OR "infant" [All Fields]) OR "babies" [All Fields])) OR ("neonat*" [All Fields] AND (("parturition" [MeSH Terms] OR "parturition" [All Fields]) OR "born" [All Fields]) AND (((("premature birth" [MeSH Terms] OR ("premature" [All Fields] AND "birth" [All Fields])) OR "premature birth" [All Fields]) OR ("pre" [All Fields] AND "term" [All Fields])) OR "pre term" [All Fields])) OR "preterm*" [All Fields]) OR "premature birth*" [All Fields]) AND (((("intensive care units" [MeSH Terms] OR ("intensive" [All Fields] AND "care" [All Fields]) AND "units" [All Fields])) OR "intensive care units" [All Fields]) OR "icu" [All Fields]) AND "preschool*" [All Fields])) OR "pre school*" [All Fields]) OR "kindergarten*" [All Fields]) OR "kindergarden*" [All Fields]) OR "elementary school*" [All Fields]) OR "nursery school*" [All Fields]) OR ("day care*" [All Fields] NOT "adult*" [All Fields])) OR "schoolchild*" [All Fields]) OR "toddler*" [All Fields]) OR (("men" [MeSH Terms] OR "men" [All Fields]) OR "boys" [All Fields])) OR "girl*" [All Fields]) OR "middle school*" [All Fields]) OR "pubescen*" [All Fields]) OR "juvenile*" [All Fields]) OR "teen*" [All Fields]) OR "youth*" [All Fields]) OR "high school*" [All Fields]) OR "adolesc*" [All Fields]) OR "pre pubesc*" [All Fields]) OR "prepubesc*" [All Fields]) OR "child" [MeSH Terms]) OR "infant" [MeSH Terms]) OR "child, exceptional" [MeSH Terms]) OR "adolescent" [MeSH Terms]) OR "pediatrics" [MeSH Terms]) OR "child, abandoned" [MeSH Terms]) OR "child, orphaned" [MeSH Terms]) OR "child, unwanted" [MeSH Terms]) OR "minors" [MeSH Terms]) AND (((((((("sleep apnea syndrom*" [All Fields] OR "sleep apnoea syndrom*" [All Fields]) OR "sleep apnea*" [All Fields]) OR "sleep apnoea*" [All Fields]) OR "obstructive sleep apnea*" [All Fields]) OR "obstructive sleep apnoea*" [All Fields]) OR "Upper Airway Resistance Sleep Apnea Syndrome" [All Fields]) OR "Sleep-Disordered Breathing" [All Fields]) OR "nocturnal upper airway obstruction*" [All Fields]) OR "sleep apnea syndromes" [MeSH Terms])) AND ("face" [MeSH Terms] OR (((("skeletal*" [All Fields] OR "dental*" [All Fields]) OR "craniofacial*" [All Fields] OR "Facial phenotyping*" [All Fields]) OR "face*" [All Fields]) OR (((("face" [MeSH Terms] OR "face" [All Fields]) OR "facial" [All Fields]) OR "facials" [All Fields]) AND "bone*" [All Fields]))))</p>
MEDLINE via Ovid	<p>1 adolescent development/ or childhood development/ or pediatrics/ or exp Congenital Disorders/ or child characteristics/ or child abuse/ or exp child welfare/ or chronically ill children/ or child neglect/ or child psychiatry/ or child psychopathology/ or exp child care/ or (pediatric* or paediatric* or child* or newborn* or congenital* or infan* or baby or babies or neonat* or pre term or preterm* or premature birth or NICU or preschool* or pre school* or kindergarten* or elementary school* or nursery school* or schoolchild* or toddler* or boy or boys or girl* or middle school* or pubescen* or juvenile* or teen* or youth* or high school* or adolesc* or prepubesc* or pre pubesc*).mp. or (child* or adolesc* or pediat* or paediat*).jn. (5096895)</p>

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- 2 Sleep Apnea, Obstructive/ (20245)
 - 3 (Sleep Apnea Syndrom* or Sleep Apnoea Syndrom* or Sleep Apnea* or Sleep Apnoea* or Obstructive Sleep Apnea* or Obstructive Sleep Apnoea* or Upper Airway Resistance Sleep Apnea Syndrome or Sleep-Disordered Breathing or Nocturnal upper airway obstruction*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (47360)
 - 4 exp Face/ (158522)
 - 5 (Skeletal* or Dental* or Craniofacial* or Face* or Facial bone* or Facial phenotyping).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (1096857)
 - 6 2 or 3 (47360)
 - 7 4 or 5 (1201941)
 - 8 1 and 6 and 7 (1224)

**EMBASE
via Ovid**

- 1 juvenile/ or exp adolescent/ or exp child/ or exp postnatal development/ or (pediatric* or paediatric* or child* or newborn* or congenital* or infan* or baby or babies or neonat* or pre term or preterm* or premature birth or NICU or preschool* or pre school* or kindergarten* or elementary school* or nursery school* or schoolchild* or toddler* or boy or boys or girl* or middle school* or pubescen* or juvenile* or teen* or youth* or high school* or adolesc* or prepubesc* or pre pubesc*).mp. or (child* or adolesc* or pediat* or paediat*).jn. (4725179)
- 2 exp sleep disordered breathing/ or upper airway resistance syndrome/ (51517)
- 3 (Sleep Apnea Syndrom* or Sleep Apnoea Syndrom* or Sleep Apnea* or Sleep Apnoea* or Obstructive Sleep Apnea* or Obstructive Sleep Apnoea* or Upper Airway Resistance Sleep Apnea Syndrome or Sleep-Disordered Breathing or Nocturnal upper airway obstruction*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (85685)
- 4 2 or 3 (86458)
- 5 exp face/ (103616)
- 6 (Skeletal* or Dental* or Craniofacial* or Face* or Facial bone* or Facial phenotyping).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] (1117155)
- 7 5 or 6 (1164734)
- 8 1 and 4 and 7 (2052)

**WEB OF
SCIENCE**

#1: TOPIC: (pediatric* or paediatric* or child* or newborn* or congenital* or infan* or baby or babies or neonat* or "pre term" or preterm* or "premature birth" or NICU or preschool* or "pre school*" or kindergarten* or "elementary school*" or "nursery school*" or schoolchild* or toddler* or boy or boys or girl* or "middle school*" or pubescen* or juvenile* or

teen* or youth* or "high school*" or adolesc* or prepubesc* or pre pubesc*)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC
Timespan=All years
#2: TOPIC: ("Sleep Apnea Syndrom*" or "Sleep Apnoea Syndrom*" or "Sleep Apnea*" or "Sleep Apnoea*" or
"Obstructive Sleep Apnea*" or "Obstructive Sleep Apnoea*" or "Upper Airway Resistance Sleep Apnea Syndrome" or
"Sleep-Disordered Breathing" or "Nocturnal upper airway obstruction*")
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
#3: TOPIC: (Skeletal* or Dental* or Craniofacial* or Face* or "Facial phenotyping" or "Facial bone*")
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
Final search: #3 AND #2 AND #1

SCOPUS ((TITLE-ABS-KEY (pediatric* OR paediatric* OR child* OR newborn* OR congenital* OR infan* OR baby OR babies OR neonat* OR "pre term" OR preterm* OR "premature birth" OR nicu OR preschool* OR "pre school*" OR kindergarten* OR "elementary school*" OR "nursery school*") OR TITLE-ABS-KEY (schoolchild* OR toddler* OR boy OR boys OR girl* OR "middle school*" OR pubescen* OR juvenile* OR teen* OR youth* OR "high school*" OR adolesc* OR prepubesc* OR pre AND pubesc*))) AND ((TITLE-ABS-KEY ("Sleep Apnea Syndrom*" OR "Sleep Apnoea Syndrom*" OR "Sleep Apnea*" OR "Sleep Apnoea*" OR "Obstructive Sleep Apnea*" OR "Obstructive Sleep Apnoea*" OR "Upper Airway Resistance Sleep Apnea Syndrome" OR "Sleep-Disordered Breathing") OR TITLE-ABS-KEY ("Nocturnal upper airway obstruction*"))) AND (TITLE-ABS-KEY (skeletal* OR dental* OR craniofacial* OR face* OR "Facial phenotyping" OR "Facial bone*")))

LILACS (tw:((child\$) OR (pediatric\$) OR (paediatric) OR (newborn\$) OR (infan\$) OR (baby) OR (babies) OR (neonat\$) OR (pre term) OR (preterm\$) OR (premature birth) OR (NICU) or (kindergarten\$) OR (nursery school\$) OR (elementary school\$) OR (schoolchild\$) OR (toddler\$) OR (boy) OR (boys) OR (girl\$) OR (preschool\$) OR (pre-school\$) OR (middle school\$) OR (pubescen\$) OR (juvenile\$) OR (teen\$) OR (youth\$) OR (adolesc\$) OR (pre-pubesc\$) OR (prepubesc\$))) AND (tw:((Sleep Apnea Syndrom\$) or (Sleep Apnoea Syndrom\$) or (Sleep Apnea\$) or (Sleep Apnoea\$) or (Obstructive Sleep Apnea\$) or (Obstructive Sleep Apnoea\$) or (Upper Airway Resistance Sleep Apnea Syndrom\$) or (Sleep-Disordered Breathing) or (Nocturnal upper airway obstruction\$))) AND (tw:((Skeletal\$) or (Dental\$) or (Craniofacial\$) or (Face\$) or (Facial phenotyping\$) or (Facial bone\$)))

COCHRANE #1 pediatric* or paediatric* or child* or newborn* or congenital* or infan* or baby or babies or neonat* or "pre term" or preterm* or "premature birth" or NICU or preschool* or "pre school*" or kindergarten* or "elementary school*" or "nursery school*" or schoolchild* or toddler* or boy or boys or girl* or "middle school*" or pubescen* or juvenile* or teen* or youth* or "high school*" or adolesc* or prepubesc* or pre pubesc* in Title Abstract Keyword - (Word variations have been searched)
#2 "Sleep Apnea Syndrom*" or "Sleep Apnoea Syndrom*" or "Sleep Apnea*" or "Sleep Apnoea*" or "Obstructive

Sleep Apnea*" or "Obstructive Sleep Apnoea*" or "Upper Airway Resistance Sleep Apnea Syndrome" or "Sleep-Disordered Breathing" or "Nocturnal upper airway obstruction*" in Title Abstract Keyword - (Word variations have been searched)

#3 Skeletal* or Dental* or Craniofacial* or Face* or "Facial bone*" or "Facial phenotyping" in Title Abstract Keyword - (Word variations have been searched)

Final search: #1 AND #2 AND #3

OPENGREY

Sleep apnea AND face

Table S2: Articles excluded after full-text evaluation, with reasons (n=76)

Article excluded	Reasons for exclusion
(Cobo Plana and de Carlos Villafranca 2010)	1
(Müller-Hagedorn et al. 2015)	1
(Rangel Chávez, Espinosa Martínez, and Medina Serpa 2016)	1
(Aktas et al. 2016)	2
(Albajalan, Samsudin, and Hassan 2011)	2
(Brasil et al. 2016)	2
(Chang and Shiao 2008)	2
(Chi et al. 2011)	2
(Endo, Mataka, and Kurosaki 2003)	2
(Faria et al. 2012)	2
(Ito et al. 2001)	2
(Lee, Chan, et al. 2009)	2
(Lee, Petocz, et al. 2009)	2
(Sawanyawisuth et al. 2016)	2
(Frohberg, Naples, and Jones 1995)	2
(Tangugsorn et al. 1999)	2
(Vezina et al. 2012)	2
(Llombart et al. 2007)	3
(Guillemineault et al. 2016)	4
(Huang et al. 2019)	4
(Shigeto Kawashima et al. 1999)	4
(Lai et al. 2018)	4
(Leach et al. 1992)	4
(Ni et al. 2007)	4
(Nanaware, Gothi, and Joshi 2006)	4
(Pirelli et al. 2010)	4
(J. Wang et al. 2019)	4
(Wu et al. 2019)	4
(Xu et al. 2020)	4
(Yan et al. 2020)	4
(Hotwani, Sharma, and Jaiswal 2018)	4
(Martinelli et al. 2017)	5
(Shen et al. 2018)	5
(Arens et al. 2011)	6
(Tong et al. 2016)	6
(Al Ali et al. 2015)	7
(Ardehali et al. 2016)	7
(Carvalho et al. 2014)	7
(Cuccia, Lotti, and Caradonna 2008)	7
(Angela Galeotti et al. 2018)	7
(A Galeotti et al. 2019)	7
(Hultcrantz and Löfstrand Tideström 2009)	7
(Ikävalko et al. 2018)	7
(Juliano et al. 2013)	7

(S Kawashima 2002)	7
(Shigeto Kawashima et al. 2003)	7
(Lopatiené et al. 2016)	7
(Nikakhlagh et al. 2010)	7
(Sato et al. 2012)	7
(Watanabe and Miyamoto 2002)	7
(Kushida 1997)	7
(Shigeto Kawashima et al. 2012)	7
(Pirilá et al. 1995)	7
(Zucconi et al. 1999)	8
(Yap et al. 2019)	8
(Lian et al. 2017)	9
(Marino et al. 2009)	9
(Vilovic et al. 2019)	9
(Matsumoto et al. 2007)	9
(Ozdemir et al. 2004)	9
(K. Ågren, B. Nordlander 1998)	9
(AlHammad, Hakeem, and Salama 2015)	10
(Bergamo et al. 2014)	10
(Cappabianca et al. 2013)	10
(Hotwani, Sharma, and Jaiswal 2018)	10
(Shigeto Kawashima et al. 2012)	10
(S Kawashima et al. 2000)	10
(Perillo et al. 2013)	10
(Pirila-Parkkinen et al. 2009)	10
(Pirila-Parkkinen et al. 2010)	10
(Vieira et al. 2011)	10
(Zettergren-Wijk 2006)	10
(W. Wang, Wang, and Wang 2012)	10
(Vieira et al. 2014)	10
(Löfstrand-Tideström et al. 1999)	11
(Deng, Gao, and Zeng 2010)	12

‡ Reasons for exclusion: 1- Review articles ; 2- Adult sample ; 3- Participants with craniofacial syndrome ; 4- Absence of craniofacial analysis ; 5- No information about the type of craniofacial problems ; 6- The study included only obese participants ; 7- No report of standard nPSG among OSA children; 8- Inclusion of non-OSA children in the sample ; 9- Absence of control group; 10- Absence of nPSG control group; 11- Non-standard classification of OSA; 12- Over sample.

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Table S5: Characteristics of the controlled studies without a negative nPSG control group.

Author/Year/ Study design	Source of sample	n	Age	Control group features	OSA index	Ethnicity	BMI	Assessment of adenotonsillar size	Craniofacial evaluation	Statistical analysis	Main results
AlHammad 2015/CC	OSA: Ear-Throat and Nose (ENT) Clinic of King Abdul-Aziz University Hospital (KAUH) and Al Habeeb Private Medical Center, in Riyadh, Saudi Arabia. Control group: College of Dentistry, Saudi Arabia.	Total: 60 OSA: 30 Control:30	4.3 ±1.57	Healthy subjects	NI	NI	NI	NI	Facial and occlusal features evaluated by clinical analysis.	independent t-test	There was no difference between OSA and control groups in facial morphology or facial profile.
Bergamo 2014/ CS	OSA: Mouth Breathing Center of the School of Medicine of Ribeirao Preto, Brazil Control: Periodontic Clinic, School of Dentistry of Ribeirao Preto, University of Sao Paulo, Brazil.	Total: 43 OSA: 21 Control (nasal breathers): 22	5.0-10.0	Nasal breathers	AHI= 7.5 ± 7.6	NI	NI	All children had obstructive adenoids and in the OSA group. In the control group, adenoids obstructed <50% of their choana. The palatine tonsils were grade I-II.	Cephalometric analysis (14 skeletal craniofacial variables)	independent t-test	The length of the mandibular ramus (ArGo) was smaller in the control group when compared to the OSA group (43.23 for OSA vs. 40.47 for controls, p ¼ 0.030). The lower anterior facial height (AFAi) was increased in the OSA group (64.39 cm) when compared to the controls (61.61cm, p< 0.041).

Author/Year/ Study design	Source of sample	n	Age	Control group features	OSA index	Ethnicity	BMI	Assessment of adenotonsillar size	Craniofacial evaluation	Statistical analysis	Main results
Cappabianca 2013/ R-CS	Department of Diagnostic Imaging, Second University of Naples, Italy.	Total: 80 OSA: 40 Control group: 40	OSA: 8.9 Control: 9.4	Not affected by OSA or any other type of sleep-related breathing disorder were selected from a sample of children with MRI for clinical problems not related to OSA.	OAHI= 8.1± 3.5	Caucasian	NI	The mean adenoid volume in children with OSA was 9.1 1.8 cm ³ in comparison with 6.3 2.1 cm ³ in controls (p < 0.01) and mean tonsillar volume in children with OSAHS was 9.2 1.5 versus 6.5 1.7 cm ³ in controls (p < 0.01)	MRI evaluation (soft tissues and craniofacial skeleton)	independent t-test	The mandibular volume of the OSA group was lower when compared to controls (22.2±2.2 cm ³ versus 25.4±2.4 cm ³ , p < 0.05). The vertical position of the hyoid bone in the view of the indices hy-n, hy-B and particularly hy-s (9.8 cm±1.3 in the OSA group versus 8.9±1.2 in the control group, p value < 0.01) was lower in the OSA group compared with controls.
Eimar 2018/ R-CS	University of Alberta- Orthodontics Clinics, Canada	Total: 96 OSA: 72 Control: 24	11.4±2.9	Healthy subjects without SDB symptoms	AHI= 2.9 ± 0.6	NI	NI	NI	Mandibular cortical width (MCW) from panoramic radiographs and cephalometric analysis (FMA, SNA and SNB), nasopharynx airway volume.	independent t-test, Multiple regression analysis.	MCW values were significantly lower in OSA children (MCW = 2.9 ± 0.6 mm) compared to control children (MCW = 3.5 ± 0.6 mm; P = 0.002). Children with OSA had a more vertical direction of mandibular growth (28.4 ± 8.2 degrees) than controls (24.1 ± 5.4, p = 0.004). OSA children had a significantly smaller nasopharynx airway volume (3,325 ± 1,233 mm ³) in comparison to controls (4,658 ± 1,676 mm ³ ; P = 0.004).
Kawashima 2002/ R-CS	Saitama Prefecture Children's Medical Center in Japan, Japan	Total: 69 OSA: 38 Control: 32	4.7	Healthy subjects without SDB symptoms	NI	NI	only non-obese	Hypertrophic and non-hypertrophic children were included.	Cephalometric analysis (34 variables: skeletal craniofacial features and hyoid bone position)	Mann-Whitney U-test	There were no differences in the cranial base angulation or hyoid bone position between groups. Compared with the control group children with OSA had a retrognathic mandible (facial axis and location of pogonion), a large posterior facial height, a large interincisal angle with retroclined lower incisors (L1 to ML), a narrow pharyngeal airway space (d-ad1, d-ptv and upper pharynx), an anterior tongue base position (lower pharynx) and a long soft palate.

Author/Year/ Study design	Source of sample	n	Age	Control group features	OSA index	Ethnicity	BMI	Assessment of adenotonsillar size	Craniofacial evaluation	Statistical analysis	Main results
Schiffman 2004/ R-CS	Children's Hospital of Philadelphia, USA.	Total: 36 OSA: 24 Control: 12	OSA: 4.9 ± 1.7; controls: 4.9 ± 1.8.	Healthy subjects without SDB symptoms	AHI= 9.8 ± 11.1	African American and Caucasian	NI	NI	Three-dimensional segmentation of the mandible, using MRI	MANOVA, PCA and factor analysis	Individual measurement comparisons revealed no significant differences between groups
Perillo 2013/ P-CS	Sleep Centre of the Infantile Neuropsychiatry Department/Department of Diagnostic Imaging, Seconda Università di Napoli, Italy.	Total: 80 OSA: 40 Control group: 40	8.9	Healthy subjects	NI	NI	NI	NI	27 angular and linear variables related to both craniofacial skeletal and dental morphology were measured by cephalometric evaluation.	independent t-test	Anterior facial height, height of the lower half of the anterior face, mandible inclination, were greater in the OSA group than in controls. The hyoid bone was displaced inferiorly and anteriorly in children with OSA.
Smith 2016/ R-CS	NI	Total: 61 OSA: 42 Control: 19	7.3±1.8	Healthy subjects	4.1 ± 4.8	White and black	BMI z-score. OSA: 0.45 ± 1.7; control: 0.37 ± 0.7	NI	Dimensions of dental arches measured by dental casts and dental clinical measurements.	Kruskal-Wallis test	Among children with OSA, the intertooth distances for the first and second deciduous molars and the first permanent molars were narrower than in controls.
Vieira 2011/ P-CS	OSA: Mouth Breathing Center of the School of Medicine of Ribeirao Preto, University of São Paulo, Brazil. Nasal breathers (control): Pediatric Clinic of the Dental School of Ribeirao Preto, University of Sao Paulo, Brazil.	Total: 49 OSA: 20 Control: 20	7.0-10.0	Healthy subjects	NI	NI	Only non-obese children	The OSA children had obstructive adenoids (more than 70% of the choana) and/or grade III or IV palatine tonsils. Adenoids obstructed less than 50% of the choana and palatine tonsils were grade I or II in all patients in control group.	11 linear variables related to craniofacial skeletal were measured by cephalometric evaluation.	ANOVA	A significant increase in the total and lower anterior heights of the face was observed among children with OSA. The hyoid bone was found to be in a more anterior and inferior position in children with OSA.

Author/Year/ Study design	Source of sample	n	Age	Control group features	OSA index	Ethnicity	BMI	Assessment of adenotonsillar size	Craniofacial evaluation	Statistical analysis	Main results
Vieira 2014/ P-CS	OSA: Mouth Breathing Center of the School of Medicine of Ribeirao Preto, University of São Paulo, Brazil. Nasal breathers (control): Pediatric Clinic of the Dental School of Ribeirao Preto, University of Sao Paulo, Brazil.	Total: 29 OSA: 14 Control:15	3.0-6.0	Healthy subjects (nasal breathers)	NI	NI	Only non-obese children	NI	10 linear variables related to craniofacial skeletal were measured by cephalometric evaluation.	Linear regression	The hyoid bone was inferiorly positioned to the palatal (44.5 ± 4.9 for nasal breathing vs. 48.7 ± 4.7 for OSA). The mandibular plane presented an increased inclination (8.1 ± 3.7 for nasal breathing vs. 11.8 ± 4.4 for OSA) in the OSA group.
Zettergren-Wijk 2006/ P-CH	NI	Total: 34 OSA: 17 Control:17	OSA: 5.6 ± 1.3 Control: 5.8 ± 1.4	Healthy subjects	NI	NI	NI	OSA patients were evaluated at baseline and submitted to A&T surgeries.	14 linear variables related to craniofacial skeletal were measured by cephalometric evaluation.	ANOVA	In subjects with OSA, the mandible was more posteriorly inclined, the maxilla was more anteriorly inclined compared with the controls. The anterior face height, the anterior facial ratio and the anterior craniofacial base were greater and posterior face height was smaller in the patients with OSA. The upper and lower incisors were more retroclined in the OSA patients than controls. The position of the tip of the nose (APEX – FHP) was slightly more advanced in OSA group than control subjects. The width of nasopharyngeal airways (ad1 – pm and ad2 – pm) were reduced in OSA group.