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Influência do nível socioeconômico na autopercepção da necessidade do tratamento ortodôntico: uma revisão sistemática e metanálise

Juiz de Fora

2020

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Tese apresentada ao Programa de Pós-graduação em Saúde, da Faculdade de Medicina da Universidade Federal de Juiz de Fora, como requisito parcial à obtenção do título de Doutor em Saúde. Área de concentração: Saúde Brasileira.

Orientador: Prof. Dr. Robert Willer Farinazzo Vitral

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RESUMO

A necessidade do tratamento ortodôntico é amplamente discutida na literatura. Critérios normativos utilizados por profissionais nessa avaliação tendem a superestimar a necessidade de tratamento. É necessário tornar os critérios normativos compatíveis com as necessidades percebidas pelo paciente. A necessidade do tratamento ortodôntico não reflete necessariamente a busca por tratamento, principalmente quando o contexto socioeconômico é levado em consideração. Diante do exposto, o objetivo do presente trabalho foi avaliar, por meio de uma revisão sistemática e metanálise a influência do nível socioeconômico na autopercepção da necessidade do tratamento ortodôntico. Foi realizada uma busca em seis bases de dados: Pubmed, *Web of Science*, Scopus, Cochrane *Library*, Biblioteca Brasileira de Odontologia (BBO) e Lilacs além de uma busca manual e na literatura cinzenta. Dois pesquisadores independentes selecionaram os estudos, extraíram os dados e avaliaram a qualidade metodológica dos estudos incluídos através de uma escala específica para estudos transversais do Instituto Joana Briggs. Foram realizadas duas metanálises de prevalência: uma de autopercepção da necessidade do tratamento e outra de maloclusão. A certeza da evidência foi avaliada de forma narrativa através do GRADE (*Grading of Recommendations, Assessment, Development and Evaluation*). Problemas metodológicos foram destacados em todos os estudos incluídos. A prevalência de autopercepção da necessidade de tratamento ortodôntico foi de 35% (95% IC: 0.25-0.46) e a de maloclusão foi de 36% (95%IC: O nível socioeconômico teve pouca ou nenhuma influência na autopercepção da necessidade do tratamento ortodôntico, porém a certeza da evidência foi muito baixa.

Palavras-chave: Ortodontia. Revisão Sistemática. Classe social. Autoimagem.

ABSTRACT

The orthodontic treatment need is widely discussed in the literature. Normative criteria used by professionals in this assessment tend to overestimate the treatment need. It is necessary to make the normative criteria compatible with the perceived need by the patient. The orthodontic treatment need doesn't necessarily reflect on the uptake of orthodontic treatment, especially when the socioeconomic context is taken into consideration. The lower uptake for treatment in individuals with low socioeconomic status may result from lower perceptions of the treatment need or greater satisfaction with your appearance or even unavailability of orthodontic treatment in public services. Against, the aim of this study was to assess, through a systematic review, the influence of the socioeconomic status on self-perception of the orthodontic treatment need. A systematic search was conducted in seven databases: Pubmed, Web of Science, Scopus, Cochrane Library, Brazilian Library of Dentistry (BBO), Lilacs and Google Scholar beyond manual search and grey literature. Two independent researches selected the studies, extracted data and assessed the methodological quality of the included studies through the Joanna Briggs Institute Scale - Checklist for Analytical Cross Sectional Studies. After applying the eligibility criteria, 14 cross sectional studies were included int this review. The extracted data were analyzed through prevalence meta-analysis and qualitative synthesis. For the meta-analysis performed was used STATA software (Stata Corp. 2009. Stata Statistical Software: version 11, College Station, TX, EUA). Certainty of evidence was assessed using GRADE (Grading of Recommendations, Assessment, Development and Evaluation) for narrative synthesis. Methodological problems were found in all studies included. The prevalence of self-perception of the orthodontic treatment need was 35% (95% CI: 0.25-0.46) The socioeconomic status had little or no influence on self-perception of the orthodontic treatment need, but the certainty of the evidence was very low. The high socioeconomic level didn´t influence the self-perception of the orthodontic treatment need.

Keywords: Orthodontics. Systematic Review. Social Class. Self Concept.

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LISTA DE ABREVIATURAS E SIGLAS

ABEP Associação Brasileira de Empresas de Pesquisa

BBO Biblioteca Brasileira de Odontologia *(Brazilian Library of Dentistry)*

DAI *Dental Aesthetic Index* (Índice de estética dental)

GRADE *Grading of Recommendations, Assessment, Development and Evaluation*

IDH Índice de Desenvolvimento Humano

IOTN *Index of Orthodontic Treatment Need* (Índice de Necessidade de Tratamento Ortodôntico)

IOTN–AC *Index of Orthodontic Treatment Need – Aesthetic Component* (Componente estético do índice de Necessidade de Tratamento Ortodôntico)

IOTN–DHC *Index of Orthodontic Treatment Need – Dental Health Component* (Componente de Saúde Dental do índice de Necessidade de Tratamento Ortodôntico)

JBI *Joanna Briggs Institute* (Instituto Joanna Briggs)

LILACS Literatura Latino-americana e do Caribe em Ciências da Saúde

Medline *Medical Literature and Retrieval System Online* (Sistema Online de Busca e análise de literatura médica)

MeSH *Medical Subject Headings*

NSE Nível socioeconômico

n(E) número de elementos do evento

OASIS *Orthodontic Aesthetic Subjective Impact Score*

PECO P: *Population* (População); E: *Exposure* (Exposição); C: *Comparation* (Comparação); O: *Outcome* (Resultado)

Prospero *International Prospective Register of Systematic Reviews*

SES *Socioeconomic status*

txt Arquivo texto

SUMÁRIO

1 INTRODUÇÃO

A maloclusão é considerada um problema de saúde pública devido à sua alta prevalência e possibilidade de intervir negativamente na qualidade de vida dos indivíduos (MARTINS *et al*., 2019). Estabelecer a necessidade de tratamento ortodôntico dos pacientes nem sempre é tarefa fácil, uma vez que, além de critérios normativos, definidos pelos profissionais, outros fatores, como a percepção da necessidade pelo paciente também devem ser levados em consideração.

A necessidade objetiva do tratamento ortodôntico, também denominada de necessidade normativa, pode ser definida, por profissionais, através de vários índices oclusais, que avaliam a maloclusão de acordo com a sua gravidade (KEROSUO *et al*., 2004). Dentre os índices reconhecidos e validados para a avaliação da necessidade normativa do tratamento ortodôntico estão o Índice de Estética Dental (DAI- *Dental Aesthetic Index*) e o Índice de Necessidade de Tratamento Ortodôntico (IOTN- *Index of Orthodontic Treatment Need)* (BROOK e SHAW, 1989). A Classificação de Angle também já foi utilizada em associação ao DAI para avaliação da necessidade objetiva do tratamento ortodôntico (CONS *et al*., 1986).

A necessidade do tratamento ortodôntico avaliada pelo DAI baseia-se na severidade da maloclusão. O referido índice avalia os aspectos estéticos da maloclusão dentária através de uma escala (SILVA *et al*., 2016).

Desenvolvido por Brook e Shaw em 1989, o IOTN ganhou aceitação internacional como instrumento de avaliação da necessidade do tratamento ortodôntico, por ser considerado um método válido, confiável e de fácil aplicação (SHAW *et al*., 1991; SHAW, O'BRIEN e RICHMOND, 1991). Dois componentes constituem o IOTN: o componente estético - IOTN-AC (*Index of Orthodontic Treatment Need – Aesthetic Component*) e o componente de saúde dental - IOTN-DHC (*Index of Orthodontic Treatment Need – Dental Health Component*) (SHAW *et al*., 1991; BERNABÉ e FLORES-MIR, 2006; AMARAL, 2013). O IOTN-AC avalia a percepção de um indivíduo sobre a sua atratividade dental através de uma escala fotográfica de 10 pontos, que apresenta diferentes níveis de atratividade dentária (BERNABÉ e FLORES-MIR, 2006). O IOTN-DHC avalia algumas características de uma maloclusão, dentre elas: overjet, overjet reverso, trespasse vertical, mordida aberta, mordida cruzada, fendas labiais e/ou palatais, distúrbios de erupção dentária,

anomalias craniofaciais, relação molar de Classe II e III e hipodontia (SO e TANG, 1993; BERNABÉ e FLORES-MIR, 2006).

A necessidade normativa do tratamento ortodôntico, investigada por diversos autores, em diferentes populações, parece não ser necessariamente um fator decisivo para o tratamento ortodôntico (SHEATS *et al*.,1998). Além disso alguns estudos relatam uma tendência a superestimação da necessidade do tratamento ortodôntico quando critérios normativos são usados (GHERUNPONG, TSAKOS e SHEIHAM, 2006; MTAYA, ASTROM e BRUDVIK, 2008). A autopercepção do complexo dentofacial e a necessidade psicossocial são destacados como variáveis de grande relevância na procura pelo tratamento ortodôntico (SHEATS *et al*.,1998).

A demanda por tratamento ortodôntico aumentou consideravelmente nos últimos 20 anos em decorrência de melhorias nos padrões de tratamento e de mudanças em relação as percepções dos pacientes. Como a principal motivação de grande parte dos pacientes que procuram tratamento ortodôntico é uma melhora na aparência, a percepção da aparência dentária é de fundamental importância, muitas vezes, é o que define a autopercepção da necessidade do tratamento ortodôntico (SINGH, HAMDAN e ROCK, 2012).

O componente estético do IOTN (IOTN-AC) tem sido utilizado tanto para a avaliação da necessidade normativa do tratamento ortodôntico, por meio de parâmetros estéticos e da avaliação de ortodontistas (BURDEN e PINE, 1995; KEROSUO *et al*., 2004; BADRAN *et al*., 2014), quanto para a avaliação da necessidade percebida (autopercepção da necessidade do tratamento ortodôntico), quando aplicado aos próprios participantes das pesquisas (BURDEN e PINE, 1995; AL-SARHEED, BEDI e HUNT, 2003; BERNABÉ e FLORES-MIR, 2006; ALMEIDA *et al*., 2014). Quando utilizado pelo profissional, o AC do IOTN permite uma avaliação específica do envolvimento estético da maloclusão (RICHMOND *et al*., 1992).

A aplicação do IOTN-AC aos próprios participantes, como forma de estimar a autopercepção da necessidade do tratamento ortodôntico tem sido mais indicada do que a avaliação profissional do IOTN-AC para avaliar a necessidade normativa do tratamento ortodôntico (KEROSUO *et al*., 2004). Este componente visa refletir o impacto psicossocial da maloclusão e avaliar a necessidade percebida do tratamento ortodôntico pelo paciente (DIAS e GLEISER, 2008). Em 1992, Holmes descreveu o componente estético do IOTN como o indicador mais realista da autopercepção de crianças sobre a sua atratividade dentária, que reflete a autopercepção da

necessidade do tratamento ortodôntico. Segundo o autor, o índice é menos propenso a viés do que a aplicação de questionários de autopercepção.

A autopercepção da necessidade do tratamento ortodôntico também pode ser avaliada por meio da aplicação de questionários aos participantes que contenham perguntas diretas sobre a sua percepção da necessidade do tratamento (HOLMES, 1992; CHEW e AW, 2002; KEROSUO *et al.,* 2004; SOH e SANDHAM, 2004; BADRAN *et al*., 2014; SILVA *et al*., 2016).

Outro instrumento de avaliação já utilizado na mensuração da autopercepção da necessidade do tratamento ortodôntico associado ao IOTN-AC é o *Orthodontic Aesthetic Subjective Impact Score* - OASIS (ALMEIDA *et al*., 2014). O OASIS mensura o impacto estético subjetivo da maloclusão a partir do grau de insatisfação de crianças com seus dentes (JENNY e CONS, 1996; ALMEIDA *et al*., 2014).

2 PROPOSIÇÃO

O objetivo do presente trabalho foi avaliar, por meio de uma revisão sistemática e metanálise a influência do nível socioeconômico na autopercepção da necessidade do tratamento ortodôntico.

3 MATERIAL E MÉTODO

3.1 DEFINIÇÃO DA *PECO QUESTION*

O presente estudo foi conduzido a partir da seguinte pergunta clínica: “Pessoas com alto nível socioeconômico tem maior percepção da necessidade do tratamento ortodôntico?” A partir da pergunta clínica, a PECO foi definida:

P: População: Pacientes em qualquer idade e sexo.

E: Exposição: Pessoas com alto nível socioeconômico.

C: Comparação: Pessoas com baixo nível socioeconômico.

O: Resultado: Autopercepção da necessidade do tratamento ortodôntico.

3.2 REGISTRO NO PROSPERO

A presente revisão sistemática foi registrada no Prospero (*International Prospective Register of Systematic Reviews*) sob o número de protocolo CRD 42017059020 (APÊNDICE A) e seguiu as recomendações para revisões sistemáticas e metanálises do *CHECKLIST* PRISMA (MOHER *et al*., 2009; SHAMSEER *et al*., 2016).

3.3 ESTRATÉGIA DE BUSCA E A BUSCA ELETRÔNICA E MANUAL

A busca eletrônica foi realizada a partir de seis bases de dados: Medline através do PubMed (http://www.PubMed.gov),*Web of Science* (http://www.isiknowledge.com), *Cochrane Library* (http://www.cochrane.org/index.htm), Lilacs and Biblioteca Brasileira de Odontologia (BBO) através da *Virtual Health Library* (Bireme, Latin America, http://www.bireme.br) e Scopus (https://www.elsevier.com/pt-br/solutions/scopus). Diferentes estratégias de busca foram utilizadas para cada base de dados. Uma busca manual também foi realizada, a partir das referências dos estudos selecionados, para a identificação de quaisquer outros estudos que possam ter se perdido na busca eletrônica. A literatura cinzenta também foi avaliada através do Opengray, do Google Scholar e do Clinical Trials. A busca foi realizada até junho de 2020.

3.3.1 Estratégia de busca na base PubMed

A primeira estratégia de busca foi montada no PubMed. A partir dessa foram definidas as demais estratégias para as outras bases de dados. Para a montagem da estratégia de busca no PubMed foram utilizados termos MESH e NÃO MESH. Não foi utilizado nenhum filtro disponível, o que restringiria a busca. Uma combinação dos operadores boleanos OR e AND foi utilizada a fim de ampliar a estratégia de busca.

A estratégia de busca na base PubMed encontrou 365 referências. O primeiro braço da estratégia de busca, em vermelho, refere-se a unitermos relacionados com a ortodontia, necessidade de tratamento ortodôntico, tratamento ortodôntico, aparelhos ortodônticos, dentre outros. O braço em verde, remete a unitermos relacionados com a percepção ou a autopercepção. O último braço em azul contém unitermos relacionados aos fatores socioeconômicos.

Estratégia de busca – PubMed
((index of orthodontic treatment need [Mesh] OR orthodontic treatment OR orthodontic treatments OR orthodontic appliances [Mesh] OR malocclusion* [Mesh] OR overjet OR diastema* [Mesh] OR bite, cross OR bites, cross OR angle classification OR crowding) AND (perception [Mesh] OR perception* OR self perceived OR self perception OR self-perceived OR self-perception*) AND (socioeconomic factors [Mesh] OR social class [Mesh] OR poverty [Mesh] OR risk factors [Mesh] OR educational level OR socioeconomic condition OR socio-economic condition OR socio economic conditional OR socio economic level OR socioeconomic determinant* OR income [Mesh])).

Quadro 1. Estratégia de busca aplicada na base de dados PubMed.

3.3.2 Estratégia de busca e a busca eletrônica nas outras bases de dados

A estratégia de busca na Cochrane Library foi realizada a partir da codificação de cada unitermo e posteriormente da combinação dos códigos. Foram utilizados os mesmos unitermos da estratégia de busca do PubMed. A busca eletrônica na Cochrane resultou em 190 referências.

Estratégia de busca – Cochrane
#1 = index of orthodontic treatment need #2 = orthodontic treatment #3 = orthodontic treatments #4 = orthodontic appliances #5 = malocclusion* #6 = overjet #7 = diastema* #8 = bite, cross #9 = bites, cross #10 = angle classification #11 = crowding # 12 = #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 #13 = perception #14 = perception* #15 = self perceived #16 = self perception #17 = self-perceived #18 = self-perception* #19 = #13 or #14 or #15 or #16 or #17 or #18 #20 = socioeconomic factors #21 = social class #22 = poverty #23 = risk factors #24 = educational level #25 = socioeconomic condition #26 = socio-economic condition #27 = socio economic conditional #28 = socio economic level #29 = socioeconomic determinant* #30 = income #31 = #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 #32 = #12 AND #19 AND #31

Quadro 2. Estratégia de busca codificada utilizada na base de dados Cochrane Library

A busca eletrônica na base de dados Web of Science resultou em 164 referências. A referida base da dados aceita a estratégia de busca completa como no PubMed, portanto foi utilizada a mesma estratégia de busca do PubMed.

Estratégia de busca - *Web of Science*
TS = ((index of orthodontic treatment need [Mesh] OR orthodontic treatment OR orthodontic treatments OR orthodontic appliances OR malocclusion* OR overjet OR diastema* OR bite, cross OR bites, cross OR angle classification OR crowding) AND (perception OR perception* OR self perceived OR self perception OR self-perceived OR self-perception*) AND (socioeconomic factors OR social class OR poverty OR risk factors OR educational level OR socioeconomic condition OR socio-economic condition OR socio economic conditional OR socio economic level OR socioeconomic determinant* OR income)).

Quadro 3 – Estratégia de busca utilizada na base de dados *Web of Science*.

Na base de dados Scopus, a busca eletrônica encontrou 4 referências. A estratégia de busca utilizada foi uma modificação da estratégia utilizada no PubMed.

Estratégia de busca – Scopus
((index of orthodontic treatment need [Mesh] OR orthodontic treatment OR orthodontic treatments OR orthodontic appliances OR malocclusion* OR overjet OR diastema* OR bite, cross OR bites, cross OR angle classification OR crowding) AND (socioeconomic factors OR social class OR poverty OR risk factors OR educational level OR socioeconomic condition OR socio-economic condition OR socio economic conditional OR socio economic level OR socioeconomic determinant* OR income)).

Quadro 4 – Estratégia de busca utilizada na base de dados Scopus.

Para a busca eletrônica nas bases de dados Lilacs e Biblioteca Brasileira de Odontologia (BBO) foram utilizadas diferentes estratégias de busca. A busca na base de dados Lilacs encontrou 62 referências, enquanto a busca na BBO resultou em 9 referências.

Estratégia de busca – Lilacs
(socioeconomic AND orthodontic treatment need) (perception AND orthodontic treatment need)
Estratégia de busca – BBO
(socioeconomic AND orthodontic AND treatment AND need) (perception AND orthodontic AND treatment AND need)

Quadro 5 – Estratégias de busca utilizadas nas bases de dados Lilacs e BBO.

Foram incluídas as 200 primeiras referências na busca realizada no Google Scholar (HADDAWAY, COLLINS, COUGHLIN e KIRK, 2015) através da seguinte

estratégia de busca: “socioeconomic level and self-perception of orthodontic treatment need”.

3.4 ORGANIZAÇÃO DAS REFERÊNCIAS

Após a busca manual e a eletrônica em cada base de dados, as listas das referências encontradas foram salvas e importadas para um *software* gerenciador de referências, o EndNoteWeb® (EndNote™, *Thomsom Reuters*). O resultado da busca foi obtido no formato txt para posterior inserção no gerenciador. O *software* EndNoteWeb® foi utilizado para a organização das referências obtidas nas diferentes bases de dados pesquisadas. Cada base de dados possui um processo de importação diferente para o EndNoteWeb®. Foram encontradas um total de 994 referências nas 07 bases de dados pesquisadas e 28 referências na busca manual e na literatura cinzenta.

Após a importação de todas as referências para o software EndNoteWeb® as duplicatas foram removidas. A primeira exclusão de referências duplicadas foi feita através do recurso do próprio *software*, em “encontrar duplicações”. Em seguida, foi realizada uma busca manual de possíveis referências duplicadas ainda existentes após a remoção via software. Foram removidas 189 referências duplicatas. Todas as 833 referências restantes foram salvas no formato bibliográfico de Vancouver.

3.5 CRITÉRIOS DE ELEGIBILIDADE

Foram incluídos estudos observacionais, nos quais o nível socioeconômico foi avaliado, por meio de entrevistas e/ou aplicação de questionários ou por algum índice específico de determinado país e associado com a autopercepção da necessidade do tratamento ortodôntico. Não houve restrições dos artigos quanto à data de publicação e idioma.

Foram excluídos trabalhos de revisões, cartas ao editor, editoriais, opiniões de especialistas e estudos em que não foi possível extrair dados acerca do nível socioeconômico relacionado à autopercepção da necessidade de tratamento. Também foram excluídos os estudos que tratavam do desejo do tratamento ortodôntico e não da autopercepção da necessidade do tratamento. Estudos cujo desfecho era a avaliação da qualidade de vida também foram excluídos, por não se tratar de desfecho de interesse.

3.6 SELEÇÃO DOS ESTUDOS

A seleção dos estudos foi realizada em três etapas. A primeira etapa refere-se à calibração inicial interavaliadores. Foi realizada a leitura e avaliação de 20% das referências (Título e resumo) por dois avaliadores de forma independente (JCA e SLMJ). A concordância entre os avaliadores foi baseada no coeficiente Kappa de Cohen e o resultado obtido foi de 0,88.

Após a calibração inicial, os avaliadores realizaram a leitura dos resumos e títulos restantes. A exclusão dos artigos foi realizada pautada nos critérios de elegibilidade. A lista de exclusão a partir da leitura dos títulos e resumos pode ser visualizada no APÊNDICE B. Foram excluídos 691 artigos após a primeira avaliação, os 142 artigos restantes foram submetidos a análise do texto completo de forma independente pelos dois avaliadores.

Os artigos para a leitura do texto completo foram obtidos através do Portal Capes e do Comut/ via biblioteca central da UFJF. Em casos de discordância entre os avaliadores, os critérios de elegibilidade eram discutidos até que um consenso fosse estabelecido. Em alguns casos, um terceiro avaliador participava da decisão final (CCM). Após a leitura dos textos completos, 128 artigos foram excluídos (APÊNDICE C) restando 14 artigos que foram incluídos na presente revisão sistemática.

3.6.1 O fluxograma PRISMA

O fluxograma PRISMA representa as quatro fases da triagem dos artigos da presente revisão sistemática: os estudos identificados, os selecionados, os elegíveis e os incluídos na síntese qualitativa e na metanálise (Figura 1).

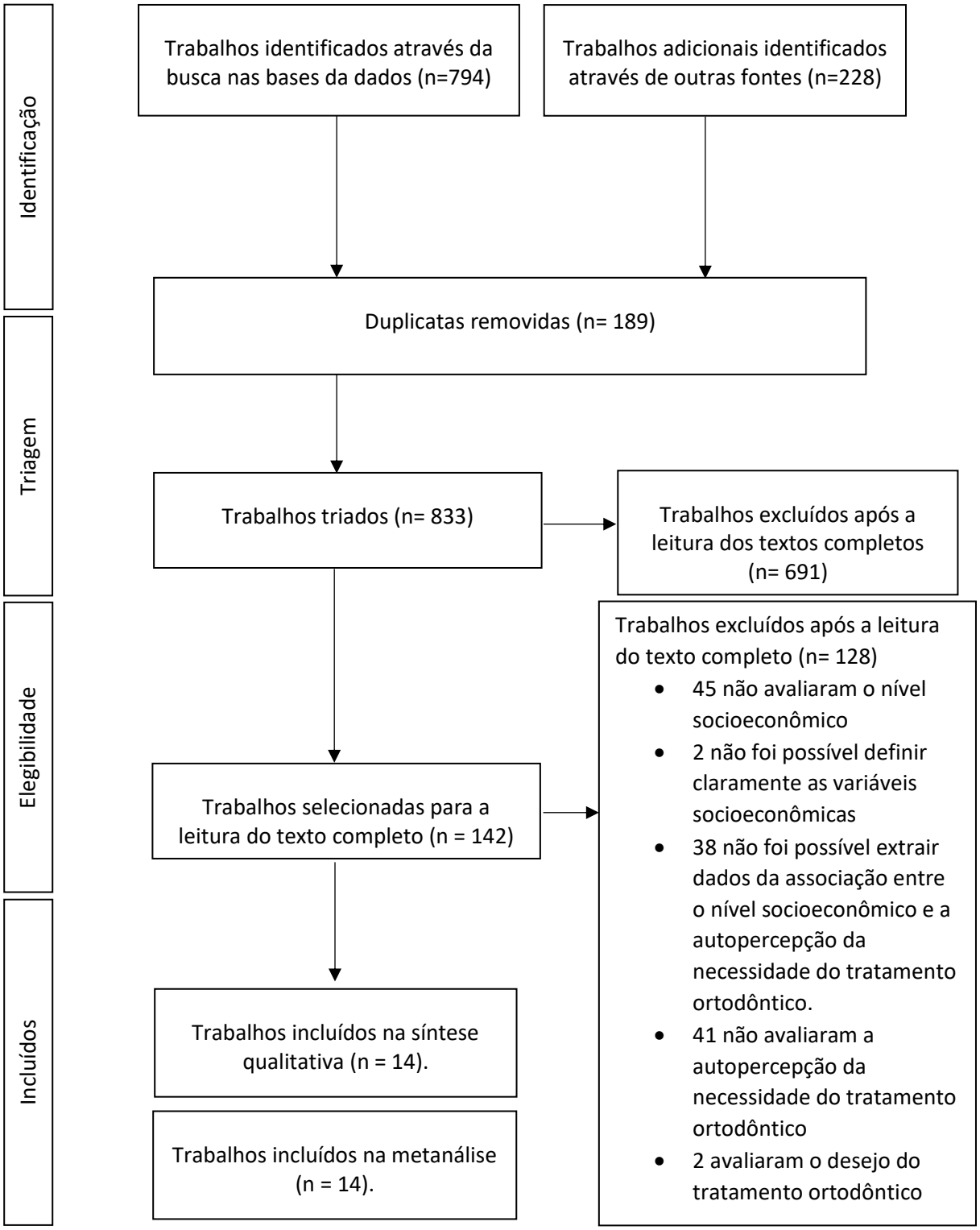

Figura 1. Fluxograma PRISMA.

3.7 EXTRAÇÃO DOS DADOS

A extração dos dados dos artigos incluídos foi realizada por dois avaliadores previamente treinados e de forma independente. Foram coletados dados acerca do ano de publicação, idioma, nome dos autores, país em que o estudo foi realizado e seu IDH, além de dados referentes ao tamanho da amostra, a divisão da amostra por faixa etária e sexo. Os instrumentos utilizados para a avaliação do nível socioeconômico e da autopercepção da necessidade do tratamento ortodôntico também foram registrados.

Outro dado coletado dos artigos que fizeram essa avaliação, foi o parâmetro utilizado para a avaliação da necessidade normativa do tratamento ortodôntico. Após a extração do número amostral de cada estudo, foram coletados os dados referentes ao número de indivíduos com autopercepção da necessidade do tratamento ortodôntico e o número de participantes com maloclusão (necessidade normativa do tratamento ortodôntico). A síntese das características dos estudos incluídos pode ser visualizada na Tabela 1.

3.8 AVALIAÇÃO DA QUALIDADE METODOLÓGICA

A qualidade metodológica dos estudos incluídos na presente revisão foi avaliada por dois pesquisadores independentes (JCA e CFC) através de uma das escalas disponibilizada pelo instituto Joana Briggs: o checklist para estudos transversais (ANEXO A). A escala selecionada levou em consideração o desenho de todos os estudos incluídos na revisão sistemática. Dentre os itens destacados estão: critérios de inclusão da amostra; a descrição dos indivíduos da amostra; a identificação e o ajuste dos fatores de confusão; a análise estatística; os métodos utilizados para avaliação da exposição e do desfecho estudado (MOOLA *et al*., 2017).

Tabela 1. Síntese das características dos estudos transversais incluídos (n=14).

Autor(es) (Ano de publicação)	País	IDH	Amostra (n)	Sexo fem.	Sexo mas.	Faixa etária	Instrumento/ Avaliação (Maloclusão)	Instrumento/ Avaliação (Autopercepção)	Instrumento/ Avaliação (NSE)	Resultados (NSE/ Autopercepção)
Burden e Pine (1995)	UK	0.920	506	232	274	15a. 11m.	IOTN-AC + IOTN-DHC	IOTN-AC modificado (Somente 02 fotografias foram usadas na avaliação).	NSE determinado a partir do CEP residencial da região de Salford. Foi categorizado em: acima da média; na média e abaixo da média.	Não houve diferença significativa entre os níveis socioeconômicos e a autopercepção da necessidade do tratamento ortodôntico. Os valores numéricos não foram apresentados.
Tickle; Kay e Bearn (1999)	UK	0.920	5.918	NI*	NI*	14	IOTN-DHC	Questionamento direto ao participante: "Você acha que seus dentes precisam ser endireitados?"	O NSE foi avaliado a partir da renda média familiar, estimada através do CEP.	A autopercepção da necessidade do tratamento ortodôntico não foi influenciada pelo NSE (p=0,44).
Kerosuo, Abdulkarim e Kerosuo (2002)	Kuwait	0.808	1.076	617	459	15,1	NA**	Aplicação de um questionário.	NSE baseado no nível educacional do chefe da família. Categorização: Alto; médio e baixo.	Não houve diferença estatística significante entre os níveis socioeconômicos em relação a autopercepção da necessidade do tratamento ortodôntico.

										(Kuwaitianos e não Kuwaitis – p>0,05).
Al-Sarheed, Bedi e Hunt (2003)	Arábia Saudita	0.857	781	423	358	11-16	IOTN-DHC	IOTN-AC (Deficiente auditivo e grupo controle); Escalas táteis e questionamentos (Deficiente visual).	NSE categorizado a partir da ocupação dos pais em 3 grupos: Classe Alta, média e baixa.	Não houve diferença estatisticamente significativa entre os níveis socioeconômicos em relação a autopercepção da necessidade do tratamento ortodôntico. Os valores numéricos não foram apresentados.
Kerosuo *et al*. (2004)	Kuwait	0.808	139	70	69	15,3 +- 1,08	IOTN-AC + IOTN-DHC	Questionamento direto ao participante: Você acha que precisa de tratamento ortodôntico?	NSE estimado através do nível educacional dos pais e local de moradia**.**	Nenhum dos indicadores socioeconômicos influenciou na autopercepção da necessidade do tratamento ortodôntico. (Nível educacional dos pais- OR: 1,42; 95%IC = 0,47-4,27, P=0,53; local de moradia- OR:0,59; 95%IC = 0,24-1,48, P=0,26).
Bernabé e Flores-Mir, (2006)	Peru	0.759	281	124	157	18,1 +- 1.6	IOTN-DHC	IOTN-AC Variável dicotomizada: Necessito/Não necessito	O NSE foi dividido em três grupos: alto, médio e baixo e foi mensurado a partir do valor atribuído à taxa de matrícula escolar, que é definido por uma assistente social.	Não foi encontrada associação significativa entre o nível socioeconômico e a autopercepção da necessidade do tratamento ortodôntico (p=0,054).

Bellot-Arcís *et a*l. (2012)	Espanha	0.893	671	469	202	35-44	DAI+ IOTN-DHC	Aplicação de um questionário	O NSE foi classificado a partir da categorização social do Reino Unido baseada na qualificação profissional. A variável foi dicotomizada em Classe Média/alta e Classe baixa.	Não foi encontrada associação significativa entre o nível socioeconômico e a autopercepção da necessidade do tratamento ortodôntico (p=0,17).
Almeida *et al*. (2014)	Brasil	0.761	451	236	215	12	DAI	OASIS + IOTN-AC (Avaliação subjetiva da necessidade do tratamento ortodôntico).	Aplicação de questionário. Categorização do NSE: Alto (A e B); Intermediário (C) e baixo (D e E).	Foi encontrada associação estatisticamente significante entre a autopercepção da necessidade do tratamento ortodôntico e o baixo NSE (*p<0,001).
Badran *et al*. (2014)	Jordânia	0.724	339	NI*	NI*	14,9+-0,8	IOTN-AC + IOTN-DHC	Questionamento direto ao participante: “Você acha que precisa de um tratamento ortodôntico?”	O NSE foi avaliado a partir de um índice desenvolvido especialmente para a população da Jordânia baseado na ocupação dos pais, nível educacional e moradia.	Indivíduos com NSE baixo tiveram maior percepção da necessidade do tratamento ortodôntico quando comparados ao de NSE alto (*p= 0,011).
Patil *et al*., (2014)	Índia	0.647	448	261	187	17-19	DAI	Questionamento direto aos participantes	Aplicação de questionário. NSE	O baixo (baixo/médio) nível socioeconômico influenciou na

								(Sem informações adicionais)	dividido em: Muito alto e alto; Médio e baixo.	autopercepção da necessidade do tratamento ortodôntico (p<0,05)
Rampersadh (2015)	Africa do Sul	0.705	317	139	178	11-14	IOTN-AC + IOTN-DHC (Modificado)	IOTN-AC (Questionário com questões relativas ao IOTN-AC)	NSE foi baseado na posição familiar: uma escala de 0 a 6 foi aplicada, sendo: 0-2 (baixo) 3-4 (médio) 5-6 (alto)	Não houve associação estatisticamente significante entre o NSE e a autopercepção da necessidade do tratamento ortodôntico (p=0,324).
Silva *et al*. (2016)	Brasil	0.761	1015	512	503	12-15	Classificação de Angle + DAI	Questionamento direto ao participante: “Em uma escala de 1 a 10, o quanto você acha que precisa de um tratamento ortodôntico?” Respostas ≥6 = necessidade percebida.	NSE baseado na Classificação Econômica do Brasil/ABEP 2008. Os critérios avaliados foram: renda familiar, nível educacional dos pais e tipo de escola.	Não foi encontrada associação significativa entre o NSE e a autopercepção da necessidade do tratamento ortodôntico. (PR: 0,98; IC: 95%: 0.77–1.2; p = 0,890 – Não ajustado/ PR: 0,98; IC: 95%: 0.78–1.23; p= 0,846 -Ajustado)
Suresh *et al.* (2017)	India	0.647	354	165	189	15-19	IOTN-AC + IOTN-DHC	Questionamento direto ao participante: “Você acha que precisa de tratamento ortodôntico?”	NSE foi avaliado através da escala modificada de Kuppuswammy. A escala é baseada na ocupação dos pais e renda familiar. Categorização do NSE: Alto; Médio alto; médio baixo e baixo.	Foi encontrada uma correlação significante entre a autopercepção da necessidade de tratamento e o NSE médio/baixo (p<0,001).

Amaral *et al.* (2020)	Brasil	0.761	215	111	104	15-19	DAI	Aplicação de questionário. Questão 26: “Você acha que precisa de um tratamento para reposicionar os seus dentes? (Tratamento ou aparelho ortodôntico)	NSE baseado no tipo de escola, escolaridade dos pais, tipo de moradia e renda familiar.	Não houve diferença estatisticamente significante entre a autopercepção e nenhum indicador socioeconômico. (Tipo de escola -PR: 1,066; 95%IC: 0,863-1,317, p = 0,661. Nível educacional- PR: 1,18; 95%IC: 0,868-1,440, p= 0,634. Tipo de moradia- PR: 1,094;95%IC: 0,864 -1,385, p=0,628. Renda familiar- PR: 0,561; 95%IC: 0,753 -1,272, p= 0,561).

NI *= não informado; NA**= não avaliado; PR: prevalence ratio; OR: odds ratio.
* p < 0,05.

3.9 ANÁLISE DOS DADOS

Foi utilizado o software STATA (Stata Corp. 2009. Stata *Statistical Software*: versão 11, *College Station*, TX, EUA) para a realização das metanálises. Foram realizadas duas metanálises de prevalência: uma de autopercepção da necessidade do tratamento ortodôntico e outra de maloclusão. As análises foram realizadas a partir dos dados extraídos referentes ao número de indivíduos com a autopercepção da necessidade do tratamento ortodôntico e o número de indivíduos com maloclusão. A heterogeneidade foi verificada pelos testes I^2. Foi utilizado o modelo de efeito randômico quando a heterogeneidade era significativa e moderada (I^2>50 e p<0.05) (HIGGINS e GREEN, 2015).

3.10 AVALIAÇÃO DA CERTEZA DA EVIDÊNCIA

Para a avaliação da certeza da evidência foi utilizado o sistema *Grading the quality of evidence and the strength of recommendations* (GRADE) (ATIKINS *et al*., 2004). Diante da ausência de uma única estimativa de efeito, a certeza da evidência foi realizada através de uma abordagem narrativa (MURAD *et al*., 2017). Baseado no desenho do estudo, os estudos observacionais iniciam com baixa certeza da evidência. Após a avaliação dos domínios do GRADE essa certeza pode permanecer baixa ou ser considerada muito baixa, alta ou muito alta. Para a graduação da certeza da evidência são avaliadas as limitações metodológicas dos estudos, as evidências indiretas, a imprecisão, a inconsistência das evidências e a probabilidade de viés de publicação. A avaliação narrativa dos domínios GRADE pode ser observada no APÊNDICE D.

4 ARTIGO

Normas de submissão do manuscrito – Periódico: The Angle Orthodontist

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An International Journal of Orthodontics and Dentofacial Orthopedics since 1930

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SOCIOECONOMIC INDICATORS AND SELF-PERCEPTION OF THE ORTHODONTIC TREATMENT NEED: A SYSTEMATIC REVIEW AND META-ANALYSIS

ABSTRACT

Introduction: The need for orthodontic treatment is based on the perception of the dentist/orthodontist as well as the self-perception of the patient. Moreover, socioeconomic status (SES) is suggested to be one of the factors that influence the self-perceived need for orthodontic treatment. The aim of the present systematic review was to evaluate the effect of socioeconomic status on self-perceived orthodontic treatment need. **Methods**: A systematic search was performed in the Pubmed, Web of Science, Scopus, Cochrane Library, Lilacs, BBO and Google Scholar databases for observational cross-sectional studies. The grey literature was also searched and a hand search was performed. Risk of bias was appraised using the scale proposed by the Joanna Briggs Institute for cross-sectional studies. Two meta-analysis prevalence models were constructed using the random effects method: one for self-perceived orthodontic treatment need and one for malocclusion. The certainty of the evidence was appraised using the Grading of Recommendations, Assessment, Development and Evaluation (GRADE). **Results**: Fourteen studies were included in the systematic review and meta-analysis. All studies had some risk of bias. The prevalence of self-perceived treatment need was 35% (95% CI: 0.25-0.46) and the prevalence of malocclusion was 36% (95% CI: 0.28-0.44). The qualitative analysis revealed that the majority of studies found no association between self-perceived treatment need and SES, with a very low certainty of evidence. **Conclusion**: Socioeconomic status seems not to exert an influence on the self-perceived need for orthodontic treatment, but the certainty of the evidence is very low.

INTRODUCTION

Malocclusion is considered a public health problem due to the high prevalence and the possibility of exerting a negative impact on quality of life.[1] Studies conducted in Spain,[2] Iran,[3] Italy[4] and Brazil[5] report malocclusion rates of 58.6%, 77.1%, 93% and 94%, respectively.

Orthodontic treatment need is defined by normative criteria as well as subjective criteria (patient's self-perception).[6] Normative need has been investigated in different populations[5,7,8] and seems not necessarily to be a decisive factor in the decision to undergo orthodontic treatment. One's self-perception of the dentofacial complex and psychosocial need are considered to be highly relevant to the search for treatment.[9] Adebanke, Olatunde and Donald[10] found that the self-perception of the need for orthodontic treatment may not be influenced merely by knowledge of malocclusion; psychosocial factors may be involved.

Socioeconomic status (SES) is suggested to be one of the factors that affect the self-perceived need for orthodontic treatment,[11,12,13,14,15] although some studies have not found a significant association between these variables.[7,8,16] Thus, there is no consistency in the evidence regarding the effect of SES on self-perceived orthodontic treatment need.[17]

To ensure equity in providing health care among different socioeconomic strata, it is important to evaluate aspects related to the oral health of the individuals who compose these strata.[17] Understanding the effect of SES on self-perceived orthodontic treatment need is important to the better planning of oral health services to ensure that orthodontic care is accessible to everyone.[17] Although cross-sectional studies[5,16,17] have reported the influence of SES on self-perceived treatment need, there is no compiled analysis on this issue. Therefore, the aim of the present study was to evaluate the influence of a high SES compared to a low SES on self-perceived orthodontic treatment need through a systematic review and meta-analysis.

MATERIALS AND METHODS

Protocol and registration

This systematic review was conducted following the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)[18,19] and was registered with PROSPERO under protocol number #CRD42017059020.

PECO question and eligibility criteria

The PECO question (P= population; E= exposure; C= control; O= outcome) was defined as follows: P – individuals of any age; E – high SES; C- low SES; and O- self-perceived orthodontic treatment need.

The inclusion criteria were observational studies that evaluated the association between SES and self-perceived orthodontic treatment need. No restrictions were imposed regarding the year of publication or language. Review studies, letters to the editor, editorials and expert opinions were excluded. Studies for which it was not possible to extract data on SES related to the self-perception of the need for orthodontic treatment, studies on oral health-related quality of life and studies that addressed the desire for orthodontic treatment but not self-perceived treatment need were also excluded.

Databases, search strategy and selection of papers

A detailed search was conducted up to June 2020 in the following electronic databases: Medline, Web of Science, Cochrane Library, Latin American and Caribbean Health Sciences, Brazilian Library of Dentistry through Virtual Health Library (Bireme, Latin America and Scopus. Grey literature was searched through Google Scholar, Clinical Trials and OpenGrey. A hand search was also performed using the lists of references of the studies selected for inclusion in the review. Some authors were contacted to send full texts or provide additional information. The search strategies are detailed in Table I. EndNote X9 was used to manage the references.

Table I- Search strategies used for each electronic database

Electronic database	Search strategy
PubMed, Web of Science	((index of orthodontic treatment need [Mesh] OR orthodontic treatment OR orthodontic treatments OR orthodontic appliances OR malocclusion* OR overjet OR diastema* OR bite, cross OR bites, cross OR angle classification OR crowding) AND (perception OR perception* OR self perceived OR self perception OR self-perceived OR self-perception*) AND (socioeconomic factors OR social class OR poverty OR risk factors OR educational level OR socioeconomic condition OR socio-economic condition OR socio economic conditional OR socio economic level OR socioeconomic determinant* OR income)).
Scopus	((index of orthodontic treatment need [Mesh] OR orthodontic treatment OR orthodontic treatments OR orthodontic appliances

	OR malocclusion* OR overjet OR diastema* OR bite, cross OR bites, cross OR angle classification OR crowding) AND (socioeconomic factors OR social class OR poverty OR risk factors OR educational level OR socioeconomic condition OR socio-economic condition OR socio economic conditional OR socio economic level OR socioeconomic determinant* OR income)).
Cochrane Library	#1 index of orthodontic treatment need; #2 orthodontic treatment; #3 orthodontic treatments; #4 orthodontic appliances; #5 malocclusion*; #6 overjet; #7 diastema; * #8 bite, cross; #9 bites, cross; #10 angle classification; #11 crowding; #12 = #1 or #2 or #3 or#4 or #5 or#6 or #7 or #8 or #9 or #10 or #11; #13 perception; #14 perception*; #15 self perceived; #16 self perception; #17 self-perception; #18 self-perception *; #19 = #13 or #14 or #15 or #16 or #17 or #18; #20 socioeconomic factors; #21 social class; #22 poverty; #23 risk factors; #24 educational level; #25 socioeconomic condition; #26 socio-economic condition; #27 socio economic conditional; #28 socio economic level; #29 socioeconomic determinant*; #30 income; #31 = #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30; #32 = #12 AND #19 AND #31.
LILACS	socioeconomic AND orthodontic treatment need; perception AND orthodontic treatment need.
BBO	socioeconomic AND orthodontic AND treatment AND need; perception AND orthodontic AND treatment AND need.

The selection of papers was performed in two steps independently by two calibrated reviewers (JCA and SLMJ). In cases of disagreement, the reviewers discussed the eligibility criteria until reaching a consensus. If necessary, a third reviewer (CCM) was involved.

Data extraction

The data were extracted from each of the studies and organized in tables in the Excel program independently by two reviewers (JCA and SLMJ). Information was recorded on the year of publication, country in which the study was conducted, the Human Development Index of the country, sample size, division of the sample by sex, age of the participants, instruments used for the determination of SES, parameters used for the evaluation of self-perceived orthodontic treatment need and the normative need for orthodontic treatment (malocclusion) as well as the number of individuals with self-perceived treatment need and the number with normative treatment need.

Risk of bias

The risk of bias of the selected studies was appraised using the scale proposed by the Joanna Briggs Institute for cross-sectional studies.[20] Each item was classified by the same independent reviewers. This scale has seven domains: clarity of the inclusion criteria for the sample, description of individuals in the sample, identification and adjustment of confounding factors, statistical analysis and methods used for the evaluation of the exposure and outcome of interest. In cases of a doubt, the reviewers discussed the study in question until arriving at a consensus.

Data analysis and synthesis of the results

The STATA software (Stata Corp. 2009. Stata Statistical Software: version 11, College Station, TX, USA) was used for the meta-analysis of the prevalence data. The primary outcome was self-perceived orthodontic treatment need and the secondary outcome was normative treatment need. For such, we used the final sample from each study as well as the number of individuals with self-perceived treatment need and the number with malocclusion.

The effect estimate (prevalence) and respective 95% confidence interval (CI) were calculated. Heterogeneity was determined using the I^2 statistic. As the prevalence data are from heterogeneous populations, a random effects model was used. [21]

A narrative synthesis was performed evaluating the individual studies regarding self-perceived orthodontic treatment need and SES.

Certainty of the evidence

The certainty of the evidence was evaluated using the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) method for the narrative sythesis[22] of the "self-perceived treatment need" outcome. The appraisal was performed by two independent reviewers (JCA and CFC) and divergences of opinion were resolved by consensus. The certainty of evidence begins low for observational studies, reaching high, moderate, low or very low at the end of the appraisal.[23,24] Risk of bias, inconsistency, indirectness, imprecision and publication bias are rated on one or two levels. Large effect, dose-response and residual confounding are also rated on one or two levels.

RESULTS

Selection and characteristics of studies

The electronic and hand searches led to the retrieval of 1022 papers. After the removal of duplicates, the titles and abstracts of 833 papers were read and 142 were selected for full-text analysis. After the application of the eligibility criteria, 14 papers were included in the present systematic review and meta-analysis (Figure 1). The list of excluded articles after the full-text analysis is displayed in Table SI.

The studies were conducted in Brazil,[5,25,26] Saudi Arabia,[27] the United Kingdom,[16,28] Kuwait,[7,29] Jordan,[17] India,[30,31] South Africa,[32] Spain[8] and Peru.[33] The papers were published between 1995 and 2020. The sample size ranged from 139 to 5918 individuals and age of the participants ranged from 11 to 44 years (mean: 16.60 ± 6.59 years). Considerable diversity was found among the studies regarding the criteria and indices used for the categorization of SES, such as family income, parents' schooling and occupation, school tuition fee, type of housing, residential postal code and type of school at which the participant

studied. Table II offers a summary of the characteristics of all studies included in the present review.

The type of instrument used for the determination of self-perceived orthodontic treatment need varied among the studies. In six[7,16,17,26,30,31] of the 14 studies, self-perceived orthodontic treatment need was determined through questions posed directly to the participants (each participant was asked whether he/she needed orthodontic treatment). One study[25] used the Orthodontic Aesthetic Subjective Impact Score (OASIS) and the aesthetic component of the Index of Orthodontic Treatment Need (IOTN-AC). Three studies[28,32,33] used the IOTN-AC alone. One study[5] used a scale applied to the following question: “How much do you think you need orthodontic treatment?” The scale ranged from 1 to 10, with scores ≥ 6 considered indicative of self-perceived treatment need. One study[27] involved patients with special needs (hearing impaired [HI] and visually impaired [VI]). The IOTN-AC was used for the HI and control groups, whereas tactile scales and questions with dichotomized answers (yes or no) were used for the VI group. Two studies[8,29] used questionnaires. One of these studies[8] provided no additional information on the questionnaire. The other study[29] evaluated self-perceived treatment need through an item on the questionnaire (subjective need for treatment), for which the response options were “yes”, “no” and “no opinion”. The participants who answered “yes” were asked a second question on the reason why they felt that they needed orthodontic treatment, for which the response options were 1- poor tooth aligment; 2- impaired function; 3 other reasons; and 4- no opinion (Table II).

Thirteen of the 14 papers included in the present systematic review also analyzed the normative need for orthodontic treatment using different diagnostic criteria. Three studies[25,25,30] used the Dental Aesthetic Index (DAI); three[16,27,33] used the Dental Health Component (DHC) of the IOTN; five[7,17,28,31,32] used the AC and DHC components of the IOTN; one used the DAI and the IOTN-DHC; and one used the DAI and the Angle Classification.

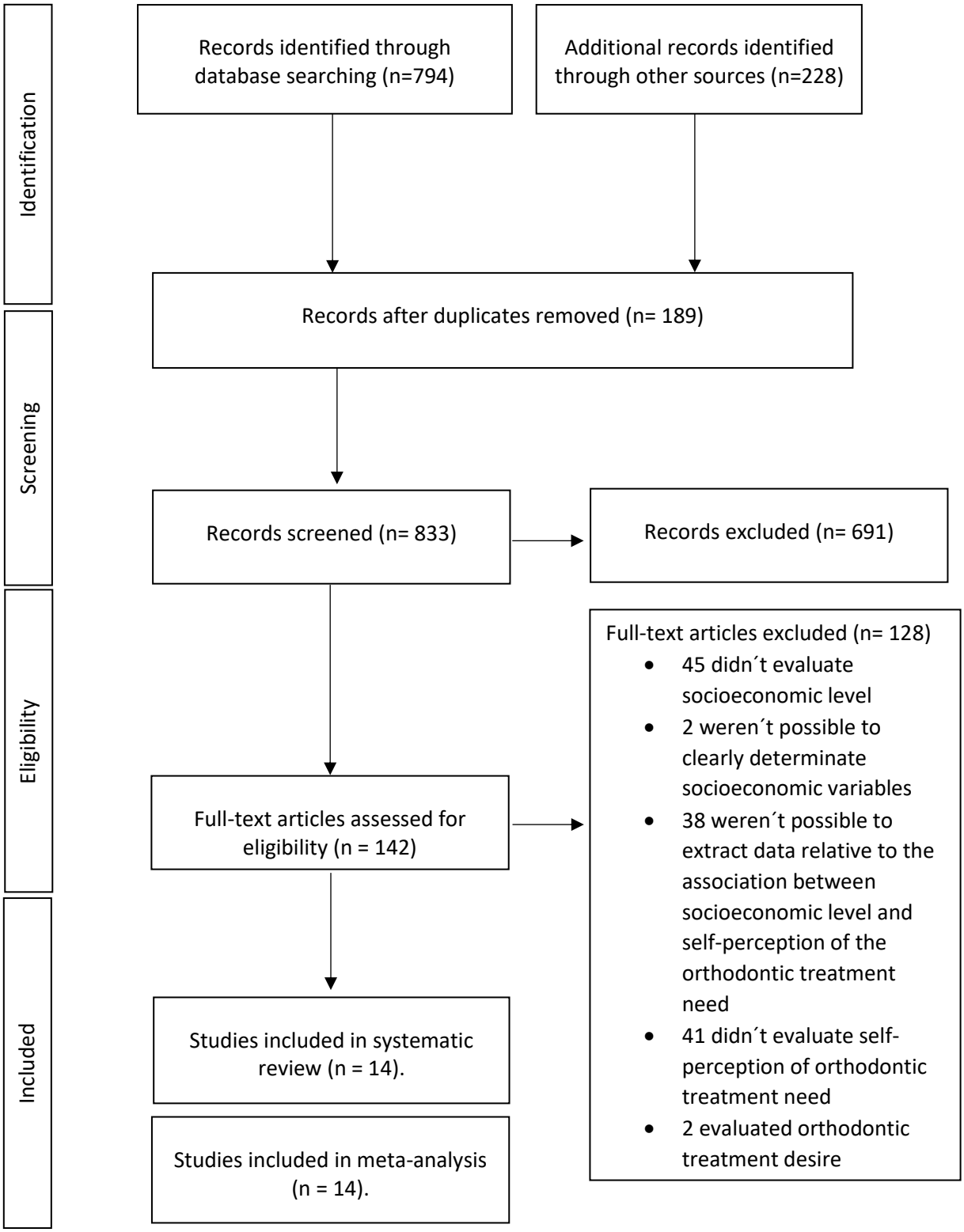

Figure 1. Screening of articles. Four-phase PRISMA flow-diagram for study collection, showing the number of studies identified, screened, eligible, and included in the review and meta-analysis.

Narrative synthesis and certainty of evidence

Ten[5,7,8,16,26,27,28,29,32,33] of the 14 studies found no association between SES and self-perceived orthodontic treatment need, whereas four studies[17,25,30,31] found that having a low SES exerted an influence on self-perceived treatment need. The certainty of the evidence was very low due to serious problems regarding inconsistency and indirectness and very serious problems regarding risk of bias (Table SII).

The risk of bias was appraised using the scale proposed by the Joana Briggs Institute for cross-sectional studies. The main defects identified were the use of non-validated or unreliable instruments for the measurement of self-perceived orthodontic treatment need[26,17,8,29,7,5,30,31] and SES[7,28,29,33] as well as a lack of strategies for dealing with confounding factors.[16,17,26,28,29,30,32,33] The risk of bias for each study included in the present review is displayed in Table III**.**

Table II. Summary of characteristics of cross-sectional studies included in present review

Authors (year) (country)	Age of participants (years)	Sample size	Instrument for measure of self-perceived treatment need	Instrument for measure of socioeconomic status (SES)	Outcomes
Burden and Pine (1995) (UK)	Mean: 15.1	506	Modified IOTN-AC (only two photographs used in evaluation)	SES determined based on residential postal code of Salford region; divided into above average, average and below average.	No significant differences in self-perception need for orthodontic treatment found among three different socioeconomic levels. P-value not provided.
Tickle, Kay and Bearn (1999) (UK)	14	5918	Direct question to participants: "Do you think you need to straighten your teeth?"	Geodemographic classification (postal code) based on average family income divided into quintiles (1-5; Affluent - Deprived) .	Distribution of self-perceived need for treatment not influenced by socio-economic status (p = 0.44)
Kerosuo, Abdulkarim and Kerosuo (2002) (Kuwait)	Mean: 15.1	1076	Application of questionnaire (no additional information)	SES based on educational level of head of family divided into high and medium/low	No difference in subjective treatment need between SES groups for Kuwaitis or non-Kuwaitis (p > 0.05).
	Range: 11-16	781	IOTN- AC	SES estimated based on parents' occupation divided	No statistically significant differences in self-perceived treatment need among

Al-Sarheed, Bedi and Hunt (2003) (Saudi Arabia)			(control group and hearing impaired group); Tactile scales and questions (visually impaired group)	into three groups: upper class (doctors, dentists and businessman); middle class (military, technical workers) and lower class (tradesmen, farmers, itinerant workers, unemployed)	different socioeconomic classes using chi-squared test. P-value not provided.
Kerosuo *et al.* (2004) (Kuwait)	Mean: 15.3 (SD: 1.08)	139	Direct question to participants: "Do you think you need orthodontic treatment?"	SES estimated based on parents' occupation (no additional information).	Parent's education (OR: 1.42; 95%CI =0.47 – 4.27, p=0.53), and place of living (OR: 0,59; 95%CI = 0.24 – 1.48, p= 0.26) did not significantly affect odds of self-perceived need for treatment.
Bernabé and Flores-Mir (2006) (Peru)	Mean: 18.1 (SD: 1.6)	281	IOTN-AC Dichotomized as need or non-need	SES measured indirectly based on school tuition fee and divided into low, middle and high	No significant association found between socioeconomic level and self-perception of need for orthodontic treatment (p= 0.054).
Bellot-Arcís *et al*. (2012) (Spain)	Range: 35-44	671	Application of questionnaire (no additional information)	SES classified based on registry of occupational categorization of the United Kingdom and divided into middle/high (professional, managerial/ technical skilled non-manual and skilled manual) and low (partly skilled manual, unskilled manual).	No significant association found between socioeconomic level and self-perception of need for orthodontic treatment (p= 0.17).
Almeida *et al.* (2014) (Brazil)	12	451	OASIS + IOTN-AC	Application of questionnaire. SES divided into high (Classes	Statistically significant associations found between self-perceived treatment need and sociodemographic variables for

				A and B), middle (Class C) and low (Classes D and E).	low economic level ($p < 0.001$) and intermediate economic level ($p = 0.004$)
Badran *et al*. (2014) (Jordan)	Mean: 14,9 (SD: 0.8)	339	Direct question to participants: "Do you think you need orthodontic treatment?"	SES based on socioeconomic classification index developed specifically for Jordan population based on parents' educational level and occupation and residential area; divided into low, middle and high	Subjects with a low SES perceived greater need for treatment than subjects with higher SES ($p = 0.011$).
Patil *et al*. (2014) India	Range: 17-19	448	Direct question to participants (no additional information)	Application of questionnaire. SES divided into very high, high and middle/low	Low (middle/low) SES significantly associated with self-perceived orthodontic treatment need ($p < 0.05$).
Rampersadh (2015) (South Africa)	Range: 11-14	317	IOTN-AC (Questionnaires with questions related to IOTN-AC)	SES based on socioeconomic position of family; scale of 0 to 6 0-2 (low) 3-4 (middle) 5-6 (high)	No significant association found between socioeconomic level and self-perception of need for orthodontic treatment ($P = 0.324$)
Silva *et al.* (2016) (Brazil)	Range: 12-15	1015	Direct question to participants: "How much do you think that you need orthodontic treatment, from 0 to 10?" ≥ 6 = perceived need	Standard Brazilian Economic Classification Criteria (ABEP/2008) based on type of school, parents' schooling and family income.	No significant association found between socioeconomic level and self-perception of need for orthodontic treatment. (Unadjusted PR: 0.98; 95% CI: 0.77–1.2; $p = 0.890$ / Adjusted PR: 0.98; 95% CI: 0.78–1.23; $p= 0.846$)

Suresh *et al.* (2017) (India)	Range: 13-15	354	Direct question to participants: "Do you think you need orthodontic treatment?"	SES evaluated using modified Kuppuswammy Scale based on parents' occupation and schooling and family income; divided into upper, upper middle, lower middle and lower.	Statistically significant association between self-perceived orthodontic treatment need and middle/low SES ($p < 0.001$).
Amaral *et al*. (2020) (Brazil)	Range: 15-19	215	Application of questionnaire. Question 26: "Do you think you need treatment for poorly positioned teeth? (orthodontic treatment or appliance)	Defined based on type of school, parents' schooling, type of housing and family income.	No significant association found between socioeconomic level and self-perception of need for orthodontic treatment. Type of school (PR: 1.066; 95%CI: 0.863 – 1.317, $p = 0.661$); Educational level of mother or legal guardian (PR: 1.18; 95%CI: 0.868-1.440, $p = 0.634$); housing type (PR: 1.094; 95%CI: 0.864 – 1.385, $p = 0.628$); family income (PR: 0.561; 95%CI: 0.753-1.272, $p = 0.561$)

Table III. Risk of bias for each study include

AUTORS	Were the criteria for inclusion in the sample clearly defined?	Were the study subjects and the setting described in detail?	Was the exposure measured in a valid and reliable way?	Were objective, standard criteria used for measurement of the condition?	Were confounding factors identified?	Were strategies to deal with confounding factors stated?	Were the outcomes measured in a valid and reliable way?	Was appropriate statistical analysis used?
Burden e Pine (1995)	**Yes**	**Yes**	**No**	**Yes**	**No**	**No**	**Unclear**	**Yes**
Tickle, Kay e Bearn (1999)	**Yes**	**Yes**	**No**	**Yes**	**No**	**No**	**Unclear**	**Yes**
Kerosuo, Abdulkarin e Kerosuo (2002)	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**Yes**
Al-Sarheed, Bedi e Hunt (2003)	**No**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Unclear**	**Yes**
Kerosuo *et al.* (2004)	**Yes**	**Yes**	**No**	**No**	**Yes**	**Yes**	**No**	**Yes**
Bernabé e Flores-Mir (2006)	**Yes**	**Yes**	**No**	**Yes**	**No**	**No**	**Unclear**	**Yes**
Bellot-Arcís *et al* (2012)	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**Unclear**	**Yes**
Badran *et al.* (2014)	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**Unclear**	**Yes**
Almeida *et al*. (2014)	**Yes**	**Yes**	**Unclear**	**Yes**	**Yes**	**Yes**	**Unclear**	**Yes**
Patil *et al*. (2014)	**Yes**	**Yes**	**Unclear**	**No**	**No**	**No**	**No**	**Yes**
Rampersadh (2015)	**Yes**	**Yes**	**Unclear**	**Yes**	**No**	**No**	**Unclear**	**Yes**
Silva *et al.* (2016)	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Unclear**	**Yes**
Suresh *et al*. (2017)	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Unclear**	**Yes**
Amaral *et al*. (2020)	**No**	**Yes**	**Yes**	**No**	**No**	**No**	**Unclear**	**Yes**

Meta-analysis

The pooled prevalence of self-perceived orthodontic treatment need among the 14 studies was 35% (95% CI: 0.25 to 0.46) (Figure 2). Among the 13 papers that also analyzed normative need, we were able to collect data on this aspect from 12 and the pooled prevalence was 36% (95% CI: 0.28 to 0.44) (Figure 3).

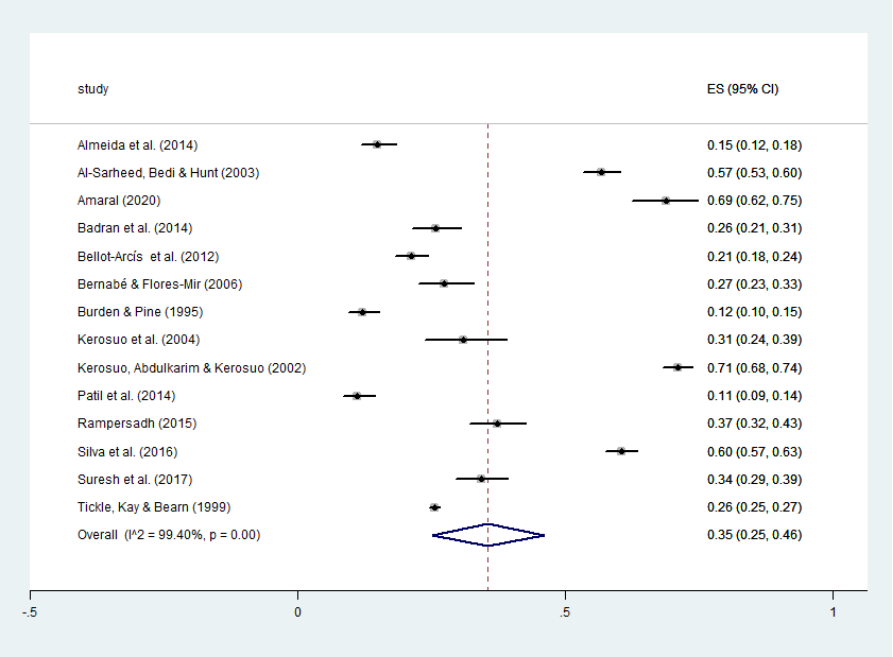

Figure 2. Meta-analysis prevalence – Self-perceived orthodontic treatment need.

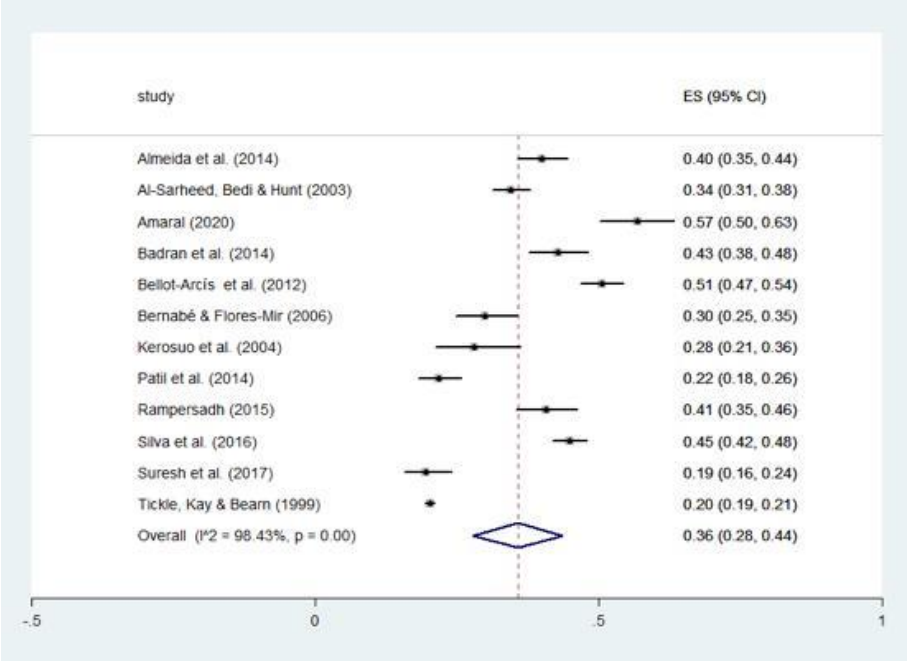

Figure 3- Meta-analysis prevalence- Malocclusion

DISCUSSION

In the present systematic review, the majority of studies found no association between SES and the self-perception of orthodontic treatment need.[5,7,8,16,26,27,28,29,32,33] However, the certainty of the evidence was very low.

The use of different methods for the determination of self-perceived treatment need and SES impeded a meta-analysis of the studies included in the present review. Among the five studies that used the IOTN-AC to measure self-perceived treatment need, one evaluated SES based on the parent's occupation,[27] one used the school tuition fee[33] and one used the residential postal code.[28] The other two provided no information on the criteria used to classify SES.[26,32] This variability may be explained by the diversity of countries in which the studies were conducted. However, even studies conducted in the same country used different criteria for measuring SES.

According to Alves and Soares,[34] SES should be measured using a combination of information on education, occupation and income. Although parent's occupation enables inferring a level of schooling and economic return for each occupational post,[35] generalizing SES based on occupational scores, as performed by some of the studies in the present review,[7,8,27] is not an easy task.[36] Schooling was also used as a single indicator of SES.[29] While there is a strong correlation between income and years of schooling, education alone is a limited indicator for expressing SES.[34] Residential postal code[16,28] as an indirect way to estimate family income[37] should not be used in an isolated fashion, but rather in conjunction with data on education and occupation.[34]

The pooled prevalence of self-perceived treatment need was similar to the pooled prevalence of normative treatment need (malocclusion). Although the results were similar, the two variables are distinct and it is not possible to state that the individuals with malocclusion were those with self-perceived treatment need.

The aesthetic component (AC) of the IOTN was used in five studies[25,27,28,32,33] to measure self-perceived treatment need. The IOTN is composed of two components: the AC and the dental health component (DHC). The AC is the subjective part of the index and reflects the socio-psychological need for orthodontic treatment[38,39] based on a dental attractiveness assessment

scale.[40] However, the degree of dental attractiveness that establishes a perceived need for orthodontic treatment varies in accordance with cultural standards.[41] The studies that used the IOTN-AC were conducted in Peru,[33] Saudi Arabia,[27] the United Kingdom,[28] South Africa[32] and Brazil,[25] which have different cultural standards. That which is considered esthetically pleasing and acceptable in one culture may not correspond to the esthetically acceptable standards of another culture.[33]

Five of the 14 studies used validated indices for the measurement of self-perceived treatment need[3,25,28,32,33] and two failed to provide information on how this variable was collected.[8,29] The majority of studies used questions designed by the authors themselves.[5,7,16,17,26,30,31] Direct questions posed to participants introduce the risk of bias, as the interviewees may distort their answers in order to cause a more favorable impression on the interviewer.[42] Furthermore, positive responses to such questions may be camouflaging the desire to undergo orthodontic treatment due to the influence of schoolmates[43] or due to associating an orthodontic appliance with status or a fad.[6,44,45]

The certainty of evidence was very low due to very serious problems regarding the risk of bias. Some common problems were the non-definition of the inclusion criteria for the individuals in the sample,[26,27]the lack of a clear description of the reliable method for measuring the exposure and outcome[5,7,8,16,17,26,27,28,29,30,31,33] and the lack of controlling for possible

Table SII. Certainty of evidence.

№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations			
14	Observational studies	Very serious [a]	Serious [b]	Serious [c]	Not serious [d]	None	Ten studies showed no difference between self-perceived orthodontic treatment need among individuals with high and low socioeconomic status (Amaral *et al*., 2020; Al-Sarheed, Bedi and Hunt *et al*., 2003; Bellot-Arcís *et al*., 2012; Bernabé and Floris-Mir, 2006; Burden and Pine 1995; Tickle, Kay and Bearn 1999; Kerosuo, Abdulkarim and Kerosuo, 2002; Kerosuo *et al*., 2004; Rampersadh, 2015; Silva *et al.*, 2016). Four studies showed that individuals with low socioeconomic status had higher self-perception of orthodontic treatment need compared to individuals with high socioeconomic status. (Almeida *et al*., 2014; Badran *et al*., 2014; Patil *et al*., 2014; Suresh *et al*., 2017).	⊕◯◯◯ VERY LOW	Important

Explanations

a. Only five studies used a reliable method for exposure measurement. Eight studies did not use standardized instruments to measure the assessed condition. Only five mentioned the strategies used to deal with confounders. The studies were judged to have very serious methodological limitations.
b. Inconsistency was measured through the direction of the effect (associated or not) across studies (since statistical measures of heterogeneity are not available through forest plots).
c. Indirectness was based on population, exposure, comparison and outcome between studies. The evidence was from studies with a very high to medium HDI. The samples did not include children or individuals older than 44 years of age, which limits applicability to all populations. We rated down one level of evidence due to serious concerns due to indirectness.
d. OIS (Optimal Information Size) required was optimal (at least 300 for categorical outcomes).

confounding factors.[8,16,17,26,28,29,30,32,33] The adjustment of confounders can be performed using multivariate regression analyses.[20]

All studies were conducted in countries with a medium to very high Human Development Index, which affects the applicability of the results found to countries with low indices. Moreover, the studies did not include children or individuals older than 44 years of age, which does not enable us to extrapolate the results to all populations. Therefore, we considered indirect evidence to be a serious problem and lowered the certainty of evidence one level.

Inconsistency is the reflection of the methodological and clinical heterogeneity among the studies included in the present systematic review and evaluates the direction of the results. The individual estimates of the studies were inconsistent and we lowered the certainty of the evidence one level, as most studies found no association between SES and self-perceived treatment need,[5,7,8,16,26,27,28,29,32,33] whereas four studies indicated a greater perception of treatment need among individuals with a low SES.[17,25,30,31]

According to Badran *et al.*,[17] the greater frequency of self-perceived need in the group with a lower SES is likely the result of the lower search for treatment in this group due to financial barriers. This lower search for treatment may also reflect lower dental preservation[46] with consequent tooth loss, which exerts an influence on the establishment of malocclusion and may also explain the greater perception of treatment need among individuals with a low SES.[17]

On the other hand, the majority of the studies included in this review found no association between the self-perception of orthodontic treatment need and the SES, suggesting that any individual, regardless of socio-economic status may also be affected about self-perception of the orthodontic treatment need. This fact can be explained in part by the greater awareness of people regarding their malocclusion, which reflects in self-perception of orthodontic treatment need.[47] In addition, in recent years orthodontic treatment has become more accessible to the population, a fact evidenced by the global increase in demand for treatment.[48,49]

It is also important to highlight that despite the fact that the normative need of orthodontic treatment, which reflects the self-perception of treatment need, it is influenced by the lack of access of basic dental care, which can lead

to dental losses, and influence the establishment of malocclusion[17], it seems very unlikely skeletal discrepancies or discrepancies related to the size of the arches relative to the size of the teeth are related to socioeconomic factors.[16]

In addition, the democratization of information has been observed in recent decades, based on the evolution of the media. Added to this factor, new social aesthetic patterns have been widespread around the world. This influence exerted by the media on social behavior has been reflected in the beauty industry, aesthetics, in order to adapt individuals to the standards conveyed as beautiful.[50] Malocclusions are cited as one of the oral changes that most interfere in quality of life of the individuals, precisely because they affect facial aesthetics and consequently their social integration[51]. Faced with increasingly pre-shaped aesthetic standards and a global culture that values these standards more and more, individuals have sought to fit into these pre-established standards. When taking into account the aspects raised and the self- perception of orthodontic treatment need, often based on dental atractiveness, the socioeconomic factor does not seem to assume a prominent role in this interaction. Some studies have confirmed that the concern of individuals with a good appearance is widespread in any society.[52,53]

Imprecision and publication bias were not considered problems, as the sample of 14 studies was within the optimal information size[22] for categorical outcomes.[54] We did not detect publication bias because although studies with statistically significant results are likely to be published more easily,[55] we included studies with significant and non-significant results. Moreover, this systematic review was performed with a broad-scoped search of several databases, a hand search and search of the grey literature. However, there were no reasons for increasing the certainty of the evidence.

The present systematic review has limitations that should be considered, such as the small number of studies and the lack of homogeneity in the data collected. The applicability of the pooled prevalence of self-perceived treatment need and malocclusion is limited, as these rates may not correspond to the real prevalence in the world due to the small number of studies included. The lack of studies conducted in countries with a low Human Development Index constitutes another limitation.

This study also has strong points. We performed a qualitative analysis of the studies with an appraisal of the certainty of evidence using the GRADE method for qualitative estimates,[22] which is preferable to performing statistical methods, considering the lack of comparability in the data.

Further studies are needed to investigate the possible association between SES and self-perceived orthodontic treatment need. We also recommend the use of standardized, validated measures for the assessment of self-perceived treatment need as well as the control of possible confounding factors.

CONCLUSIONS

Based on the present findings, any individual, regardless of his/her socioeconomic status, may be equally affected in terms of self-perceived orthodontic treatment need. However, the quality of evidence was very low.

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5- CONSIDERAÇÕES FINAIS

- Uma grande heterogeneidade clínica e metodológica foi encontrada entre os estudos incluídos na presente revisão sistemática.

- O alto nível socioeconômico não influenciou na autopercepção da necessidade do tratamento ortodôntico. Essa associação não foi encontrada em nenhum dos estudos incluídos nesta revisão sistemática.

- O nível socioeconômico teve pouca ou nenhuma influência na autopercepção da necessidade do tratamento ortodôntico e a certeza da evidência foi considerada muito baixa.

- Os estudos que encontraram associação significativa entre as variáveis, relataram maior autopercepção da necessidade do tratamento ortodôntico entre indivíduos com baixo nível socioeconômico.

- Futuras pesquisas comparando o nível socioeconômico e a autopercepção da necessidade do tratamento ortodôntico com características metodológicas mais homogêneas são incentivadas.

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APÊNDICE A-

NIHR | National Institute for Health Research

PROSPERO
International prospective register of systematic reviews

Influence of the socioeconomic level on the self-perception for orthodontic treatment need

Jéssica Avelar, Sergio Luiz Mota Júnior, Carolina Martins, Marcio Campos, Robert Vitral

Citation
Jéssica Avelar, Sergio Luiz Mota Júnior, Carolina Martins, Marcio Campos, Robert Vitral. Influence of the socioeconomic level on the self-perception for orthodontic treatment need. PROSPERO 2017 CRD42017059020 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42017059020

Review question
Do people with a higher socioeconomic level have a greater self-perception for orthodontic treatment need?

Searches
MEDLINE via PubMed, Cochrane Library, Web of Science, Virtual Health Library (Lilacs).
No restriction on languages; no restriction on date of publication.

Types of study to be included
Transversal

Condition or domain being studied
The influence of socioeconomic level in self-perception for orthodontic treatment need.

Participants/population
Inclusion: Children, teenagers and adults

Intervention(s), exposure(s)
High socioeconomic level

Comparator(s)/control
Low socioeconomic level

Context

Main outcome(s)
Whether socioeconomic level influences self-perception for orthodontic treatment need.

Additional outcome(s)
It is not the main focus.

Data extraction (selection and coding)

Risk of bias (quality) assessment
Through the Newcastle-Ottawa scale.

Strategy for data synthesis
We will carry out qualitative analysis. If possible, quantitative analysis will be done through meta-analysis.

Analysis of subgroups or subsets
This study does not have subgroups.

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Organisational affiliation of the review
Universidade Federal de Juiz de Fora

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Type and method of review
Epidemiologic, Systematic review

Anticipated or actual start date
01 February 2017

Anticipated completion date
01 December 2017

Funding sources/sponsors
CAPES - Brazil

Conflicts of interest
None known

Language
English, Portuguese-Brazil

Country
Brazil

Stage of review
Review Ongoing

Subject index terms status
Subject indexing assigned by CRD

Subject index terms
Dental Care; Esthetics, Dental; Humans; Self Concept

Date of registration in PROSPERO
06 April 2017

Date of publication of this version
06 April 2017

Revision note for this version
Requested review of field #16.

Details of any existing review of the same topic by the same authors

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	No	Yes
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Revision note

Requested review of field #16.

Versions

06 April 2017

APÊNDICE B – Lista de exclusão de títulos e resumos

Reference	Classification
1- Impacto das etapas do tratamento orto-cirúrgico na qualidade de vida de pacientes portadores de deformidades dentofaciais. Nathália Barbosa Palomares. UERJ. (Dissertação de mestrado).2014	The study is about quality of life.
2- Aas RW, Tuntland H, Holte KA, Røe C, Lund T, Marklund S, et al. Workplace interventions for neck pain in workers. Cochrane Database of Systematic Reviews [Internet]. 2011; (4).	The study is a review.
3- Abanto J, Carvalho TS, Mendes FM, Wanderley MT, Bonecker M, Raggio DP. Impact of oral diseases and disorders on oral health-related quality of life of preschool children. Community Dent Oral Epidemiol. 2011;39(2):105-14.	The study is about quality of life.
4- Abanto J, Ortega AO, Raggio DP, Bonecker M, Mendes FM, Ciamponi AL. Impact of oral diseases and disorders on oral-health-related quality of life of children with cerebral palsy. Special care in dentistry: official publication of the American Association of Hospital Dentists, the Academy of Dentistry for the Handicapped, and the American Society for Geriatric Dentistry. 2014;34(2):56-63.	The study is about quality of life.
5- Abate A, Degarege A, Erko B. Community knowledge, attitude and practice about malaria in a low endemic setting of Shewa Robit Town, northeastern Ethiopia. Bmc Public Health. 2013;13.	Unrelated epidemiological study (Malaria).
6- Abdel-Kader HM. Psychosomatic norm in orthodontics: problems and approach. World journal of orthodontics. 2006;7(4):394-8.	The study is a review.
7- Abdul Rahim FS, Mohamed AM, Marizan Nor M, Saub R. Dental care access among individuals with Down syndrome: a Malaysian scenario. Acta Odontol Scand. 2014;72(8):999-1004.	Unrelated epidemiological study (Dental care access).
8- Abreu LG, Melgaco CA, Abreu MH, Lages EM, Paiva SM. Agreement between adolescents and parents or caregivers in rating adolescents' quality of life during orthodontic treatment. Am J Orthod Dentofacial Orthop. 2015;148(6):1036-42.	The study is about quality of life.
9- Abreu LG, Melgaco CA, Lages EM, Abreu MH, Paiva SM. Parents' and caregivers' perceptions of the quality of life of adolescents in the first 4 months of orthodontic treatment with a fixed appliance. Journal of orthodontics. 2014;41(3):181-7.	The study is about quality of life.
10- Abt E, Carr AB, Worthington HV. Interventions for replacing missing teeth: partially absent dentition. Cochrane Database of Systematic Reviews [Internet]. 2012; (2).	The study is a review.
11- Abu Alhaija ES, Al-Shamsi NO, Al-Khateeb S. Perceptions of Jordanian laypersons and dental professionals to altered smile aesthetics. Eur J Orthod. 2011;33(4):450-6.	Unrelated epidemiological study (Smile aesthetics).
12 - Abu Alhaija ES, Al-Nimri KS, Al-Khateeb SN: Orthodontic treatment need and demand in 12-14-year-old north Jordanian school children. *Eur J Orthod* 2004, 26:261-263.	This study didn't evaluate the self-perception of the orthodontic treatment need neither the socioeconomic status.

13- Abu Arqoub SH, Al-Khateeb SN. Perception of facial profile attractiveness of different antero-posterior and vertical proportions. Eur J Orthod. 2011;33(1):103-11.	Unrelated epidemiological study (Facial profile attractiveness).
14- Abdullah AAA, Yassin ZM, Zamzam N. Reasons for seeking orthodontic treatment. A pilot study. Annals of Dentistry University of Malaya.2001;8(1):13-19.	This study didn´t evaluate the orthodontic treatment need
15- Adekoya CA, Amobi EO, Mafeni J. Perceived and normative needs of facial cleft patients seen in Nigeria. *Brazilian Research in Pediatric Dentistry and Integrated Clinic.2018;18(1):19025.*	This study didn´t evaluate the orthodontic treatment need
16- Adulyanon S. An integrated socio-dental approach to dental treatment need estimation.1996.Disponívelem:discovery.ucl.ac.uk	This study didn´t evaluate the orthodontic treatment need.
17 - Aenishaenslin C, Ravel A, Michel P, Gern L, Milord F, Waaub JP, et al. From Lyme disease emergence to endemicity: a cross sectional comparative study of risk perceptions in different populations. Bmc Public Health. 2014;14.	Unrelated epidemiological study (Lyme disease).
18- Agarwal G, Ingle NA, Kaur N, Yadav P, Ingle E. Expressed needs associated with orthodontic treatment in a private dental college, Mathura. Journal of Indian Association of Public Health Dentistry.2015;31(2):158-162.	This study didn´t evaluate the orthodontic treatment need
19- Agnihotry A, Fedorowicz Z, van ZEJ, Farman AG, Al-Langawi JH. Antibiotic use for irreversible pulpitis. Cochrane Database of Systematic Reviews [Internet]. 2016; (2).	The study is a review.
20- Agou S, Locker D, Streiner DL, Tompson B. Impact of self-esteem on the oral-health-related quality of life of children with malocclusion. American Journal of Orthodontics and Dentofacial Orthopedics.2008;134(4):484-489.	The study is about quality of life
21- Agyepong IA, Manderson L. Mosquito avoidance and bed net use in the Greater Accra Region, Ghana. Journal of biosocial science. 1999;31(1):79-92.	Unrelated epidemiological study (Mosquito avoidance).
22- Akinboboye B, Umesi D, Ajayi Y. Transcultural perception of maxillary midline diastema. The international journal of esthetic dentistry. 2015;10(4):610-7.	The study is about perception of maxillary midline diastema.
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24- Al Fawzan A. Reasons for seeking orthodontic treatment in Qassim region: a Pilot Study. International Dental Journal of Students Research.2013;1(3):58-62.	Unrelated epidemiological study
25- Al-Harasi S, Ashley PF, Moles DR, Parekh S, Walters V. Hypnosis for children undergoing dental treatment. Cochrane Database of Systematic Reviews [Internet]. 2010; (8).	Unrelated epidemiological study (Hypnosis).

26- Alkhatib MN, Holt R, Bedi R. Prevalence of self-assessed tooth discolouration in the United Kingdom. Journal of Dentistry. 2004;32(7):561-6.	Unrelated epidemiological study (Tooth discolouration)
27- Al-Krenawi A, Graham J, Izzeldin A. The psychosocial impact of polygamous marriages on Palestinian women. Women & Health. 2001;34(1):1-16.	Unrelated epidemiological study (Polygamy).
28- Ames CS. Rome's seat of passion: An evaluate of the archeology and history of the Circus Maximus. Cogent Arts & Humanities. 2016;3.	The study is about Circus Maximus.
29- Anderson M, Freer T. An orthodontic information package designed to increase patient awareness. Australian orthodontic journal [Internet]. 2005; 21(1):11-8.	Unrelated epidemiological study (Patient awareness about orthodontic treatment)
30-- Angebault C, Djossou F, Abelanet S, Permal E, Ben Soltana M, Diancourt L, et al. Candida albicans Is Not Always the Preferential Yeast Colonizing Humans: A Study in Wayampi Amerindians. Journal of Infectious Diseases. 2013;208(10):1705-16.	Unrelated epidemiological study (Candida albicans)
31- Antonio-Santos A, Vedula SS, Hatt SR, Powell C. Occlusion for stimulus deprivation amblyopia. Cochrane Database of Systematic Reviews [Internet]. 2014; (2)	The study is a review.
32- Antova T, Pattenden S, Brunekreef B, Heinrich J, Rudnai P, Forastiere F, et al. Exposure to indoor mould and children's respiratory health in the PATY study. Journal of Epidemiology and Community Health. 2008;62(8):708-14.	Unrelated epidemiological study (Respiratory health)
33- Aravena PC, Delgado F, Olave H, Ulloa-Marin C, Perez-Rojas F. Chilean patients' perception of oral health-related quality of life after third molar surgery. Patient Preference and Adherence. 2016;10:1719-25.	The study is about quality of life.
34- Arefi M, Meyers WR. What is public about public space: The case of Visakhapatnam, India.Cities. 2003;20(5):331-9.	Unrelated epidemiological study (Public space)
35- Arevalo-Rodriguez I, Ciapponi A, Roqué iFM, Muñoz L, Bonfill CX. Posture and fluids for preventing post-dural puncture headache. Cochrane Database of Systematic Reviews [Internet]. 2016; (3).	The study is a review.
36- Arevalo-Rodriguez I, Muñoz L, Arevalo JJ, Ciapponi A, Roqué iFM. Needle gauge and tip designs for preventing post-dural puncture headache (PDPH). Cochrane Database of Systematic Reviews [Internet]. 2013; (10).	The study is a review.
37- Armstrong PM, Brunet LR, Spielman A, Telford SR, 3rd. Risk of Lyme disease: perceptions of residents of a Lone Star tick-infested community. Bulletin of the World Health Organization. 2001;79(10):916-25.	Unrelated epidemiological study (Lyme disease).
38- Arnberger A, Aikoh T, Eder R, Shoji Y, Mieno T. How many people should be in the urban forest? A comparison of trail preferences of Vienna and Sapporo forest visitor segments. Urban Forestry & Urban Greening. 2010;9(3):215-25.	Unrelated epidemiological study (Urban forest).

39- Arrow P, Brennan D, Spencer AJ. Quality of life and psychosocial outcomes after fixed orthodontic treatment: a 17-year observational cohort study. Community Dent Oral Epidemiol. 2011;39(6):505-14.	The study is about quality of life after fixed orthodontic treatment.
40- Azlin YN, Sabri WMW. Forest recreation environment: Visitors' preferences and perceptions. Appanah S, Yusoff SYM, Jasery AW, Choon KK, editors2000. 487-96 p.	Unrelated epidemiological study (Forest recreation).
41- Azuma K, Ikeda K, Kagi N, Yanagi U, Osawa H. Prevalence and risk factors associated with nonspecific building-related symptoms in office employees in Japan: relationships between work environment, Indoor Air Quality, and occupational stress. Indoor Air. 2015;25(5):499-511.	Unrelated epidemiological study (Risk factors associated with nonspecific symptoms in office employees).
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43- Baggio S, Bodenmann P, Daeppen J-B, Burnand B, Hugli O, Ruggeri O, et al. Association between emergency department use and the discrimination perceived by frequent users. Journal of general internal medicine [Internet]. 2014; 29:[S31 p.]	Unrelated epidemiological study (Emergency department)
44- Baheiraei A, Bakouei F, Bakouei S, Eskandari N, Ahmari Tehran H. Social Capital as a Determinant of Self-Rated Health in Women of Reproductive Age: A Population-Based Study. Global journal of health science. 2015;8(2):273-80.	Unrelated epidemiological study (Social Capital)
45- Bailey LJ, Duong HL, Proffit WR. Surgical Class III treatment: long-term stability and patient perceptions of treatment outcome. The International journal of adult orthodontics and orthognathic surgery. 1998;13(1):35-44.	The study reports surgical Class III treatment.
46- Bak J, Zoffmann V, Sestoft DM, Almvik R, Brandt-Christensen M. Mechanical Restraint in Psychiatry: Preventive Factors in Theory and Practice. A Danish-Norwegian Association Study. Perspectives in Psychiatric Care. 2014;50(3):155-66.	Unrelated epidemiological study (Mechanical Restraint in Psychiatry)
47- Baker SR, Mat A, Robinson PG. What psychosocial factors influence adolescents' oral health? Journal of dental research. 2010;89(11):1230-5.	The study is about adolescent´s oral health.
48- Baldwin DC. Appearance and aesthetics in oral health. Community Dent Oral Epidemiol. 1980;8(5):244-56.	Studies non-classifiable that presents only the title but it is not interesting.
49- Bam K, Bhatt LP, Thapa R, Dossajee HK, Angdembe MR. Illness perception of tuberculosis (TB) and health seeking practice among urban slum residents of Bangladesh: a qualitative study. BMC research notes. 2014;7:572.	Unrelated epidemiological study (Tuberculosis)
50- Barbaric J, Abbott R, Posadzki P, Car M, Gunn LH, Layton AM, et al. Light therapies for acne. Cochrane Database of Systematic Reviews [Internet]. 2016; (9)	The study is a review.

51- Baskaran M, Foo RC, Cheng CY, Narayanaswamy AK, Zheng YF, Wu R, et al. The Prevalence and Types of Glaucoma in an Urban Chinese Population: The Singapore Chinese Eye Study. JAMA ophthalmology. 2015;133(8):874-80.	Unrelated epidemiological study (Glaucoma)
52- Baumeister H, Hutter N, Bengel J. Psychological and pharmacological interventions for depression in patients with diabetes mellitus and depression. Cochrane Database of Systematic Reviews [Internet]. 2012; (12).	The study is a review.
53- Baxter SL, Pistilli M, Pujari SS, Liesegang TL, Suhler EB, Thorne JE, et al. Risk of choroidal neovascularization among the uveitides. American journal of ophthalmology. 2013;156(3):468-77.e2.	Unrelated epidemiological study (choroidal neorovascularization).
54- Bearn D, Wright J, Kay E, O'Brien K. Perceptions of orthodontic treatment need: receiver operating characteristic analysis. Community Dent Oral Epidemiol 1996; 24:303-6.	This study evaluates dentists' perception of need for orthodontic treatment.
55- Beaujean D, Gassner F, Wong A, van Steenbergen JE, Crutzen R, Ruwaard D. Determinants and protective behaviours regarding tick bites among school children in the Netherlands: a cross-sectional study. Bmc Public Health. 2013;13.	Unrelated epidemiological study (Tick bites)
56- Beck VJ, Farella M, Chandler NP, Kieser JA, Thomson WM. Factors associated with pain induced by orthodontic separators. Journal of Oral Rehabilitation. 2014;41(4):282-8.	The study is about pain induced by orthodontic separators.
57- Beirne PV, Hennessy S, Cadogan SL, Shiely F, Fitzgerald T, MacLeod F. Needle size for vaccination procedures in children and adolescents. Cochrane Database of Systematic Reviews [Internet]. 2015; (6).	The study is a review.
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59- Bellot-Arcis C, Ferrer-Molina M, Carrasco-Tornero A, Montiel-Company JM, Almerich-Silla JM. Differences in psychological traits between lingual and labial orthodontic patients: perfectionism, body image, and the impact of dental esthetics. The Angle orthodontist. 2015;85(1):58-63.	Unrelated epidemiological study (Lingual and labial orthodontics)
60- Bellot-Arcís C, Montiel-Company JM, Almerich-Silla JM. Psychosocial impact of malocclusion in Spanish adolescents. Journal of Orthodontics. Korean J Orthod.2013;43(4):193-2000.	This study didn´t evaluate the orthodontic treatment need
61- Belletón MA, Munoz EH, Fernandez M. Viena KJM. Index of orthodontic treatment need (IOTN). Oral.2011;12(39):782-789.	Unrelated epidemiological study
62- Bendo CB, Paiva SM, Torres CS, Oliveira AC, Goursand D, Pordeus IA, et al. Association between treated/untreated traumatic dental injuries	

and impact on quality of life of Brazilian schoolchildren. Health Qual Life Outcomes. 2010;8:114.	The study is about quality of life.
63- Benkimoun F. [How to evaluate psychological risks: an ethics of aesthetic demand in orthodontics]. L' Orthodontie francaise. 2015;86(4):269-76.	This study is about ethics of aesthetic demand in orthodontics.
64- Benson PE, Da, as T, Johal A, Mandall NA, Williams AC, et al. Relationships between dental appearance, self-esteem, socio-economic status, and oral health-related quality of life in UK schoolchildren: A 3-year cohort study. Eur J Orthod. 2015;37(5):481-90.	The study doesn´t report on the perception of the need for orthodontic treatment.
65- Benson PE, Parkin N, Dyer F, Millett DT, Furness S, Germain P. Fluorides for the prevention of early tooth decay (demineralized white lesions) during fixed brace treatment. Cochrane Database of Systematic Reviews [Internet]. 2013; (12).	Unrelated epidemiological study (Prevention white lesions)
66- Bentz J, Rodrigues A, Dearden P, Calado H, Lopes F. Crowding in marine environments: Divers and whale watchers in the Azores. Ocean & Coastal Management. 2015;109:77-85.	Unrelated epidemiological study (Marine environments).
67- Bergstrom K, Halling A, Wilde B. Orthodontic care from the patients' perspective: perceptions of 27-year-olds. Eur J Orthod. 1998;20(3):319-29.	The study is about orthodontic care from the patient´s perspective.
68- Bernabé E, Flores-Mir C. Orthodontic treatment need in Peruvian young adults evaluated through dental aesthetic index. Angle Orthod. 2006; 76:417–421.	This study didn't evaluate the self-perception of the orthodontic treatment need.
69- Bernabé E, Krisdapong S, Sheiham A, Tsakos G. Comparasion of the discriminative ability of the generic and condition-specific forms of the Child-OIDP index: a study on children with different types of normative dental treatment needs. Community Dentistry and Oral Epidemiology.2009;37(2):155-162	This study didn´t evaluate the orthodontic treatment need
70- Bernabé E, Sheiham A, Tsakos G, De Oliveira CM.The impact of orthodontic treatment on the quality of life in adolescents: a case-control study. European Journal of Orthodontics. 2008;30(5):515:520.	This study didn´t evaluate the orthodontic treatment need
71- Bernabé E, Tsakos G, De Oliveira M, Sheihan A. Impacts on daily performances attributed to malocclusions using the condition-specific feature of the Oral Impacts on Daily Performances Index. The Angle Orthodontist.2008;78(2):241-247.	Unrelated epidemiological study.
72- Bertrand WE, Walmus BF. Maternal knowledge, attitudes and practice as predictors of diarrhoeal disease in young children. Int J Epidemiol. 1983;12(2):205-10.	Unrelated epidemiological study (Diarrhoeal disease).
73- Bezuidenhout J, Cilliers F, Van Heusden M, Wasserman E, Burch V. Alienation and engagement in postgraduate training at a South African medical school. Medical teacher. 2011;33(3):e145-53.	Unrelated epidemiological study.

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75- Birrayx, W. Evaluation du besoin de traitement orthodontique chez I´dulte par I´indice IOTN (Index of Orthodontic Treatment Need). Thesis. 95p. 2009.	The socioeconomic level was not evaluated in this study.
76- Bleakley C, McDonough S, Gardner E, Baxter GD, Hopkins JT, Davison GW. Cold-water immersion (cryotherapy) for preventing and treating muscle soreness after exercise. Cochrane Database of Systematic Reviews [Internet]. 2012; (2).	The study is a review.
77- Bonanato K, Pordeus IA, Compart T, Oliveira AC, Allison PJ, Paiva SM. Cross-cultural adaptation and validation of a Brazilian version of an instrument to assess impairments related to oral functioning of people with Down syndrome. Health and Quality of Life Outcomes. 2013;11.	Unrelated epidemiological study (Oral health – Down syndrome)
78- Borders AEB, Grobman WA, Amsden LB, Holl JL. Chronic stress and low birth weight neonates in a low-income population of women. Obstetrics and Gynecology. 2007;109(2):331-8.	Unrelated epidemiological study (Chronic stress)
79- Borges CM, Peres MA, Peres KG. [Association between malocclusion and dissatisfaction with dental and gingival appearance: study with Brazilian adolescents]. Revista brasileira de epidemiologia = Brazilian journal of epidemiology. 2010;13(4):713-23.	The study doesn´t report on the perception of the need for orthodontic treatment.
80- Bos A, Hoogstraten J, Prahl-Andersen. Attitudes towards orthodontic treatment: a comparasion of treated and untreated subjects. European Journal of Orthodontics. 2005;27:148-154.	Unrelated epidemiological study.
81- Bourzgui F, Sebbar M, Hamza M, Lazrak L, Abidine Z, El Quars F. Prevalence of malocclusions and orthodontic treatment need in 8- to 12-year-old schoolchildren in Casablanca, Morocco. Prog Orthod. 2012;13(2):164-72. doi:10.1016/j.pio.2011.09.005	This study didn't evaluate the self-perception of the orthodontic treatment need.
82- Brandao MM, Parente J. DO BRAZILIANS LIKE CROWIDING? THE IMPACT OF HUMAN DENSITY ON PURCHASE BEHAVIOR. Rae-Revista De Administracao De Empresas. 2012;52(6):613-27.	Unrelated epidemiological study.
83- Brennan MM, Hallas D, Jacobs SK, Robbins M, Northridge M. Home-use whitening toothpastes for whitening teeth in adults. Cochrane Database of Systematic Reviews [Internet]. 2014; (1).	This study is a review.
84- Bresnahan BW, Kiyak HA, Masters SH, McGorray SP, Lincoln A, King G. Quality of life and economic burdens of malocclusion in U.S. patients enrolled in Medicaid. Journal of the American Dental Association. 2010;141(10):1202-12.	This study is about quality of life.
85- Brizon VS, Cortellazzi KL, Vazquez FL, Ambrosano GM, Pereira AC, Gomes VE, et al. [Individual and contextual factors associated with malocclusion in Brazilian children]. Rev Saude Publica. 2013;47 Suppl 3:118-28.	This study is about malocclusion.

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87- Brown C, Shaibu S, Maruapula S, Malete L, Compher C. Perceptions and attitudes towards food choice in adolescents in Gaborone, Botswana. Appetite. 2015;95:29-35.	Unrelated epidemiological study.
88- Brown ED, Low CM. Chaotic living conditions and sleep problems associated with children's responses to academic challenge. Journal of family psychology: JFP: journal of the Division of Family Psychology of the American Psychological Association (Division 43). 2008;22(6):920-3.	Unrelated epidemiological study.
89- Bu FL, Dang HS, Gao MM. Study of Individual's Risk Perception in Collective Violent Events. Proceedings of 2014 Ieee International Conference on Progress in Informatics and Computing (Pic). 2014:139-48.	This study is about risk perception in collective violent events.
90- Buchbinder R, Golmohammadi K, Johnston RV, Owen RJ, Homik J, Jones A, et al. Percutaneous vertebroplasty for osteoporotic vertebral compression fracture. Cochrane Database of Systematic Reviews [Internet]. 2015; (4).	This study is a review.
91- Burr J, Azuara-Blanco A, Avenell A, Tuulonen A. Medical versus surgical interventions for open angle glaucoma. Cochrane Database of Systematic Reviews [Internet]. 2012; (9).	This study is a review.
92- Burden, D. J. The use of an orthodontic treatment need index by general dental practitioners. Thesis. 369p.1996.	The socioeconomic level was not evaluated in this study.
93- Busch AJ, van dSI, Tupper S, Kim SY, Bidonde J, Overend TJ. Whole body vibration exercise for fibromyalgia. Cochrane Database of Systematic Reviews [Internet]. 2015; (6).	This study is a review.
94- Byrnes HF, Miller BA, Johnson MB, Voas RB. Indicators of Club Management Practices and Biological Measurements of Patrons' Drug and Alcohol Use. Substance Use & Misuse. 2014;49(14):1878-87.	Unrelated epidemiological study.
95- Cabral KM, Cruz KS. Diagnóstico ortodôntico pela análise facial. Ortho Sci, Orthod sci pract. 2011;4(14):585-92.	This study is about orthodontic diagnosis.
96- Caddy C, Amit BH, McCloud TL, Rendell JM, Furukawa TA, McShane R, et al. Ketamine and other glutamate receptor modulators for depression in adults. Cochrane Database of Systematic Reviews [Internet]. 2015; (9).	This study is a review.
97- Cannon HM, Broffitt B, Levy SM, Warren JJ. Longitudinal changes in parental satisfaction: mixed dentition esthetics. Journal of dentistry for children (Chicago, Ill). 2010;77(3):166-73.	This study is about mixed dentition esthetics.
98- Cao H, Yang G, Wang Y, Liu JP, Smith CA, Luo H, et al. Complementary therapies for acne vulgaris. Cochrane Database of Systematic Reviews [Internet]. 2015; (1).	This article is a review.
	This study is about dental trauma.

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100- Carrasco-Labra A, Brignardello-Petersen R, Yanine N, Araya I, Rada G, Chadwick RG. Professionally-applied chemically-induced whitening of teeth in adults. Cochrane Database of Systematic Reviews [Internet]. 2013; (2).	This article is a review.
101- Carson KV, Brinn MP, Labiszewski NA, Esterman AJ, Chang AB, Smith BJ. Community interventions for preventing smoking in young people. Cochrane Database of Systematic Reviews [Internet]. 2011; (7).	This article is a review.
102- Carter A, Lachowsky N, Rich A, Forrest JI, Sereda P, Cui Z, et al. Gay and bisexual men's awareness and knowledge of treatment as prevention: findings from the Momentum Health Study in Vancouver, Canada. Journal of the International Aids Society. 2015;18.	Unrelated epidemiological study.
103- Carvalho SC, Martins EJ, Barbosa MR. Psychosocial Variables Associated with Orthognathic Surgery: A Systematic Literature Review. Psicologia-Reflexao E Critica. 2012;25(3):477-90.	This study is a review.
104- Cascaes AM, Peres KG, Peres MA. Periodontal disease is associated with poor self-rated oral health among Brazilian adults. Journal of Clinical Periodontology. 2009;36(1):25-33.	Unrelated epidemiological study (Periodontal disease).
105- Cates CJ, Cates MJ. Regular treatment with formoterol for chronic asthma: serious adverse events. Cochrane Database of Systematic Reviews [Internet]. 2012; (4).	This study is a review.
106- Cedrone C, Culasso F, Cesareo M, Nucci C, Palma S, Mancino R, et al. Incidence of blindness and low vision in a sample population: the Priverno Eye Study, Italy. Ophthalmology. 2003;110(3):584-8.	Unrelated epidemiological study (Blindness).
107- Chabre C. [For early treatment of Class II div 1 malocclusions]. L' Orthodontie francaise. 2013;84(1):29-39.	The study is about treatment of malocclusion.
108- Chan KK, Glenny A-M, Weldon JC, Furness S, Worthington HV, Wakeford H. Interventions for the treatment of oral and oropharyngeal cancers: targeted therapy and immunotherapy. Cochrane Database of Systematic Reviews [Internet]. 2015; (12).	This study is a review.
109- Chang CT, Garg P, Giddon DB. Boarding school influence on self-reported concern for perceived body and face morphology in Taiwan. Asian Journal of Psychiatry.2016;22:96-101.	Unrelated epidemiological study.
110- Cherif A, Barley K, Hurtado M. Homo-psychologicus: Reactionary behavioural aspects of epidemics. Epidemics. 2016;14:45-53.	Unrelated epidemiological study (Epidemics).
111- Chmielewski D, Bove LL, Lei J, Neville B, Nagpal A. A new perspective on the incentive-blood donation relationship: partnership, congruency, and affirmation of competence. Transfusion. 2012;52(9):1889-900.	Unrelated epidemiological study (Blood donation)

112- Chojnacka H, Gawrych E. [Long-term effects of cleft lip repair taking into account of life lot of operated patients]. Annales Academiae Medicae Stetinensis. 2007;53(1):16-22	The study is about cleft lip repair.
113- Chu CH, Ng A, Chau AM, Lo EC. Dental Erosion and Caries Status of Chinese University Students. Oral health & preventive dentistry. 2015;13(3):237-44.	Unrelated epidemiological study (Dental erosion).
114- Chuma J, Okungu V, Ntwiga J, Molyneux C. Towards achieving Abuja targets: identifying and addressing barriers to access and use of insecticides treated nets among the poorest populations in Kenya. BMC Public Health. 2010;10:137.	Unrelated epidemiological study (Insecticides).
115- Clementino MA, Pinto-Sarmento TC, Costa EM, Martins CC, Granville-Garcia AF, Paiva SM. Association between oral conditions and functional limitations in childhood. J Oral Rehabil. 2015;42(6):420-9.	Unrelated epidemiological study.
116- Clive AO, Jones HE, Bhatnagar R, Preston NJ, Maskell N. Interventions for the management of malignant pleural effusions: a network meta-analysis. Cochrane Database of Systematic Reviews [Internet]. 2016; (5).	This article is a review.
117- Conde-Agudelo A, Díaz-Rossello JL. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. Cochrane Database of Systematic Reviews [Internet]. 2016; (8).	This article is a review.
118- Congdon N, Yan X, Friedman DS, Foster PJ, van den Berg TJ, Peng M, et al. Visual symptoms and retinal straylight after laser peripheral iridotomy: the Zhongshan Angle-Closure Prevention Trial. Ophthalmology. 2012;119(7):1375-82.	Unrelated epidemiological study.
119- Cooper AM, O'Malley LA, Elison SN, Armstrong R, Burnside G, Adair P, et al. Primary school-based behavioural interventions for preventing caries. Cochrane Database of Systematic Reviews [Internet]. 2013; (5).	This article is a review.
120- Cortes MI, Marcenes W, Sheiham A. Impact of traumatic injuries to the permanent teeth on the oral health-related quality of life in 12-14-year-old children. Community Dent Oral Epidemiol. 2002;30(3):193-8.	This study is about quality of life.
121- Costello JT, Baker PR, Minett GM, Bieuzen F, Stewart IB, Bleakley C. Whole-body cryotherapy (extreme cold air exposure) for preventing and treating muscle soreness after exercise in adults. Cochrane Database of Systematic Reviews [Internet]. 2015; (9).	This article is a review.
122- Cotter SA, Cyert LA, Miller JM, Quinn GE. Vision screening for children 36 to <72 months: recommended practices. Optometry and vision science : official publication of the American Academy of Optometry. 2015;92(1):6-16.	Unrelated epidemiological study (Optometry).
123- Coulthard P, Bailey E, Esposito M, Furness S, Renton TF, Worthington HV. Surgical techniques for the removal of mandibular wisdom teeth. Cochrane Database of Systematic Reviews [Internet]. 2014; (7).	This article is a review.

124- Coulthard P, Kushnerev E, Yates JM, Walsh T, Patel N, Bailey E, et al. Interventions for iatrogenic inferior alveolar and lingual nerve injury. Cochrane Database of Systematic Reviews [Internet]. 2014; (4).	This article is a review.
125- Coupar F, Pollock A, van WF, Morris J, Langhorne P. Simultaneous bilateral training for improving arm function after stroke. Cochrane Database of Systematic Reviews [Internet]. 2010; (4).	This article is a review.
126- Cunningham PJ. What accounts for differences in the use of hospital emergency departments across U.S. communities? Health affairs (Project Hope). 2006;25(5):w324-36.	This study is about emergency departments.
127- Cunningham SJ, Johal A. Orthognathic correction of dento-facial discrepancies. British Dental Journal. 2015;218(3):167-75.	This study is about orthognathic surgery.
128- da Costa VPP, Goettems ML, de Oliveira LJC, Tarquinio SBC, Torriani DD, Correa MB, et al. Nonuse of dental service by schoolchildren in Southern Brazil: impact of socioeconomics, behavioral and clinical factors. International Journal of Public Health. 2015;60(4):411-6.	Unrelated epidemiological study.
129- Dallé H, Vedovello SAS, Degan VV. et al. Malocclusion, facial and psychological predictors of quality of life in adolescents. Community Dental of Health.2019;36:298-302.	This study didn´t evaluate the orthodontic treatment need
130- da Matta Felisberto Fernandes ML, Kawachi I, Fernandes AM, Correa-Faria P, Paiva SM, Pordeus IA. Oral health-related quality of life of children and teens with sickle cell disease. Revista brasileira de hematologia e hemoterapia. 2016;38(2):106-12.	This study is about quality of life.
131- Dame-Teixeira N, Alves LS, Ardenghi TM, Susin C, Maltz M. Traumatic dental injury with treatment needs negatively affects the quality of life of Brazilian schoolchildren. Int J Paediatr Dent. 2013;23(4):266-73.	The study is about quality of life.
132- Dann Ct, Phillips C, Broder HL, Tulloch JF. Self-concept, Class II malocclusion, and early treatment. The Angle orthodontist. 1995;65(6):411-6.	This study is about Class II malocclusion.
133- Day AC, Gore DM, Bunce C, Evans JR. Laser-assisted cataract surgery versus standard ultrasound phacoemulsification cataract surgery. Cochrane Database of Systematic Reviews [Internet]. 2016; (7).	This article is a review.
134- De Almeida AB, Leite ICG, da Silva GA. Brazilian adolescent´s perception of the orthodontic appliance: A qualitative study. American Journal of Orthodontics and Dentofacial Orthopedics.2019;155(4):490-497.	This study didn´t evaluate the orthodontic treatment need
135- De Alonso AR. [Gender identity in adolescents of the lower classes]. Profamilia: planificacion, poblacion y desarollo. 1993;10(22):68-75.	Unrelated epidemiological study (Gender identity)
136- De Moraes CG, Liebmann JM, Liebmann CA, Susanna R, Jr., Tello C, Ritch R. Visual field progression outcomes in glaucoma subtypes. Acta ophthalmologica. 2013;91(3):288-93.	Unrelated epidemiological study (Glaucoma).

137- de Paula JS, Ambrosano GM, Mialhe FL. Oral Disorders, Socioenvironmental Factors and Subjective Perception Impact on Children's School Performance. Oral health & preventive dentistry. 2015;13(3):219-26.	Unrelated epidemiological study (Children´s school performance).
138- de Paula JS, Leite ICG, de Almeida AB, Ambrosano GMB, Mialhe FL. The impact of socioenvironmental characteristics on domains of oral health-related quality of life in Brazilian schoolchildren. Bmc Oral Health. 2013;13.	This study is about quality of life.
139- De Rose P, Perrino F, Lettori D, Alfieri P, Cesarini L, Battaglia D, et al. Visual and visuoperceptual function in children with Panayiotopoulos syndrome. Epilepsia. 2010;51(7):1205-11.	Unrelated epidemiological study (Panayiotopoulos syndrome).
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141- de Souza Barbosa T, Gaviao MB, Castelo PM, Leme MS. Factors Associated with Oral Health-related Quality of Life in Children and Preadolescents: A Cross-sectional Study. Oral health & preventive dentistry. 2016;14(2):137-48.	This study is about quality of life.
142- de SRF, Lovato dSCH, Nasser M, Fedorowicz Z, Al-Muharraqi MA. Interventions for the management of temporomandibular joint osteoarthritis. Cochrane Database of Systematic Reviews [Internet]. 2012; (4).	This article is a review.
143- Dean N, Ellis G, Herbison GP, Wilson D. Laparoscopic colposuspension for urinary incontinence in women. Cochrane Database of Systematic Reviews [Internet]. 2006; (3).	This article is a review.
144- Detry-Morel M. [Is myopia a risk factor for glaucoma?]. Journal francais d'ophtalmologie. 2011;34(6):392-5.	Unrelated epidemiological study (Glaucoma).
145- Dimberg L, Lennartsson B, Bondemark L, Arnrup K. Oral health-related quality-of-life among children in Swedish dental care: The impact from malocclusions or orthodontic treatment need. Acta Odontol Scand. 2016;74(2):127-33.	This study is about quality of life.
146- Dobler-Dixon AA, Cantor LB, Sondhi N, Ku WS, Hoop J. Prospective evaluation of extraocular motility following double-plate molteno implantation. Archives of ophthalmology (Chicago, Ill : 1960). 1999;117(9):1155-60.	Unrelated epidemiological study (Extraocular motility).
147- Dobson D, Lucassen PL, Miller JJ, Vlieger AM, Prescott P, Lewith G. Manipulative therapies for infantile colic. Cochrane Database of Systematic Reviews [Internet]. 2012; (12).	This article is a review.
148- Dorri M, Dunne SM, Walsh T, Schwendicke F. Micro-invasive interventions for managing proximal dental decay in primary and permanent teeth. Cochrane Database of Systematic Reviews [Internet]. 2015; (11).	This article is a review.
	This article is a review.

149- Dougall N, Maayan N, Soares-Weiser K, McDermott LM, McIntosh A. Transcranial magnetic stimulation (TMS) for schizophrenia. Cochrane Database of Systematic Reviews [Internet]. 2015; (8).	
150- Douglas JW, Ross JM. Characteristics of delinquent boys and their homes. Eugenics Society symposia. 1968;4:114-27.	Studies non-classifiable that presents only the title but it is not interesting.
151- Dragica CEC. POVERTY - A TREATH TO SOCIAL ORDER IN 18th CENTURY. Acta Histriae. 2016;24(2):291-312.	This study is about poverty.
152- Durham DP, Casman EA, Albert SM. Deriving Behavior Model Parameters from Survey Data: Self-Protective Behavior Adoption During the 2009-2010 Influenza A(H1N1) Pandemic. Risk Analysis. 2012;32(12):2020-31.	This study is about Influenza A (H1N1).
153- Dye BA, Morin NM, Robison V. The relationship between cigarette smoking and perceived dental treatment needs in the United States, 1988-1994. Journal of the American Dental Association (1939). 2006;137(2):224-34.	Unrelated epidemiological study (Cigarette smoking)
154- Edwards DT, Shroff B, Lindauer SJ, Fowler CE, Tufekci E. Media advertising effects on consumer perception of orthodontic treatment quality. The Angle orthodontist. 2008;78(5):771-7.	This study is about orthodontic treatment quality.
155- Ekstrom C. Risk factors for incident open-angle glaucoma: a population-based 20-year follow-up study. Acta ophthalmologica. 2012;90(4):316-21.	Unrelated epidemiological study (Glaucoma).
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231- Hawke F, Burns J, Radford JA, du TV. Custom-made foot orthoses for the treatment of foot pain. Cochrane Database of Systematic Reviews [Internet]. 2008; (3).	This study is a review.
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237- Herbert M, Riyaz Basha S, Thangaraj S. Community perception regarding rabies prevention and stray dog control in urban slums in India. Journal of infection and public health. 2012;5(6):374-80.	Unrelated epidemiological study (Rabies prevention).
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12-yr-old schoolchildren. European Journal of Oral Science.2019;127(3):254-260.	This study didn´t evaluate specifically the orthodontic treatment need
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241- Herrington JE. Risk perceptions regarding ticks and Lyme disease - A national survey. American Journal of Preventive Medicine. 2004;26(2):135-40.	Unrelated epidemiological study (Lyme disease).
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243- Hewitt N, Bucknall T, Faraone NM. Lateral positioning for critically ill adult patients. Cochrane Database of Systematic Reviews [Internet]. 2016; (5).	This study is a review.
244- Hilasaca-Mamani M, Barbosa TdS, Fegadolli C, Castelo PM. Validity and reliability of the quality of masticatory function questionnaire applied in Brazilian adolescents. CoDAS. 2016;28(2):149-54.	This study is about masticatory function.
245- Hill PA. The prevalence and severity of malocclusion and the need for orthodontic treatment in 9-, 12-, and 15-year-old Glasgow schoolchildren. *Br J Orthod.* 1992;19:87–96	This study didn't evaluate the self-perception of the orthodontic treatment need.
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247- Hlongwana KW, Mabaso ML, Kunene S, Govender D, Maharaj R. Community knowledge, attitudes and practices (KAP) on malaria in Swaziland: a country earmarked for malaria elimination. Malaria journal. 2009;8:29.	This study is about malaria.
248- Hoare CP, Dickson DR, Armstrong DJ, Nuttall D, Watts AC. Internal fixation for treating distal radius fractures in adults. Cochrane Database of Systematic Reviews [Internet]. 2014; (7).	This study is a review.
249- Hoe VC, Urquhart DM, Kelsall HL, Sim MR. Ergonomic design and training for preventing work-related musculoskeletal disorders of the upper limb and neck in adults. Cochrane Database of Systematic Reviews [Internet]. 2012; (8).	This study is a review.
250- Hofmann N, Bartsch A, Witt E, Buhler KE. [The facial profile and personality picture in children]. Fortschritte der Kieferorthopadie. 1992;53(2):88-98.	This study is about facial profile.
251- Hollands GJ, Shemilt I, Marteau TM, Jebb SA, Lewis HB, Wei Y, et al. Portion, package or tableware size for changing selection and consumption of food, alcohol and tobacco. Cochrane Database of Systematic Reviews [Internet]. 2015; (9).	This study is a review.
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orofacial orthopedics = Fortschritte der Kieferorthopadie: Organ/official journal Deutsche Gesellschaft fur Kieferorthopadie. 2008;69(1):20-30.	This study is about facial profile.
253- Hosoda M, Hirano T, Tsukahara S. [Mode of progression of visual field defects and risk factors in glaucoma patients]. Nippon Ganka Gakkai zasshi. 1997;101(7):593-7.	Unrelated epidemiological study (Glaucoma).
254- Howe TE, Rochester L, Neil F, Skelton DA, Ballinger C. Exercise for improving balance in older people. Cochrane Database of Systematic Reviews [Internet]. 2011; (11).	This study is a review.
255- Howells DJ, Shaw WC. The validity and reliability of ratings of dental and facial attractiveness for epidemiologic use. American journal of orthodontics. 1985;88(5):402-8.	This study is about facial attractiveness.
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261- Ihm JJ, Seo DG. Does Reflective Learning with Feedback Improve Dental Students' Self-Perceived Competence in Clinical Preparedness? Journal of Dental Education. 2016;80(2):173-82.	Unrelated study.
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263- Jacobson L, Ygge J, Flodmark O, Ek U. Visual and perceptual characteristics, ocular motility and strabismus in children with periventricular leukomalacia. Strabismus. 2002;10(2):179-83.	This study is about strabismus.
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265- Jambi S, Walsh T, Sandler J, Benson PE, Skeggs RM, O'Brien KD. Reinforcement of anchorage during orthodontic brace treatment with implants or other surgical methods. Cochrane Database of Systematic Reviews [Internet]. 2014; (8).	This study is a review.

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267- Jefferson T, Del MCB, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database of Systematic Reviews [Internet]. 2011; (7).	This study is a review.
268- Jenny J. A social perspective on need and demand for orthodontic treatment. International Dental Journal. 1975;25(4):248-256.	This study is a review.
269- Jesani A, DiBiase AT, Cobourne MT, Newton T. Perceived changes by peer group of social impact associated with combined orthodontic-surgical correction of class III malocclusion. Journal of Dentistry. 2014;42(9):1135-42.	This study is about orthodontic-surgical correction.
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271- Jian F, Lai W, Furness S, McIntyre GT, Millett DT, Hickman J, et al. Initial arch wires for tooth alignment during orthodontic treatment with fixed appliances. Cochrane Database of Systematic Reviews [Internet]. 2013; (4).	This study is a review.
272- Johal A, Alyaqoobi I, Patel R, Cox S. The impact of orthodontic treatment on quality of life and self-esteem in adult patients. Eur J Orthod. 2015;37(3):233-7.	This study is about quality of life.
273- Johal A, Fleming PS, Al Jawad FA. A prospective longitudinal controlled evaluate of pain experience and oral health-related quality of life in adolescents undergoing fixed appliance treatment. Orthodontics & craniofacial research. 2014;17(3):178-86.	This study is about quality of life.
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275- Jordan J, Rose L, Dainty KN, Noyes J, Blackwood B. Factors that impact on the use of mechanical ventilation weaning protocols in critically ill adults and children: a qualitative evidence-synthesis. Cochrane Database of Systematic Reviews [Internet]. 2016; (10).	This study is a review.
276- Jung MH. Quality of Life and Self-Esteem of Female Orthognathic Surgery Patients. Journal of Oral and Maxillofacial Surgery. 2016;74(6).	This study is about quality of life.
277- Jung MH. Evaluation of the effects of malocclusiont and orthodontic treatment on self-esteem in a adolescent population. American Journal of Orthodontics and Dentofacial Orthopedics.2010;138(2):160-166.	This study didn´t evaluate the orthodontic treatment need.
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290- Khan FA, Williams SA. Cultural barriers to successful communication during orthodontic care. Community Dental Health. 1999;16(4):256-61.	The study reports cultural barriers during orthodontic care.
291- Khangura JK, Flodgren G, Perera R, Rowe BH, Shepperd S. Primary care professionals providing non-urgent care in hospital emergency	

departments. Cochrane Database of Systematic Reviews [Internet]. 2012; (11).	This study is a review.
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295- King T, Jiang Y, Fowler PV, Lee M. Accessing orthodontic advice following referral: A survey of parent´s perceptions. New Zealand Dental.2019;115(2):66-69.	Unrelated epidemiological study.
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299- Klages U, Erbe C, Sandru SD, Brullman D, Wehrbein H. Psychosocial impact of dental aesthetics in adolescence: validity and reliability of a questionnaire across age-groups. Quality of Life Research. 2015;24(2):379-90.	This study doesn´t evaluate socioeconomic factors related with orthodontic treatment need.
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308- Kull RS, Leary NR. A new survey instrument: a sample of a typical TMD practice. Cranio : the journal of craniomandibular practice. 1999;17(3):164-75.	The study reports temporomandibular disfunction.
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310- Kumar S, Kroon J, Lalloo R, Johnson NW. Validity and reliability of short forms of parental-caregiver perception and family impact scale in a Telugu speaking population of India. Health and Quality of Life Outcomes. 2016;14.	Unrelated epidemiological study.
311- Kumar S, Kroon J, Lalloo R, Johnson NW. Psychometric Properties of Translation of the Child Perception Questionnaire (CPQ11-14) in Telugu Speaking Indian Children. PloS One. 2016;11(3):e0149181.	Unrelated epidemiological study (CPQ11-14).
312- Kumbargere NS, Naresh S, Srinivas K, Renjith GP, Shrestha A, Levenson D, et al. Interventions for the management of taste disturbances. Cochrane Database of Systematic Reviews [Internet]. 2014; (11).	This study is a review.
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315- Lacerda JT, Castilho EA, Calvo MC, Freitas SF. [Oral health and daily performance in adults in Chapeco, Santa Catarina State, Brazil]. Cadernos de saude publica. 2008;24(8):1846-58.	This study is about oral health.
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318- Lawrenson JG, Evans JR. Omega 3 fatty acids for preventing or slowing the progression of age-related macular degeneration. Cochrane Database of Systematic Reviews [Internet]. 2015; (4).	This study is a review.
319- le Grange D, Louw J, Russell B, Nel T, Silkstone C. Eating attitudes and behaviours in South 92razili adolescents and young adults. Transcultural psychiatry. 2006;43(3):401-17.	This study is about eating attitudes and behaviours.
320- Lee AS-Y, Gibbon FE. Non-speech oral motor treatment for children with developmental speech sound disorders. Cochrane Database of Systematic Reviews [Internet]. 2015; (3).	This study is a review.
321- Lengeler C. Insecticide-treated bed nets and curtains for preventing malaria. Cochrane Database of Systematic Reviews [Internet]. 2004; (2).	This study is a review.
322- Li Y. Understanding Health Constraints Among Rural-to-Urban Migrants in China. Qualitative Health Research. 2013;23(11):1459-69.	The study reports health constraints among migrants in China.
323- Liddle SD, Pennick V. Interventions for preventing and treating low-back and pelvic pain during pregnancy. Cochrane Database of Systematic Reviews [Internet]. 2015; (9).	This study is a review.
324- Light J. Sensory/motor therapy for the treatment of oral dyskinesia. A new approach to the treatment of 92razilian9292ional disorders with the use of tactile cuing handheld exercisers. The International journal of orofacial myology: official publication of the International Association of Orofacial Myology. 1995;21:23-8.	Unrelated epidemiological study (Oromyofunctional disorders).
325- Lim J, Lasserson TJ, Fleetham J, Wright JJ. Oral appliances for obstructive sleep apnoea. Cochrane Database of Systematic Reviews [Internet]. 2006; (1).	This study is a review.
326- Lim LS, Husain R, Gazzard G, Seah SK, Aung T. Cataract progression after prophylactic laser peripheral iridotomy: potential implications for the prevention of glaucoma blindness. Ophthalmology. 2005;112(8):1355-9.	This study is about cataract.
327- List T, Wahlund K, Larsson B. Psychosocial functioning and dental factors in adolescents with temporomandibular disorders: a case-control study. Journal of orofacial pain. 2001;15(3):218-27.	The study reports temporomandibular disorders.
328- Lisboa CM, De Paula JS, Ambrosano GMB, Pereira AC, Meneghim MC, Cortellazzi KL, Vazquez FL, Mialhe FL. Socioeconomic and family influences on dental treatment needs among Brazilian underprivileged schoolchildren participating in a dental health program. BMC Oral Health,2013;13(56).	This study didn´t evaluate the orthodontic treatment need
329- Littlewood SJ, Millett DT, Doubleday B, Bearn DR, Worthington HV. Retention procedures for stabilizing tooth position after treatment with	This study is a review.

orthodontic braces. Cochrane Database of Systematic Reviews [Internet]. 2016; (1).	
330- Liu JYW. Fear of falling in robust community-dwelling older people: results of a cross-sectional study. Journal of Clinical Nursing. 2015;24(3-4):393-405.	Unrelated epidemiological study (Fear of falling among older people).
331- Liu S, Wang K, Yao S, Guo X, Liu Y, Wang B. Knowledge and risk behaviors related to HIV/AIDS, and their association with information resource among men who have sex with men in Heilongjiang province, China. BMC Public Health. 2010;10:250.	The study is about acquired immunodeficiency syndrome.
332- Lo AYH, Jim CY. Citizen attitude and expectation towards greenspace provision in compact urban milieu. Land Use Policy. 2012;29(3):577-86.	Unrelated study.
333- Locker D. Disparities in oral health-related quality of life in a population of Canadian children. Community Dentistry and Oral Epidemiology. 2007;35(5):348-56.	This study is about quality of life.
334- Locker D. Self-esteem and socioeconomic disparities in self-perceived oral health. Journal of public health dentistry. 2009;69(1):1-8.	This study assessment the self-perception oral health.
335- Locker D. Validity of single-item parental ratings of child oral health. Int J Paediatr Dent. 2008;18(6):407-14.	This study is about child oral health.
336- Lohmann J, Houlfort N, De Allegri M. Crowding out or no crowding out? A Self-Determination Theory approach to health worker motivation in performance-based financing. Social science & medicine (1982). 2016;169:1-8.	Unrelated study (Health workers).
337- Loveman E, Al-Khudairy L, Johnson RE, Robertson W, Colquitt JL, Mead EL, et al. Parent-only interventions for childhood overweight or obesity in children aged 5 to 11 years. Cochrane Database of Systematic Reviews [Internet]. 2015; (12).	This study is a review.
338- Lukez A, Pavlic A, Trinajstic Zrinski M, Spalj S. The unique contribution of elements of smile aesthetics to psychosocial well-being. J Oral Rehabil. 2015;42(4):275-81.	This study is about smile aesthetics.
339- Macedo CR, Macedo EC, Torloni MR, Silva AB, Prado GF. Pharmacotherapy for sleep bruxism. Cochrane Database of Systematic Reviews [Internet]. 2014; (10).	This study is a review.
340- Macfarlane TV, Gray RJM, Kincey J, Worthington HV. Factors associated with the temporomandibular disorder, pain dysfunction syndrome (PDS): Manchester case-control study. Oral Diseases. 2001;7(6):321-30.	The study reports disorders temporomandibular.
341- Macfarlane TV, Kenealy P, Kingdon HA, Mohlin BO, Pilley JR, Richmond S, et al. Twenty-year cohort study of health gain from orthodontic treatment: temporomandibular disorders. Am J Orthod Dentofacial Orthop. 2009;135(6):692.e1-8; discussion -3.	Unrelated epidemiological study (Temporomandibular disorders).
342- Mackey ER, La Greca AM. Does this make me look fat? Peer crowd and peer contributions to adolescent girls' weight control behaviors. Journal of Youth and Adolescence. 2008;37(9):1097-110.	This study is about weight control.

343- Madrigal-Ballestero R, Schluter A, Lopez MC. What makes them follow the rules? Empirical evidence from turtle egg harvesters in Costa Rica. Marine Policy. 2013;37:270-7.	Unrelated study (Turtle egg harvesters).
344- Mandall N, DiBiase A, Littlewood S, Nute S, Stivaros N, McDowall R, et al. Is early Class III protraction facemask treatment effective? A multicentre, randomized, controlled trial: 15-month follow-up. Journal of orthodontics. 2010;37(3):149-61.	The study reports malocclusion treatment.
345- Marinho VC, Higgins JP, Sheiham A, Logan S. One topical fluoride (toothpastes, or mouthrinses, or gels, or varnishes) versus another for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews [Internet]. 2004; (1).	This study is a review.
346- Marques LS, Pordeus IA, Ramos-Jorge ML, Filogônio CA, Filogônio CB, Pereira LJ, et al. Factors associated with the desire for orthodontic treatment among Brazilian adolescents and their parents. BMC Oral Health. 2009;9:34-.	Unrelated epidemiological study (It does not use psychosocial aspects to analyze).
347- Marques LS, Ramos-Jorge ML, Paiva SM, Pordeus IA. Malocclusion: Esthetic impact and quality of life among Brazilian schoolchildren. American Journal of Orthodontics and Dentofacial Orthopedics. 2006;129(3):424-7.	This study is about quality of life.
348- Marques LS, Chaves KC, Ramos-Jorge ML. Extraction of four premolars in Black patients with bi-protusion:aesthetic perceptions of professionals and lay people. Journal of Orthodontics. 2014;38(2):107-112.	Unrelated epidemiological study.
349- Marshman Z, Rodd H, Stern M, Mitchell C, Locker D, Jokovic A, et al. An evaluation of the Child Perceptions Questionnaire in the UK. Community Dent Health. 2005;22(3):151-5.	Unrelated epidemiological study (Child perceptions questionnarire).
350- Martin A, Gross-Camp N, Kebede B, McGuire S. Measuring effectiveness, efficiency and equity in an experimental Payments for Ecosystem Services trial. Global Environmental Change-Human and Policy Dimensions. 2014;28:216-26.	This study is about ecosystem.
351- Martinez-Zapata MJ, Martí-Carvajal AJ, Solà I, Pijoán JI, Buil-Calvo EM, Cordero EM, et al. Anti-vascular endothelial growth factor for proliferative diabetic retinopathy. Cochrane Database of Systematic Reviews [Internet]. 2014; (11).	This study is a review.
352- Martins MT, Sardenberg F, Vale MP, Paiva SM, Pordeus IA. Dental caries and social factors: impact on quality of life in Brazilian children. Braz Oral Res. 2015;29(1):S1806-83242015000100310.	This study is about quality of life.
353- Martins-Junior PA, Oliveira M, Marques LS, Ramos-Jorge ML. Untreated dental caries: impact on quality of life of children of low socioeconomic status. Pediatric dentistry. 2012;34(3):49-52.	This study is about quality of life.
354- Matthews E, Brassington R, Kuntzer T, Jichi F, Manzur AY. Corticosteroids for the treatment of Duchenne muscular dystrophy. Cochrane Database of Systematic Reviews [Internet]. 2016; (5).	This study is a review.

355- May J, Norton A. ''A difficult life'': The perceptions and experience of poverty in South Africa. Social Indicators Research. 1997;41(1-3):95-118.	This study is about poverty in Africa.
356- Mayala BK, Fahey CA, Wei D, Zinga MM, Bwana VM, Mlacha T, et al. Knowledge, perception and practices about malaria, climate change, livelihoods and food security among rural communities of central Tanzania. Infectious diseases of poverty. 2015;4:21.	This study is about malaria.
357- Mayo-Wilson E, Junior JA, Imdad A, Dean S, Chan XHS, Chan ES, et al. Zinc supplementation for preventing mortality, morbidity, and growth failure in children aged 6 months to 12 years of age. Cochrane Database of Systematic Reviews [Internet]. 2014; (5).	This study is a review.
358- McCaslin JE, Andras A, Stansby G. Cryoplasty for peripheral arterial disease. Cochrane Database of Systematic Reviews [Internet]. 2013; (8).	This study is a review.
359- McGuinness NJ. Orthodontic evolution: an update for the general dental practitioner. Part 2: psychosocial aspects of orthodontic treatment, stability of treatment, and the TMJ-orthodontic relationship. Journal of the Irish Dental Association. 2008;54(3):128-31.	Unrelated epidemiological study (Stability and psychosocial aspects of orthodontic treatment).
360- Mehrholz J, Pohl M, Elsner B. Treadmill training and body weight support for walking after stroke. Cochrane Database of Systematic Reviews [Internet]. 2014; (1).	This study is a review.
361- Meister RE, Weber T, Princip M, Schnyder U, Barth J, Znoj H, et al. Perception of a hectic hospital environment at admission relates to acute stress disorder symptoms in myocardial infarction patients. General Hospital Psychiatry. 2016;39:8-14.	The study reports myocardial infarction.
362- Meng Z, Liu S, Zheng Y, Phillips JS. Repetitive transcranial magnetic stimulation for tinnitus. Cochrane Database of Systematic Reviews [Internet]. 2011; (10).	This study is a review.
363- Mehta S, Malviya N, Sivakumar A. Impact of Orthodontic treatment and socio-economic status on daily performances in Indian school children: A two centre study. The Journal of the Indian association of public health.2011;2011(18):supp.III.	This study didn´t evaluate the orthodontic treatment need
364- Meyer-Marcotty P, Alpers GW, Gerdes AB, Stellzig-Eisenhauer A. How others perceive orthognathic patients: an eye-tracking study. World journal of orthodontics. 2010;11(2):153-9.	This study is about orthognathic patients.
365- Miguel JA, Palomares NB, Feu D. Life-quality of orthognathic surgery patients: the search for an integral diagnosis. Dental Press J Orthod. 2014;19(1):123-37.	This study is about quality of life.
366- Minami-Sugaya H, Lentini-Oliveira DA, Carvalho FR, Machado MAC, Marzola C, Saconato H, et al. Treatments for adults with prominent lower front teeth. Cochrane Database of Systematic Reviews [Internet]. 2012; (5).	This study is a review.

367- Minckler D, Vedula SS, Li T, Mathew M, Ayyala R, Francis B. Aqueous shunts for glaucoma. Cochrane Database of Systematic Reviews [Internet]. 2006; (2).	This study is a review.
368- Mischke C, Verbeek JH, Saarto A, Lavoie M-C, Pahwa M, Ijaz S. Gloves, extra gloves or special types of gloves for preventing percutaneous exposure injuries in healthcare personnel. Cochrane Database of Systematic Reviews [Internet]. 2014; (3).	This study is a review.
369- Mitchell S, Andersson N. Equity in development and access to health services in the Wild Coast of South Africa: the community view through four linked cross-sectional studies between 1997 and 2007. Bmc Health Services Research. 2011;11.	The study reports health services in Africa.
370- Mmari K, Blum R, Sonenstein F, Marshall B, Brahmbhatt H, Venables E, et al. Adolescents' perceptions of health from disadvantaged urban communities: Findings from the WAVE study. Social Science & Medicine. 2014;104:124-32.	Unrelated study (Public health).
371- Monteiro J, Tanday A, Ashley PF, Parekh S, Petrie A. Interventions for increasing acceptance of local an aesthetic in children having dental treatment. Cochrane Database of Systematic Reviews [Internet]. 2014; (3).	This study is a review.
372- Mortimer D, Ghijben P, Harris A, Hollingsworth B. Incentive-based and non-incentive-based interventions for increasing blood donation. Cochrane Database of Systematic Reviews [Internet]. 2013; (1).	This study is a review.
373- Motloba DP, Sethusa MPS, Ayo-Yusuf OA. The psychological impact of malocclusion on patients seeking orthodontic treatment at a South African oral health training centre. South Africa Dental Journal.2016;71(5):200-205	This study didn´t evaluate the orthodontic treatment need
374- Moses T. Determinants of mental illness stigma for adolescents discharged from psychiatric hospitalization. Social Science & Medicine. 2014;109:26-34.	The study reports mental illness.
375- Moshkelgosha V, Azar H, Golkari A, Azar MR. Utilization of orthodontic services in the Fars province, Iran: the reasons people travel to the capital for orthodontic treatment. Journal of Denstistry.2015;16(3);195-199.	Unrelated epidemiological study
376- Moshkelgosha V, Kazemi M, Pakshir H. Parental knowledge and attitude towards eartly orthodontic treatment for their primary school children. Journal of Orhotodntics.2017;12(2):e7377.	Unrelated epidemiological study
377- Munn I, Hussain A, Hudson D, West BC. Hunter Preferences and Willingness to Pay for Hunting Leases. Forest Science. 2011;57(3):189-200.	Unrelated study.
378- Murakami K, Aida J, Ohkubo T, Hashimoto H. Income-related inequalities in preventive and curative dental care use among working-age Japanese adults in urban areas: a cross-sectional study. BMC Oral Health. 2014;14:117.	Unrelated epidemiological study (Dental care).
379- Mustafa HMH, Mahmoud S, Assaf IH, Al-Hamadi A, Abdulhamid ZM. Comparative analogy of overcrowded effects in classrooms versus solving 'cocktail party problem' (neural networks approach). In: Chova LG, Martinez AL, Torres IC, editors. Inted2014: 8th International Technology,	Unrelated study.

Education and Development Conference. INTED Proceedings2014. P. 5816-24.	
380- Nanavaty MA, Wang X, Shortt AJ. Endothelial keratoplasty versus penetrating keratoplasty for Fuchs endothelial dystrophy. Cochrane Database of Systematic Reviews [Internet]. 2014; (2).	This study is a review.
381- Naoumova J. Interceptive Treatment Of Palatally Displaced Canines. Swedish dental journal Supplement [Internet]. 2014; (234):[7-118 pp.].	The study reports treatment of malocclusion.
382- Nastri CO, Lensen SF, Gibreel A, Raine-Fenning N, Ferriani RA, Bhattacharya S, et al. Endometrial injury in women undergoing assisted reproductive techniques. Cochrane Database of Systematic Reviews [Internet]. 2015; (3).	This study is a review.
383- Nath KJ. Home hygiene and environmental sanitation: a country situation analysis for India. International Journal of Environmental Health Research. 2003;13:S19-S28.	Unrelated epidemiological study (Home hygiene and environmental sanitation).
384- Negrini S, Minozzi S, Bettany-Saltikov J, Chockalingam N, Grivas TB, Kotwicki T, et al. Braces for idiopathic scoliosis in adolescents. Cochrane Database of Systematic Reviews [Internet]. 2015; (6).	This study is a review.
385- Nesci C. Sensual Re-Readings: Gender, Sensibility, and the Classes of Flanerie. Dix-Neuf. 2012;16(2):133-48.	Unrelated study.
386- Neto TDN, Thomaz E, Ferreira MC, dos Santos AM, Queiroz RCD. Dental spacing problems and associated factors among Brazilian adolescents. Ciencia & Saude Coletiva. 2014;19(11):4555-68.	The study reports dental spacing problems.
387- Newacheck PW, Hung YY, Park MJ, Brindis CD, Irwin JR CE. Disparities in adolescent health and health care: does socioeconomic status matter? Health Services Research. 2003;38(5):1235-1252.	Unrelated epidemiological study
388- Ng SKS, Leung WK. Oral health-related quality of life and periodontal status. Community Dentistry and Oral Epidemiology. 2006;34(2):114-22.	This study is about quality of life.
389- Ngai SP, Jones AY, Tam WWS. Tai Chi for chronic obstructive pulmonary disease (COPD). Cochrane Database of Systematic Reviews [Internet]. 2016; (6).	This study is a review.
390- Ngom PI, Diagne F, Diop Ba K, Niang A, Normand F. Comparaison de la perception de l'esthetique et du besoin de traitement orthodontique entre des populations Africaine et Caucasienne. Dakar Med. 2006;51(1):10-6.	Unrelated epidemiological study (It doesn´t study about self-perception).
391- Nicodemo D, Pereira MD, Ferreira LM. Effect of orthognathic surgery for class III correction on quality of life as measured by SF-36. Int J Oral Maxillofac Surg. 2008;37(2):131-4.	This study is about orthognathic surgery.
392- Nieuwenhuijsen K, Faber B, Verbeek JH, Neumeyer-Gromen A, Hees HL, Verhoeven AC, et al. Interventions to improve return to work in depressed people. Cochrane Database of Systematic Reviews [Internet]. 2014; (12).	This study is a review.
393- Nieuwlaat R, Wilczynski N, Navarro T, Hobson N, Jeffery R, Keepanasseril A, et al. Interventions for enhancing medication adherence. Cochrane Database of Systematic Reviews [Internet]. 2014; (11).	This study is a review.

394- Niezen ET, Bos RR, de Bont LG, Stegenga B, Dijkstra PU. Complaints related to mandibular function impairment after closed treatment of fractures of the mandibular condyle. Int J Oral Maxillofac Surg. 2010;39(7):660-5.	Unrelated epidemiological study (Fractures of the mandibular condyle).
395- Noro LR, Roncalli AG, Teixeira AK. Contribution of cohort studies in the analysis of oral health in children and adolescents in Sobral, Ceara. Revista brasileira de epidemiologia = Brazilian journal of epidemiology. 2015;18(3):716-9.	Unrelated epidemiological study (Oral health in children and adolescents).
396- Norton C, Cody JD. Biofeedback and/or sphincter exercises for the treatment of faecal incontinence in adults. Cochrane Database of Systematic Reviews [Internet]. 2012; (7).	This study is a review.
397- Noureddine, Ali. Esthetic analysis and multidisciplinary treatment. Thesis. Université de Bordeaux II 138p. 2011.	Unrelated study
398- Nunes KS, Vedovello Filho M, Kuramae M, Valdrighi HC, Correr Sobrinho AB. Autopercepção estética dos padrões faciais I, II e III. Ortodontia. 2010;43(3):245-53.	The study is about aesthetic self-perception of facial patterns.
399- Oberlander SE, Shebl FM, Magder LS, Black MM. Adolescent mothers leaving multigenerational households. Journal of clinical child and adolescent psychology: the official journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53. 2009;38(1):62-74.	Unrelated epidemiological study (Adolescent mothers).
400- O'Brien K, Wright J, Conboy F, Chadwick S, Connolly I, Cook P, et al. Effectiveness of early orthodontic treatment with the Twin-block appliance: a multicenter, randomized, controlled trial. Part 2: Psychosocial effects. Am J Orthod Dentofacial Orthop. 2003;124(5):488-94; discussion 94-5.	The study reports treatment of malocclusion.
401- O'Connell NE, Wand BM, Marston L, Spencer S, DeSouza LH. Non-invasive brain stimulation techniques for chronic pain. Cochrane Database of Systematic Reviews [Internet]. 2014; (4).	This study is a review.
402- Oh E, Yoo TK, Hong S. Artificial Neural Network Approach for Differentiating Open-Angle Glaucoma From Glaucoma Suspect Without a Visual Field Test. Investigative ophthalmology & visual science. 2015;56(6):3957-66.	This study is about glaucoma.
403- Olivieri A, Ferro R, Benacchio L, Besostri A, Stellini E. Validity of Italian version of the Child Perceptions Questionnaire (CPQ11-14). BMC Oral Health. 2013;13:55.	Unrelated epidemiological study (CPQ11-14).
404- Olsen A, Samuelsen H, Onyango-Ouma W. A study of risk factors for intestinal helminth infections using epidemiological and anthropological approaches. Journal of biosocial science. 2001;33(4):569-84.	This study is about infections intestinal.
405- Olsen JA, Inglehart MR. Malocclusions and perceptions of attractiveness, intelligence, and personality, and behavioral intentions. Am J Orthod Dentofacial Orthop. 2011;140(5):669-79.	Unrelated study.
406- O'Malley L, Bonetti DL, Adair P, Jervøe-Storm P-M, Preshaw PM. Psychological interventions for improving adherence to oral hygiene instructions in adults with periodontal diseases. Cochrane Database of Systematic Reviews [Internet]. 2016; (1).	This study is a review.

407- Omer YT. Orthodontic treatment need in a sample of patients in Beirut. Thesis.2016	This study compares the normative and perceived orthodontic treatment need.
408- Onwujekwe OE, Akpala CO, Ghasi S, Shu EN, Okonkwo PO. How do rural households perceive and prioritise malaria and mosquito nets? A study in five communities of Nigeria. Public health. 2000;114(5):407-10.	This study is about malaria.
409- Ostler S, Kiyak HA. Treatment expectations versus outcomes among orthognathic surgery patients. The International journal of adult orthodontics and orthognathic surgery. 1991;6(4):247-	This study is about orthognathic surgery.
410- Ott I, Tebben H, Losenhausen H, Issing PR. [Anatomical course of the chorda tympani nerve in middle ear surgery: clinical classification and relevance for postoperative gustatory dysfunction]. Laryngo- rhino-otologie. 2009;88(9):592-8.	Unrelated epidemiological study (Chorda tympani nerve).
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414- Page LAF, Thomson WM, Ukra A, Farella M. Factors influencing adolescents' oral health-related quality of life (OHRQoL). International Journal of Paediatric Dentistry. 2013;23(6):415-23.	This study is about quality of life.
415- Page MJ, Green S, Kramer S, Johnston RV, McBain B, Buchbinder R. Electrotherapy modalities for adhesive capsulitis (frozen shoulder). Cochrane Database of Systematic Reviews [Internet]. 2014; (10).	This study is a review.
416- Page MJ, Green S, Kramer S, Johnston RV, McBain B, Chau M, et al. Manual therapy and exercise for adhesive capsulitis (frozen shoulder). Cochrane Database of Systematic Reviews [Internet]. 2014; (8).	This study is a review.
417- Page MJ, Green S, McBain B, Surace SJ, Deitch J, Lyttle N, et al. Manual therapy and exercise for rotator cuff disease. Cochrane Database of Systematic Reviews [Internet]. 2016; (6).	This study is a review.
418- Page MJ, Green S, Mrocki MA, Surace SJ, Deitch J, McBain B, et al. Electrotherapy modalities for rotator cuff disease. Cochrane Database of Systematic Reviews [Internet]. 2016; (6).	This study is a review.
419- Page MJ, Massy-Westropp N, O'Connor D, Pitt V. Splinting for carpal tunnel syndrome. Cochrane Database of Systematic Reviews [Internet]. 2012; (7).	This study is a review.
420- Palaniyappan L, Maayan N, Bergman H, Davenport C, Adams CE, Soares-Weiser K. Voxel-based morphometry for separation of schizophrenia from other types of psychosis in first episode psychosis. Cochrane Database of Systematic Reviews [Internet]. 2015; (8).	This study is a review.

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422- Palomares NB, Celeste RK, De Oliveira BH, Miguel JAM. How does orthodontic treatment affect young adult´s oral health-related quality of life? American Journal of Orthodontics and Dentofacial Orthopedics. 2012;141(6):751-758	This study is about quality of life.
423- Pardo-Villar K, Soto-Subero CM, Pardo-Aldave K. Rasgos oclusales y autopercepción de la necesidad de 100razilian100 ortodóncico em escolares peruanos. Kiru. 2014;11(2):137-42.	Unrelated epidemiological study (It doesn´t use socio-economic questionnaire)
424- Parekh S, Gardener C, Ashley PF, Walsh T. Intraoperative local anaesthesia for reduction of postoperative pain following general anaesthesia for dental treatment in children and adolescents. Cochrane Database of Systematic Reviews [Internet]. 2014; (12).	This study is a review.
425- Parkin N, Benson PE, Thind B, Shah A. Open versus closed surgical exposure of canine teeth that are displaced in the roof of the mouth. Cochrane Database of Systematic Reviews [Internet]. 2008; (4).	This study is a review.
426- Patel KC, Gross A, Graham N, Goldsmith CH, Ezzo J, Morien A, et al. Massage for mechanical neck disorders. Cochrane Database of Systematic Reviews [Internet]. 2012; (9).	This study is a review.
427- Patel S, Sinha IP, Dwan K, Echevarria C, Schechter M, Southern KW. Potentiators (specific therapies for class III and IV mutations) for cystic fibrosis. Cochrane Database of Systematic Reviews [Internet]. 2015; (3).	This study is a review.
428- Paula JS, Leite IC, Almeida AB, Ambrosano GM, Pereira AC, Mialhe FL. The influence of oral health conditions, socioeconomic status and home environment factors on schoolchildren's self-perception of quality of life. Health Qual Life Outcomes. 2012;10:6-.	This study is about quality of life.
429- Paula JS, Meneghim MC, Pereira AC, Mialhe FL. Oral health, socio-economic and home environmental factors associated with general and oral-health related quality of life and convergent validity of two instruments. Bmc Oral Health. 2015;15.	This study is about quality of life.
430- Pawlak CE, Fields HW, Jr., Beck FM, Firestone AR. Orthodontic informed consent considering information load and serial position effect. Am J Orthod Dentofacial Orthop. 2015;147(3):363-72.	The study reports orthodontic informed consent.
431- Pedersen DM. Perception of spatial and social density. Perceptual and motor skills. 1983;57(1):223-6.	Unrelated study (Spatial and social density).
432- Peeva J, Stovkoya M, Yankoyski H, Peev I. Approbation of Q-methodology to Evaluate parents attitudes for demand of orthodontic treatment. OHDM.2017;16(2).	This study didn´t evaluate the orthodontic treatment need
433- Peres KG, Barros AJD, Anselmi L, Peres MA, Barros FC. Does malocclusion influence the adolescent's satisfaction with appearance? A cross-sectional study nested in a Brazilian birth cohort. Community Dentistry and Oral Epidemiology. 2008;36(2):137-43.	The study reports effect of different types of malocclusion on appearance dissatisfaction.
	Unrelated epidemiological study

434- Peres KG, Traebert ESD, Marcenes W. Differences between normative criteria and self-perception in the evaluate of malocclusion. Revista De Saude Publica. 2002;36(2):230-6.	(Socioeconomics factors were not evaluated).
435- Perillo L, Esposito M, Caprioglio A, Attanasio S, Santini AC, Carotenuto M. Orthodontic treatment need for adolescents in the Campania region: the malocclusion impact on self-concept. Patient Preference and Adherence. 2014;8:353-9.	The study reports the effect of dental malocclusion on self-esteem.
436- Perry A, Lee SH, Cotton S, Kennedy C. Therapeutic exercises for affecting post-treatment swallowing in people treated for advanced-stage head and neck cancers. Cochrane Database of Systematic Reviews [Internet]. 2016; (8).	This study is a review.
437- Peters D, Bengtsson B, Heijl A. Factors associated with lifetime risk of open-angle glaucoma blindness. Acta ophthalmologica. 2014;92(5):421-5.	This study is about glaucoma.
438- Pinheiro FHdSL, Beltrão RTS, Freitas MRd, Lauris JRP, Henriques JFC. Comparação da percepção e necessidade estética de tratamento ortodôntico entre pacientes e ortodontistas nas cidades de Natal/RN e João Pessoa/PB. Rev dent press ortodon ortopedi facial. 2005;10(2):54-61.	Self-perception were not evaluated.
439- Piovesan C, Antunes JL, Guedes RS, Ardenghi TM. Impact of socioeconomic and clinical factors on child oral health-related quality of life (COHRQoL). Quality of life research: an international journal of quality of life aspects of treatment, care and rehabilitation. 2010;19(9):1359-66.	This study is about quality of life.
440- Piovesan C, Marquezan M, Kramer PF, Bonecker M, Ardenghi TM. Socioeconomic and clinical factors associated with caregivers' perceptions of children's oral health in Brazil. Community Dentistry and Oral Epidemiology. 2011;39(3):260-7.	Unrelated epidemiological study (Children´s oral health).
441- Pollack CE, von dem Knesebeck O, Siegrist J. Housing and health in Germany. Journal of Epidemiology and Community Health. 2004;58(3):216-22.	The study reports housing and health in Germany.
442- Pollock A, Baer G, Campbell P, Choo PL, Forster A, Morris J, et al. Physical rehabilitation approaches for the recovery of function and mobility following stroke. Cochrane Database of Systematic Reviews [Internet]. 2014; (4).	This study is a review.
443- Pollock A, Farmer SE, Brady MC, Langhorne P, Mead GE, Mehrholz J, et al. Interventions for improving upper limb function after stroke. Cochrane Database of Systematic Reviews [Internet]. 2014; (11).	This study is a review.
444- Pollock A, Hazelton C, Henderson CA, Angilley J, Dhillon B, Langhorne P, et al. Interventions for visual field defects in patients with stroke. Cochrane Database of Systematic Reviews [Internet]. 2011; (10).	This study is a review.
445- Premkumar TS, Pick J. Lamotrigine for schizophrenia. Cochrane Database of Systematic Reviews [Internet]. 2006; (4).	This study is a review.
446- Preti A, Usai A, Miotto P, Petretto DR, Masala C. Eating disorders among professional fashion models. Psychiatry research. 2008;159(1-2):86-94.	This study is about eating disorders.

447- Price J, Whittaker W, Birch S, Brocklehurst P, Ticle M. NHS orthodontics: socioeconomic inequalities and costs. The University of Manchester.	Unrelated study
448- Price JC. Socioeconomic position and the National Health Service Orthodontic service. Thesis.2016. Faculty of Medical and Human Sciences.	Unrelated study
449- Proffit WR, Fields HW, Moray LJ. Prevalence of malocclusion and orthodontic treatment need in the United States: estimates from the NHANES III survey. *Int J Adult Orthod Orthognath Surg.* 1998;13:97–106.	This study didn't evaluate the self-perception of the orthodontic treatment need.
450- Pucker AD, Ng SM, Nichols JJ. Over the counter (OTC) artificial tear drops for dry eye syndrome. Cochrane Database of Systematic Reviews [Internet]. 2016; (2).	This study is a review.
451- Pulache J, Abanto J, Oliveira LB, Bonecker M, Porras JC. Exploring the association between oral health problems and oral health-related quality of life in Peruvian 11- to 14-year-old children. Int J Paediatr Dent. 2016;26(2):81-90.	This study is about quality of life.
452- Ragnarsson B, Arnlaugsson S, Karlsson KO, Magnusson PE, Arnarson EO. Dental anxiety in Iceland: an epidemiological postal survey. Acta Odontologica Scandinavica. 2003;61(5):283-8.	Unrelated epidemiological study (Dental anxiety).
453- Raiha A. Summary: Crown subject rather than landed estate peasant: Interaction and aspects of justice in the early modern Russian borderlands. Historisk Tidskrift. 2014;134(4):587-614.	Unrelated study (Russian borderlands).
454- Rasines AMG, Veitz-Keenan A, Sahrmann P, Schmidlin PR, Davis D, Iheozor-Ejiofor Z. Direct composite resin fillings versus amalgam fillings for permanent or adult posterior teeth. Cochrane Database of Systematic Reviews [Internet]. 2014; (3).	This study is a review.
455- Rasoolimanesh SM, Jaafar M, Marzuki A, Mohamad D. How Visitor and Environmental Characteristics Influence Perceived Crowding. Asia Pacific Journal of Tourism Research. 2016;21(9):952-67.	Unrelated study.
456- Raude J, Chinfatt K, Huang P, Betansedi CO, Katumba K, Vernazza N, et al. Public perceptions and behaviours related to the risk of infection with Aedes mosquito-borne diseases: a cross-sectional study in Southeastern France. BMJ open. 2012;2(6).	Unrelated epidemiological study (Aedes mosquito- borne diseases).
457- Ravaghi V, Kavand G, Farrahi N. Malocclusion, Past Orthodontic Treatment, and Satisfaction with Dental Appearance among Canadian Adults. Journal of the Canadian Dental Association. 2015;81.	The study dosn´t report orthodontic treatment need.
458- Raymond TN, Roland ME, Francoise KM, Francis Z, Livo EF, Clovis ST. Do open garbage dumps play a role in canine rabies transmission in Biyem-Assi health district in Cameroon? Infection ecology & epidemiology. 2015;5:26055.	Unrelated epidemiological study (Canine rabies transmission).
459- Raza A, Woo E. Video-assisted thoracoscopic surgery versus sternotomy in thymectomy for thymoma and myasthenia gravis. Annals of Cardiothoracic Surgery. 2016;5(1):33-7.	Unrelated study (Thymoma and myasthenia gravis).

460- Redstone P, Vancura JL, Barry D, Kutner JS. Nonurgent use of the emergency department. The Journal of ambulatory care management. 2008;31(4):370-6.	This study is about nonurgent use of the emergency department.
461- Ricketts D, Lamont T, Innes NP, Kidd E, Clarkson JE. Operative caries management in adults and children. Cochrane Database of Systematic Reviews [Internet]. 2013; (3).	This study is a review.
462- Riley P, Worthington HV, Clarkson JE, Beirne PV. Recall intervals for oral health in primary care patients. Cochrane Database of Systematic Reviews [Internet]. 2013; (12).	This study is a review.
463- Roberts L, Ahmed I, Davison A. Intercessory prayer for the alleviation of ill health. Cochrane Database of Systematic Reviews [Internet]. 2009; (2).	This study is a review.
464- Rodd HD, Marshman Z, Porritt J, Bradbury J, Baker SR. Oral health-related quality of life of children in relation to dental appearance and educational transition. British Dental Journal. 2011;211(2).	This study is about quality of life.
465- Rodrigues JN, Becker GW, Ball C, Zhang W, Giele H, Hobby J, et al. Surgery for Dupuytren's contracture of the fingers. Cochrane Database of Systematic Reviews [Internet]. 2015; (12).	This study is a review.
466- Rollason V, Laverrière A, MacDonald LC, Walsh T, Tramèr MR, Vogt-Ferrier NB. Interventions for treating bisphosphonate-related osteonecrosis of the jaw (BRONJ). Cochrane Database of Systematic Reviews [Internet]. 2016; (2).	This study is a review.
467- Rome K, Ashford RL, Evans A. Non-surgical interventions for paediatric pes planus. Cochrane Database of Systematic Reviews [Internet]. 2010; (7)	This study is a review.
468- Rosa M, Olimpo A, Fastuca R, Capriologio A. Perceptions of dental professionals and laypeople to altered dental esthetics in cases with confenitally missing cases with congenitally missing maxillary lateral incisor. Progress in orthodontics.2013;14(34):14-34.	This study didn´t evaluate the orthodontic treatment need
469- Rose SC, Bisson J, Churchill R, Wessely S. Psychological debriefing for preventing post traumatic stress disorder (PTSD). Cochrane Database of Systematic Reviews [Internet]. 2002; (2).	This study is a review.
470- Rosvall MD, Fields HW, Ziuchkovski J, Rosenstiel SF, Johnston WM. Attractiveness, acceptability, and value of orthodontic appliances. American Journal of Orthodontics and Dentofacial Orthopedics. 2009;135(3).	This study is about attractiveness, acceptability, and value of orthodontic appliances.
471- Rowe FJ, Noonan CP. Botulinum toxin for the treatment of strabismus. Cochrane Database of Systematic Reviews [Internet]. 2012; (2).	This study is a review.
472- Rubinstein SM, Terwee CB, Assendelft WJ, de BMR, van TMW. Spinal manipulative therapy for acute low-back pain. Cochrane Database of Systematic Reviews [Internet]. 2012; (9).	This study is a review.
473- Rubinstein SM, van MM, Assendelft WJ, de BMR, van TMW. Spinal manipulative therapy for chronic low-back pain. Cochrane Database of Systematic Reviews [Internet]. 2011; (2).	This study is a review.

474- Rumana R, Sayeed AA, Basher A, Islam Z, Rahman MR, Faiz MA. Perceptions and treatment seeking behavior for dog bites in rural Bangladesh. The Southeast Asian journal of tropical medicine and public health. 2013;44(2):244-8.	Unrelated epidemiological study (Dog bites).
475- Rustemeyer J, Gregersen J. Quality of Life in orthognathic surgery patients: post-surgical improvements in aesthetics and self-confidence. Journal of cranio-maxillo-facial surgery: official publication of the European Association for Cranio-Maxillo-Facial Surgery. 2012;40(5):400-4.	This study is about quality of life.
476- Rustemeyer J, Martin A, Gregersen J. Changes in quality of life and their relation to cephalometric changes in orthognathic surgery patients. The Angle orthodontist. 2012;82(2):235-41.	This study is about quality of life.
477- Rutzen SR. The social importance of orthodontic rehabilitation: report of a five year follow-up study. Journal of health and social behavior. 1973;14(3):233-40.	Studies non-classifiable that presents only the title but it is not interesting.
478- Ryan FS, Barnard M, Cunningham SJ. What are orthognathic patients' expectations of treatment outcome—a qualitative study. Journal of oral and maxillofacial surgery: official journal of the American Association of Oral and Maxillofacial Surgeons. 2012;70(11):2648-55.	Unrelated epidemiological study (Orthognathic patients).
479- Ryu J. Differences in estimates of dental treatment needs and wordforce requirements between the standard normative need (WHO model) and sociodental approach to assessing dental need. Thesis. University of London.2006.	This study didn´t evaluate the orthodontic treatment need
480- Saadia M, Torres E. Sagittal changes after maxillary protraction with expansion in class III patients in the primary, mixed, and late mixed dentitions: a longitudinal retrospective study. Am J Orthod Dentofacial Orthop. 2000;117(6):669-80.	This study is about treatment of malocclusion.
481- Salehi M, Wenick AS, Law HA, Evans JR, Gehlbach P. Interventions for central serous chorioretinopathy: a network meta-analysis. Cochrane Database of Systematic Reviews [Internet]. 2015; (12).	This study is a review.
482- Sampford JR, Sampson S, Li BG, Zhao S, Xia J, Furtado VA. Fluphenazine (oral) versus atypical antipsychotics for schizophrenia. Cochrane Database of Systematic Reviews [Internet]. 2016; (7).	This study is a review.
483- Sande S, Jagals P, Mupeta B, Chadambuka A. An investigation of the use of rectangular insecticide-treated nets for malaria control in Chipinge District, Zimbabwe: a descriptive study. The Pan African medical journal. 2012;13:5.	This study is about malaria.
484- Sardenberg F, Martins MT, Bendo CB, Pordeus IA, Paiva SM, Auad SM, et al. Malocclusion and oral health-related quality of life in Brazilian school children A population-based study. Angle Orthodontist. 2013;83(1):83-9.	This study is about quality of life.
485- Sarver DM. Video-imaging and treatment presentation: medico-legal implications and patient perception. Am J Orthod Dentofacial Orthop. 1998;113(3):360-3.	Unrelated study.
486- Sayan S, Karaguzel O. Problems of Outdoor Recreation: The Effect of Visitors' Demographics on the Perceptions of Termessos National Park, Turkey. Environmental Management. 2010;45(6):1257-70.	The study is about problems of outdoor recreation.

487- Scapini A, Feldens CA, Ardenghi TM, Kramer PF. Malocclusion impacts adolescents' oral health-related quality of life. Angle Orthodontist. 2013;83(3):512-8.	This study is about quality of life.
488- Scarpelli AC, Paiva SM, Viegas CM, Carvalho AC, Ferreira FM, Pordeus IA. Oral health-related quality of life among Brazilian preschool children. Community Dentistry and Oral Epidemiology. 2013;41(4):336-44.	This study is about quality of life.
489- Schluter P, Carter S, Kokaua J. Indices and perception of crowding in Pacific households domicile within Auckland, New Zealand: findings from the Pacific Islands Families Study. The New Zealand medical journal. 2007;120(1248):U2393.	Unrelated epidemiological study (Crowding in Pacific households).
490- Schuch HS, Correa MB, Torriani DD, Demarco FF, Goettems ML. Perceived dental pain: determinants and impact on 105razilian schoolchildren. J Oral Facial Pain Headache. 2015;29(2):168-76.	Unrelated epidemiological study (Dental pain).
491- Schuch HS, Costa FD, Torriani DD, Demarco FF, Goettems ML. Oral health-related quality of life of schoolchildren: impact of clinical and psychosocial variables. International Journal of Paediatric Dentistry. 2015;25(5):358-65.	This study is about quality of life.
492- Schuurs A. Pathology of the Hard Dental Tissues2013. 1-446 p.	This book is about pathology of the hard dental tissues.
493- Scott CR, Goonewardene MS, Murray K. Influence of lips on the perception of malocclusion. Am J Orthod Dentofacial Orthop. 2006;130(2):152-62.	The study reports influence of lips on the perception of malocclusion.
494- Seehra J, Fleming PS, Newton T, DiBiase AT. Bullying in orthodontic patients and its relationship to malocclusion,self-esteem and oral health-related quality of life. Journal of orthodontics. 2011;38(4):247-56; quiz 94.	Unrelated epidemiological study (Bullying in orthodontic patients).
495- Seep H, Saag M, Peltomakj T, Vinkka-Puhakka H, Oristo ALS. Occlusal traits, orthodontic treatment need and treatment complexity among untreated 17-21-year-olds in Estonia. Acta Odontologica Scandinavica.2019;77(1):44-48.	Unrelated epidemiological study.
496- Shankar S, Evans MA, Bobier WR. Hyperopia and emergent literacy of young children: pilot study. Optometry and vision science: official publication of the American Academy of Optometry. 2007;84(11):1031-8.	Unrelated epidemiological study (Hyperopia).
497- Shahrani IAI. Self-perception of personal dental appearance among students of King Khaled University Abha, Saudi Arabia. European Journal of General Dentistry.2014;3(3):181-184.	This study didn´t evaluate the orthodontic treatment need
498- Sharma M, Bennett C, Cohen SN, Carter B. H1-antihistamines for chronic spontaneous urticaria. Cochrane Database of Systematic Reviews [Internet]. 2014; (11).	This study is a review.
499- Shaw WC, O'Brien KD, Richmond S. Quality control in orthodontics: factors influencing the receipt of orthodontic treatment. Br Dent J. 1991;170(2):66-8.	This study is about quality control in orthodontics.
500- Shaw WC, O'Brien KD, Richmond S, Brook P. Quality control in orthodontics: risk/benefit considerations. Br Dent J. 1991;170(1):33-7.	This study is about quality control in orthodontics.

501- Shaw WC, Richmond S, Kenealy PM, Kingdon A, Worthington H. A 20-year cohort study of health gain from orthodontic treatment: psychological outcome. Am J Orthod Dentofacial Orthop. 2007;132(2):146-57.	The study reports health gain from orthodontic treatment.
502- Sheats RD, McGorray SP, Keeling SD, Wheeler TT, King GJ. Occlusal traits and perception of orthodontic need in eighth grade students. *Angle Orthod.* 1998;68:107–114	The socioeconomic level wasn't evaluated.
503- Shen X, Xia J, Adams CE. Acupuncture for schizophrenia. Cochrane Database of Systematic Reviews [Internet]. 2014; (10).	This study is a review.
504- Shrestha N, Kukkonen-Harjula KT, Verbeek JH, Ijaz S, Hermans V, Bhaumik S. Workplace interventions for reducing sitting at work. Cochrane Database of Systematic Reviews [Internet]. 2016; (3).	This study is a review.
505- Silva L, Thomaz E, Freitas HV, Pereira ALP, Ribeiro CCC, Alves CMC. Impact of Malocclusion on the Quality of Life of Brazilian Adolescents: A Population-Based Study. Plos One. 2016;11(9).	This study is about quality of life.
506- Silveira MF, Freire RS, Nepomuceno MO, Martins AMEdBL, Marcopito LF. Severity of malocclusion in adolescents: populational-based study in the north of Minas Gerais, Brazil. Rev Saude Publica. 2016;50:11-.	This study is about severity of malocclusion.
507- Simha A, Braganza A, Abraham L, Samuel P, Lindsley K. Anti-vascular endothelial growth factor for neovascular glaucoma. Cochrane Database of Systematic Reviews [Internet]. 2013; (10).	This study is a review.
508- Simpson TC, Weldon JC, Worthington HV, Needleman I, Wild SH, Moles DR, et al. Treatment of periodontal disease for glycaemic control in people with diabetes mellitus. Cochrane Database of Systematic Reviews [Internet]. 2015; (11).	This study is a review.
509- Singh VP, Sharma A, Roy DK. Evaluate of the Self-Perception of Dental Appearance, Its Comparison with Orthodontist's Evaluate and Demand for Treatment in Eastern Nepalese Patients. Advances in medicine. 2014;2014:547625.	Unrelated epidemiological study (It didn´t use socioeconomic questionnaire).
510- Sinha SP, Nayyar P. Crowding effects of density and personal space requirements among older people: the impact of self-control and social support. The Journal of social psychology. 2000;140(6):721-8.	Unrelated study.
511- Skalicky SE, Martin KR, Fenwick E, Crowston JG, Goldberg I, McCluskey P. Cataract and quality of life in patients with glaucoma. Clinical & experimental ophthalmology. 2015;43(4):335-41.	This study is about glaucoma.
512- Skelton DA, Howe TE, Ballinger C, Neil F, Palmer S, Gray L. Environmental and behavioural interventions for reducing physical activity limitation in community-dwelling visually impaired older people. Cochrane Database of Systematic Reviews [Internet]. 2013; (6).	This study is a review.
513- Sklar DP, Crandall CS, Zola T, Cunningham R. Emergency physician perceptions of patient safety risks. Annals of emergency medicine. 2010;55(4):336-40.	Unrelated epidemiological study (Emergency).

514- Smaill FM, Grivell RM. Antibiotic prophylaxis versus no prophylaxis for preventing infection after cesarean section. Cochrane Database of Systematic Reviews [Internet]. 2014; (10).	This study is a review.
515- Smith CA, Armour M, Zhu X, Li X, Lu ZY, Song J. Acupuncture for dysmenorrhoea. Cochrane Database of Systematic Reviews [Internet]. 2016; (4).	This study is a review.
516- Smith CA, Hay PP, MacPherson H. Acupuncture for depression. Cochrane Database of Systematic Reviews [Internet]. 2010; (1).	This study is a review.
517- Smith JM, Steel DH. Anti-vascular endothelial growth factor for prevention of postoperative vitreous cavity haemorrhage after vitrectomy for proliferative diabetic retinopathy. Cochrane Database of Systematic Reviews [Internet]. 2015; (8).	This study is a review.
518- Smith L, Wong L, Phemister R, Blanch K, Jack H. Fowler P, Antoun J, Page FL. Why, why, why do I have such big teeth, why? Low socio-economic status and acess to orthodontic treatment NZ Dental Journal. 2018;114:64-72.	The study assessment the impact of malocclusion on the quality of life of individuals with low socioeconomic status.
519- Soh G, Lew KK. Evaluate of orthodontic treatment needs by teenagers in an Asian community in Singapore. Community Dent Health. 1992;9(1):57-62.	Unrelated epidemiological study (It didn't study about self-perception for orthodontic treatment.
520- Soh J, Sandham A. Orthodontic treatment need in Asian adult males. Angle Orthod. 2004;74:769-73	The socioeconomic level wasn't evaluated.
521- Solebo AL, Lange CA, Bunce C, Bainbridge JW. Face-down positioning or posturing after macular hole surgery. Cochrane Database of Systematic Reviews [Internet]. 2011; (12).	This study is a review.
522- Sosis R. Psalms for safety - Magico-religious responses to threats of terror. Current Anthropology. 2007;48(6):903-11.	Unrelated study (Psalms).
523- Sousa RV, Clementino MA, Gomes MC, Martins CC, Granville-Garcia AF, Paiva SM. Malocclusion and quality of life in Brazilian preschoolers. European journal of oral sciences. 2014;122(3):223-9.	This study is about quality of life.
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633- Fonseca RCLD, Antunes JLF, Cascaes AM, Bomfim RA. ndividual and contextual factors associated with traumatic dental injuries in a population of Brazilian adolescentes. Dent Traumatol.2019;35(3):171-180.	Unrelated epidemiological study
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640- Elyasi M, Abreu LG, Olsen C, Baker SR, Lai H, Major PW, Amin M. Parent's Sense of Coherence and Children's Oral Health-Related Behaviors: Is There an Association?Pediatr Dent.2018;40(1):23-29.	Unrelated epidemiological study

641- Von Stülpnagel R, Krukar J. Risk perception during urban cycling: An assessment of crowdsourced and authoritative data. Accd Anal Prev.2018;121:109-117.	Unrelated epidemiological study
642- Ghorbani F, Gheibollahi H, Tavanafar S, Eftekharian HR. Improvement of Esthetic, Functional, and **Social** Well-Being After Orthognathic Surgical Intervention: A Sampling of Postsurgical Patients Over a 10-Year Period From 2007 to 2017.Oral Maxillofac Surg.2018;76(11):2398-2403.	Unrelated epidemiological study
643- Machry RV, Knorst JK, Tomazoni F, Ardenghi TM. School environment and individual factors influence oral health related quality of life in Brazilian children.Braz Oral Res.2018;32:e63.	This study is about quality of life.
644- Kaieda AK, Lima IFP, Scanavini MA, Coqueiro RS, Pithon MM, Rode SM, Paranhos LR. Perception, knowledge and attitudes of Brazilian orthodontists on the treatment of Class II malocclusions.An Acad Bras Cien.2017;89(4):2875-2885.	Unrelated epidemiological study
645- Moore D. Does individual and neighbourhood social capital in early childhood influence oral health-related quality of life? Evid Based Dent. 2019;20(3):90-91.	Unrelated epidemiological study
646- Čirgić E, Kjellberg H, Hansen K. Discomfort, expectations, and experiences during treatment of large overjet with Andresen Activator or Prefabricated Functional Appliance: a questionnaire survey.Acta Odontol Scand.2017;75(3):166-172.	Unrelated epidemiological study
647- da Costa AC, Rodrigues FS, da Fonte PP, Rosenblatt A, Innes NPT, Heimer MV. Influence of sense of coherence on adolescents' **self**-perceived dental aesthetics; a **cross**-sectional study. BMC Oral Health.2017;17(1):117.	This study didn´t evaluated the orthodontic treatment need.
648- Wan Hassan WN, Yusof ZY, Makhbul MZ, Shahidan SS, Mohd Ali SF, Burhanudin R, Gere MJ. Validation and reliability of the Malaysian English version of the psychosocial impact of dental aesthetics questionnaire for adolescents.Health Qual Life Outcomes.2017;15(1):54.	This study didn´t evaluated the orthodontic treatment need.
649- Davis T, Goldwater MB, Ireland ME, Gaylord N, Van Allen J. Can you catch Ebola from a stork bite? Inductive reasoning influences generalization of perceived zoonosis risk. Plos one.2017;12(11):e0186969.	Unrelated epidemiological study
650- Al-Kharboush GH, Asimakopoulou K, AlJabaa AH, Newton JT. The role of social comparison in social judgments of dental appearance: An experimental study.J Dent.2017;61:33-38.	This study didn´t evaluated the orthodontic treatment need.
651- da Cunha IP, Pereira AC, Frias AC, Vieira V, de Castro Meneghim M, Batista MJ, Cortellazzi KL, Bulgareli JV. Social vulnerability and factors associated with oral impact on daily performance among adolescents. Health Qual Life Outcomes 2017;15(1):173.	Unrelated epidemiological study
652- Pithon MM, Rocha MFN, da Silva Coqueiro R, de Andrade ACDV. Impact of Orthognathic Correction of Class II Malocclusion on the Perception of Social Characteristics. Turk J Orthod.2017;30(3):69-72.	Unrelated epidemiological study

653- Mitiku I, Assefa A. Caregivers' perception of malaria and treatment-seeking behaviour for under five children in Mandura District, West Ethiopia: a cross-sectional study.Malar J.2017;16(1):144.	Unrelated epidemiological study
654- Paula JS, Cruz JND, Ramires TG, Ortega EMM, Mialhe FL. Longitudinal impact of clinical and socioenvironmental variables on oral health-related quality of life in adolescentes. Braz Oral Res.2017;31:e70.	This study isn´t about the orthodontic treatment need.
655- Kouassi BL, Barry A, Heitz-Tokpa K, Krauth SJ, Goépogui A, Baldé MS, Barry O, Niamey ML, Bockarie MJ, Koudou BG, Utzinger J. **Perceptions**, knowledge, attitudes and practices for the prevention and control of lymphatic filariasis in Conakry, Republic of Guinea.Acta Trop.2018;179:109-116.	Unrelated epidemiological study
656- Van Der Linden MC, Khursheed M, Hooda K, Pines JM, Van Der Linden N. wo emergency departments, 6000km apart: Differences in patient flow and staff **perceptions** about **crowding**. Int Emerg Nurs,2017;35:30-36.	Unrelated epidemiological study
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658- Garcia-Romero M, Rita-Gáfaro CG, Quintero-Manzano J, Angarita AB. NEDOCS vs subjective evaluation, ¿Is the health personnel of the emergency department aware of its overcrowding?Colomb Med (Cali).2017;48(2):53-57.	Unrelated epidemiological study
659- Kent M, Whyte R, Fleishman A, Tomich D, Forrow L, Rodrigue J. Public Perceptions of Overlapping Surgery.Am Coll Surg.2017;27(2):778.e4.	Unrelated epidemiological study
660- Khoun T, Malden PE, Turton BJ. Oral health-related quality of life in young Cambodian children: a validation study with a focus on children with cleft lip and/or palate.2018;28(3):326-334.	This study is about quality of life.
661- Hult Khazaie D, Khan SS. Shared **social** identification in mass gatherings lowers health **ri**sk perceptions via lowered disgust. Br J Soc Psychol.2019;	Unrelated epidemiological study
662- Perazzo MF, Gomes MC, Neves ÉT, Martins CC, Paiva SM, Granville-Garcia AF. Oral health-related quality of life and sense of coherence regarding the use of dental services by preschool children.Int J Paediatr Dent.2017;27(5):334-343.	This study is about quality of life.
663- Posnick JC, Kinard BE. Orthognathic Surgery Has a Significant Positive Effect on **Perceived** Personality Traits and **Perceived** Emotional Expressions in Long Face Patients. J Oral Maxillofac Surg.2019;77(2):488.e1-408.e10.	Unrelated epidemiological study
664- Feu D, de Oliveira BH, Palomares NB, Celeste RK, Miguel JAM. Oral health-related quality of life changes in patients with severe Class III malocclusion treated with the 2-jaw surgery-first approach. Am J Orthod Dentofacial Orthop.2017;151(6):1048-1057.	Unrelated epidemiological study
665- da Fonseca RCL, Antunes JLF, Cascaes AM, Bomfim RA. Analysis of the combined **risk** of oral problems in the oral health-related quality of	This study is about quality of life.

life of Brazilian adolescents: multilevel approach. Clin Oral Investig.2020;24(2):857-866.	
666- Bruce A, Kelly B, Chambers B, Barrett BT, Bloj M, Bradbury J, Sheldon TA. The effect of adherence to spectacle wear on early developing literacy: a longitudinal study based in a large multiethnic city, Bradford, UK.BMJ Open.2018;8(6):e021277.	Unrelated epidemiological study
667- Sun L, Wong HM, McGrath CPJ. The **factors** that influence the oral health-related quality of life in 12-year-old children: baseline study of a longitudinal research.2017;15(1):155.	This study is about quality of life.
668- Linjawi AI, Abushal AM, Al-Zahrani AM, Bakhamis BA. Patients' Perceptions to Reduced Orthodontic Treatment Time In Saudi Arabia. Prefer Adherence. 2019.13:1973-1981.	Unrelated epidemiological study
669- Rajab LD, Abu Al Huda D. Impact of treated and untreated traumatic dental injuries on oral health-related quality of life among 12-year-old schoolchildren in Amman.Dent Traumatol.2019;35(3):153-16.	Unrelated epidemiological study
670- Zaborskis A, Kavaliauskienė A, Šidlauskas A. Family Affluence Based Inequality in Oral Health-Related Quality of Life in a Population of Lithuanian Adolescents.2019;16(12):2106.	This study is about quality of life.
671- Musah Y, Ameade EPK, Attuquayefio DK, Holbech LH. Epidemiology, ecology and human perceptions of snakebites in a savanna community of northern Ghana.Plos Negl Trop Dis.2019;13(8):e0007221.	Unrelated epidemiological study
672- Bastawrous A, Mathenge W, Buchan J, Kyari F, Peto T, Rono H, Weiss HA, Macleod D, Foster A, Burton MJ, Kuper H.JGlaucoma Features in an East African Population: A 6-Year Cohort Study of Older Adults in Nakuru, Kenya.2018;27(5):455-463.	Unrelated epidemiological study
673- Silva-Oliveira F, Goursand D, Ferreira RC, Paiva PCP, Paiva HN, Ferreira EF, Zarzar PM. Traumatic dental injuries in Brazilian children and oral health-related quality of life.Dent Traumatol.2018;34(1):28-35.	This study is about quality of life
674- Van Harten M. Do **socio**-**economic** circumstances affect oral health related quality of life? Evid Based Dent.2020;21(1):10-11.	This study is about quality of life
675- Gramer G, Gramer E. Stage of visual field loss and age at diagnosis in 1988 patients with different glaucomas: implications for glaucoma screening and driving ability. Int Ophthalmol.2018;38(2):429-441.	Unrelated epidemiological study
676- Carvalho TS, Abanto J, Pinheiro ECM, Lussi A, Bönecker M. Early childhood caries and psychological **perceptions** on child's oral health increase the feeling of guilt in parents: an epidemiological survey.2018;28(1):23-32.	Unrelated epidemiological study
677- Rahman Z, Mattingly SP, Kawadgave R, Nostikasari D, Roeglin N, Casey C, Johnson T. Using crowd sourcing to locate and characterize conflicts for vulnerable modes. Accid Anal Prev.2019;128:32-39.	Unrelated epidemiological study
678- Mongan D, Shannon C, Hanna D, Boyd A, Mulholland C. The association between specific types of childhood adversity and attenuated psychotic symptoms in a community sample. Early Interv Psychiatry.2019;13(2):281-289.	Unrelated epidemiological study

679- Konrad B, Hiti D, Chang BP, Retuerto J, Julian J, Edmondson D. Cardiac patients' perceptions of neighboring patients' risk: influence on psychological stress in the ED and subsequent posttraumatic stress. BMC Emerg Med. 2017;17(1):33.	Unrelated epidemiological study
680- Sng O, Neuberg SL, Varnum MEW, Kenrick DT. The crowded life is a slow life: Population density and life history strategy.J Pers Soc Psychol.2017;112(5):736-754.	Unrelated epidemiological study
681- Sardenberg F, Cavalcante-Leão BL, Todero SR, Ferreira FM, Rebellato NL, Fraiz FC. A population-based study on the impact of orofacial dysfunction on oral health-related quality of life among Brazilian schoolchildren.Acta Odontol Scan.2017;75(3):173-178.	This study is about quality of life
682- Tora A, Tadele G, Aseffa A, McBride CM, Davey G. Health beliefs of school-age rural children in podoconiosis-affected families: A qualitative study in Southern Ethiopia.Plos Negl Trop Dis.2017;11(5):e0005564.	Unrelated epidemiological study
683- Willis JR, Doan QV, Gleeson M, Haskova Z, Ramulu P, Morse L, Cantrell RA. Vision-Related Functional Burden of Diabetic Retinopathy Across Severity **Levels** in the United States.2017;135(9):926-932.	Unrelated epidemiological study
684- Sun L, Wong HM, McGrath CPJ. A cohort study of factors that influence oral health-related quality of life from age 12 to 18 in Hong Kong. Health Qual Life Outcomes.2020;18(1):65.	This study is about quality of life
685- da Cunha IP, Mialhe FL, Pereira AC, Vedovello SAS, Bulgareli JV, Frias AC, Ambrosano GMB, de Castro Meneghim M. Self-perceived dental treatment need among adolescents: A hierarchical analysis. Community Dent Oral Epidemiol.2020;48(2):130-136.	This study didn´t evaluated the orthodontic treatment need.
686- Mazzaferro DM, Wes AM, Naran S, Pearl R, Bartlett SP, Taylor JA.Orthognathic Surgery Has a Significant Effect on Perceived Personality Traits and Emotional Expressions.Plast Reconst Surg.2017;140(5):971:981.	Unrelated epidemiological study
687- Hu H, Zhang J, Wang C, Yu P, Chu G. What influences tourists' intention to participate in the Zero Litter Initiative in mountainous tourism areas: A case study of Huangshan National Park, China.Sci Total Environ.2019;657:1127:1137.	Unrelated epidemiological study
688- Eltayeb D, Pietersen E, Engel M, Abdullahi L. F**actors** associated with tuberculosis diagnosis and **treatment** delays in Middle East and North Africa: a systematic review. 2020;26(4):477-486.	Unrelated epidemiological study
689- Almedlej R, Aldosary R, Barakah R, Alkhalifah A, Adlan A, AlSaffan AD, Baseer. Dental esthetic and the likelihood of finding a job in Saudi Arabia. A cross-sectional study. J Family Med Prim Care.2020.9(1):276-281.	This study is a review.
690- Anthonj C, Setty KE, Ezbakhe F, Manga M, Hoeser C. A systematic review of water, sanitation and hygiene among Roma communities in Europe: Situation analysis, cultural context, and obstacles to improvement. Int J Hyg Environ Health.2020;226:113506.	Unrelated epidemiological study

691- Vedovello SAS, de Carvalho ALM, de Azevedo LC, Santos PRD, Vedovello-Filho M, Meneghim MC. Impact of anterior occlusal **conditions** in the mixed dentition on oral health-related quality-of-life item **levels**: A multivariate analysis.Angle Orthod.2020.	This study is about quality of life

APÊNDICE C – Lista de exclusão de textos completos

Reference	Classification
1- Abreu LG, Melgaco CA, Bastos Lages EM, Paiva SM. Impact of malocclusion on adolescents' oral health-related quality of life. General dentistry. 2016;64(6):e1-e5.	This study didn´t evaluate the self-perception of the orthodontic treatment need.
2 - Adebanke KK, Olatunde AH, Donald OO. Normative and perceived orthodontic treatment need of senior year dental students. Arch oral res (Impr). 2013;9(1):23-30.	The socioeconomic level wasn´t evaluated.
3- Ahmed B, Gilthorpe MS, Bedi R. Agreement between normative and perceived orthodontic need amongst deprived multiethnic school children in London. Clinical Orthodontics and Research. 2008;4(2):65-71.	The socioeconomic level wasn´t evaluated.
4- Ahn YS, Kim HY, Hong SM, Patton LL, Kim JH, Noh HJ. Validation of a Korean version of the Child Oral Health Impact Profile (COHIP) among 8- to 15-year-old school children. Int J Paediatr Dent. 2012;22(4):292-301.	The orthodontic treatment need was evaluated by a calibrated dentist (Reports no self-perception orthodontic treatment need).
5- Ajavi EO. Normative and self-perceived orthodontic treatment need in Nigerian school children. Acta Odontologica Scandinavica. 2015;73(5):364-367.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
6- Alatrach AB, Saleh FK, Osmar E. The prevalence of malocclusion and orthodontic treatment need in a sample of Syrian children. European Scientific Journal. 2014;10(30):230-247.	The socioeconomic level wasn´t evaluated.
7- Alhumaid ME, Naeem S, Alfahhad HMA, Alshurtan HSR, Albaqawi FHN. Orhotontic treatment need as perceived by university need as perceived by university students using aesthetic component (AC) of index of orthodontic treatment need (IOTN). Pakistan Oral & Dental Journal. 2016;36(3):408.	The socioeconomic level wasn´t evaluated.
8- Al-Azemi R, Artun J. Orthodontic treatment need in adolescent Kuwaitis: prevalence, severity and manpower requirements.Medical Principles and Practice.2010;19(5):348-354.	This study didn´t assessment the self-perception of the orthodontic treatment need.
9- Akarslan ZZ, Sadik B, Erten H, Karabulut E. Dental esthetic satisfaction, received and desired dental treatments for improvement of esthetics. Indian journal of dental research: official publication of Indian Society for Dental Research. 2009;20(2):195-200.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.

10- Albino JE, Cunat JJ, Fox RN, Lewis EA, Slakter MJ, Tedesco LA. Variables discriminating individuals who seek orthodontic treatment. Journal of dental research. 1981;60(9):1661-7.	The socioeconomic level wasn´t evaluated.
11- Almeida ABd, Leite ICG. Orthodontic treatment need for Brazilian schoolchildren: a study using the Dental Aesthetic Index. Dental Press J Orthod. 2013;18(1):103-9.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
12- Asgari I, Ahmady AE, Yadegarfar G, Eslamipour F. Evaluation of orthodontic treatment need by patient-based methods compared with normative method. Dental research. 2013;10(5)636-642.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
13- Athira S, Jayakumar HL, Chandra M, Gupta T, Anand PJS, Dithi C. Dental esthetic perceptions and orthodontic treatment needs among school children aged 9-18 years of South Bengaluru: a cross-sectional study.2016;14(1);50-56.	The socioeconomic level wasn´t evaluated.
14- Atissok P, Chuacharoen R. The relationship between demand and need for orthodontic treatment in high school students in Bangkok. J Med Asso Thai.2014;97(7):758-766.	This study didn´t assessment the self-perception of the orthodontic treatment need.
15- Avinash B, Shivalinga BM, Muralidhar NV, Avinash BS, Shekar S, Pradeep S. “IOTN Index based malloclusion assessment of 12 year old school goingo children im my sore city”. International Journal of Advanced Research.2015;3(7):1235-1240.	The socioeconomic level wasn´t evaluated.
16- Badran SA, Al-Khateeb S. Factors influencing the uptake of orthodontic treatment. Journal of Public Health Dentistry. 2013;73(4):339-44.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
17- Baram D, Yang Y, Ren C, Wang Z, Wong RWK, Hagg U, McGrath C, Gu M. Orthodontic treatment need and the Psychosocial impact of malocclusion in 12-year-old Hong Kong Children. The Scientific World Journal.2019;2019;9p.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
18- Baubiniene D, Sidlauskas A. The factors effecting satisfaction of dental appearance and self-perceived need for orthodontic treatment in 10-11 and 14-15 year-old Lithuanian schoolchildren. Stomatologija. 2009;11(3):97-102.	This study didn´t evaluate the self-perception of the orthodontic treatment need. The patients were asked to select the aesthetic treatments they wished to undergo.
19- Bernabé E, Borgs-Yáñez AS, Flores-Mir C.2 The impact of orthodontic treatment on normative need. A case-control study in Peru. Australian orthodontic. 2007;3(1):50-54.	This study didn´t assessment the self-perception of the orthodontic treatment need.

20- Bourne CO, Sa B. Orthodontic treatment need of children in Trinidad and Tobago. West Indian Med J. 2012;61(2):180-6.	It was not possible ascertained clearly the socioeconomic variables in this study.
21- Booysen J. Orhotontic treatment need and demand in the Upington area of the Northern Cape Province.2018;Thesis.Uwc Eletronic Theses and Dissertations Repository.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
22- Brown DF, Spencer AJ, Tolliday PD. Social and psychological factors associated with adolescents' self-acceptance of occlusal condition. Community Dent Oral Epidemiol. 1987;15(2):70-3.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
23- Burden DJ, Mitropoulos CM, Shaw WC. Residual orthodontic treatment need in a sample of 15- and 16-year-olds. Br Dent J. 1994;176(6):220-4.	This study evaluated the residual orthodontic treatment need.
24- Burgersdijk R, Truin GJ, Frankenmolen F, Kalsbeek H, van't Hof M, Mulder J. Malocclusion and orthodontic treatment need of 15-74-year-old Dutch adults. Community Dent Oral Epidemiol. 1991;19:64-7.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
25- Chaudhry NA, Rahbar MI, Raza A, Qaiser Ali B. Self perception of malocclusion among dental and medical students. Pakistan Oral & Dental.2013;33(3):489-493.	The socioeconomic level wasn´t evaluated.
26- Chestnutt IG, Burden DJ, Steele JG, Pitts NB, Nuttall NM, Morris AJ. The orthodontic condition of children in the United Kingdom, 2003. Br Dent J. 2006;200(11):609-12;quiz 38.	The study is about orthodontic condition of children in the UK and didn´t evaluate association between self-perception of the orthodontic treatment need and socioeconomic factors.
27- Christopherson EA, Briskie D, Inglehart MR. Preadolescent orthodontic treatment need: objective and subjective provider assessments and patient self-reports. Am J Orthod Dentofacial Orthop. 2009;135(4 Suppl): S80-6.	This study didn't collect data about the association between socioeconomic level and the self-perception of the orthodontic treatment need.
28- Christopherson EA, Briskie D, Inglehart MR. Objective, subjective, and self-evaluate of preadolescent orthodontic treatment need--a function of age, gender, and ethnic/racial background?J Public Health Dent. 2009;69(1):9-17.	This study evaluates the desire for orthodontic treatment. It is not about self-perception. The desire for orthodontic treatment is different of the self-perception of the orthodontic treatment need.
29- Choi ES, Ryu JI, Patoon LL, Kim HY. Item-level analysis of the relationship between orthodontic treatment need and oral health-related quality of life in Korean schoolchildren. American Journal of Orthodontics and Dentofacial Orthopedics.2019;155(3):335-361.	This study didn´t assessment the self-perception of the orthodontic treatment need.

30- Chu CH, Choy BH, Lo EC. Occlusion and orthodontic treatment demand among Chinese young adults in Hong Kong. Oral health & preventive dentistry. 2009;7(1):83-91.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
31- Claudino D, Traebert J. Malocclusion, dental aesthetic self-perception and quality of life in a 18 to 21 year-old population: a cross section study. BMC Oral Health. 2013;13:3.	Cross-sectional study concerning malocclusion and dental aesthetic self-perception but reports no self-perception of the orthodontic treatment need.
32- Danaei SM, Salehi P. Association between normative and self-perceived orthodontic treatment need among 12-to 15-year-old students in Shiraz, Iran. European Journal of Orthodontics. 2010;32(5):530-4.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
33- Danaee SM, Fijan S, Mohammadi N. Evaluation of relationship between orthodontic treatment need according dental Aesthetic Index (DAI) and student´s perception in 11-14 year old students in the city of Shiraz in 2012. International Journal of Researh in Medical Sciences.2015;3(5):1056-1060.	The socioeconomic level wasn´t evaluated.
34- de Almeida AB, Leite IC. Orthodontic treatment need for Brazilian schoolchildren: a study using the Dental Aesthetic Index. Dental Press J Orthod. 2013;18(1):103-9.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
35- De Oliveira CM. The planning, contracting and monitoring of orthodontic services, and the use of the IOTN index: a survery of consultants in dental public health in the United Kingdom. British Dental Journal.2003;195:704-706.	This study didn´t assessment the self-perception of the orthodontic treatment need.
36- De Souza ET, Da Silva BF, Maia FBM, Forte FDS, Sampaio FC. Perception of children and mothers regarding dental aesthetics and orthodontic treatment need: a cross-sectional study. Progress in Orthodontics. 2016;17(37) https://doi.org/10.1186/s40510-016-0149-6.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
37- Deli R, Macri LA, De Luca M, Torsello F, Grippaudo C. Satisfaction with dental appearance in 8-9 years-old children. Validation of COAS questionnaire for Italian-speaking children and evaluation of social and geographical context. European journal of paediatric dentistry: official journal of European Academy of Paediatric Dentistry. 2008;9(1):7-12.	This study did not evaluate the self-perception of the orthodontic treatment need.
38- Deli R, Macri LA, Radico P, Pantanali F, Grieco DL, Gualano MR, La Torre G. Orthodontic treatment atitude versus orthodontic treatment need: differences by gender, age, socioeconomical status and geographical context. Community Dentistry and Oral Epidemiology. 2012;40(s1):71-76	This study didn´t assessment the self-perception of the orthodontic treatment need.

39- Dias PF, Gleiser R. Orthodontic concerns of Brazilian children and their parents compared to the normative treatment need. Journal of Oral Science. 2010;52(1):101-107.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
40- Dias PF, Gleiser R. Orthodontic treatment need in a group of 9-12-year-old Brazilian schoolchildren. Braz oral res. 2009;23(2):182-9.	This study did not evaluate the self-perception of the orthodontic treatment need.
41- Dika D, Hamid T, Sylvia M. Penggunaan index of orthodontic treatment need (iotn) sebagai evaluasi hasil perawatan dengan piranti lepasan. Orthod Dent J.2011;2(1):45-48	The socioeconomic level wasn´t evaluated.
42- Dogan AA, Sari E, Uskun E, Saglam AMS. Comparison of orthodontic treatment need by professionals and parents with different socio-demographic characteristics. Eur J Orthod. 2010;32(6):672-6.	This study evaluates the perception of parents concerning of the need for orthodontic treatment of their children. It is not about self-perception.
43- Dos Santos PR, Meneghim MC. Influence of quality of life, self-perception, and self-esteem on orthodontic treatment need. American Journal of Orhotontics Dentofacial Orthopedics.2017;151(1):143-147.	The socioeconomic level wasn´t evaluated.
44- Esa R, Razak IA, Allister JH. Epidemiology of malocclusion and orthodontic treatment need of 12-13-year-old Malaysian schoolchildren. Community Dental Health. 2001;18(1):31-6.	It was not possible ascertained clearly the socioeconomic variables in this study.
45- Eslamipour F, Riahi FT, Etemadi M, Riahi A. Correlation coefficients of three self-perceived orthodontic treatment need indices. DRJ.2017;14(1):37-42.	The socioeconomic level wasn´t evaluated.
46- Espeland LV, Ivarsson K, Stenvik A, Alstad TA. Perception of malocclusion in 11-year-old children: a comparasion between personal and parental awareness. European Journal of Orthodontics.1992;14(5):350-358.	The socioeconomic level wasn´t evaluated.
47- Etim SS, Aikins EA, Onyeaso CO. Normative Orthodontic Treatment Need of Nigerian Adolescents- A Comparative Study of Three Major Ethnic Groups. Journal of Advances in Medicine and Medical Research. 2020:32(3):78-87.	This study didn´t assessment the self-perception of the orthodontic treatment need
48- Feldens CA, Nakamura EK, Tessarollo FR, Closs LQ. Desire for orthodontic treatment and associated factors among adolescents in Southern Brazil. The Angle orthodontist. 2015;85(2):224-32.	This study evaluates the desire for orthodontic treatment. It is not about self-perception. The desire for orthodontic treatment is different of the self-perception of the orthodontic treatment need.
49- Flores-Mir C, Major PW, Salazar FR. Self-perceived orthodontic treatment need evaluated through 3 scales in a university population. J Orthod. 2004; 31:329-34	The socioeconomic level was not evaluated in this study.

50- Freitas CV, Souza JGS, Mendes DC, Pordeus IA, Jones KM, Martins AMEBL. Need for orthodontic treatment among Brazilian adolescents: Evaluation based on public health. Revista Paulistana de Pediatria.2015;33(2):204-210.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
51- Ghijselings I, Brosens V, Willems G, Fieuws S, Clijmans M, Lemiere J. Normative and self-perceived orthodontic treatment need in 11- to 16-year-old children. Eur J Orthod. 2014;36(2):179-85.	The socioeconomic level was not evaluated in this study
52- Gray M, Anderson R. A study of young people's perceptions of their orthodontic need and their experience of orthodontic services. Primary dental care: journal of the Faculty of General Dental Practitioners (UK). 1998;5(3):87-93.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
53- Hamamci N, Basaran G, Uysal E. Dental aesthetic index scores and perception of personal dental appearance among Turkish university students. European Journal of Orthodontics.2009;31(2):168-173.	This study didn´t assessment the self-perception of the orthodontic treatment need.
54- Hamdan AM, Al-Omari IK, Zaid B, Al-Bitar AL. Ranking dental aesthetics and thresholds of treatment need: a comparison between patients, parents, and dentists. Europen Journal of Orthodontics.2007;29(4):366-371.	The socioeconomic level wasn´t evaluated.
55- Hamdam AM, Singh V, Rock W. Perceptions of dental aesthetics of Class III and anterior open bite malocclusions: a comparasison between 10-to 11 year-old schoolchildren and orthodontists. The Angle Orhotodontist.2012 ;82(2):202-208.	The socioeconomic level wasn´t evaluated.
56- Hassan AH, Hassan MHA, Liniawi AL. Association of orthodontic treatment needs and oral health-related quality of life in Saudi children seeking orthodontic treatment.Patient Prefer Adherence.2014; 8: 1571–1579.	The socioeconomic level wasn´t evaluated.
57- Holmes A. The subjective need and demand for orthodontic treatment. *Br J Orthod* 1992; 19: 287–297	This study didn't evaluate the self-perception of the orthodontic treatment need.
58- Johal A, Joury E. What factors predict the uptake of orthodontic treatment among adults? Am J Orthod Dentofacial Orthop. 2015;147(6):704-10.	This study did not evaluate the self-perception of the orthodontic treatment need.
59- Josefsson E, Bierklin K, Halling A. Self-perceived orthodontic treatment need and culturally related differences among adolescents in Sweden. European Journal of Orthodontics. 2005;27(2);140-147.	The socioeconomic level wasn´t evaluated.
60- Josefsson E, Bierklin K, Lindsten R. Factors determining perceived orthodontic treatment need in adolescents of Swedish	The socioeconomic level wasn´t evaluated.

and immigrant background. European Journal of Orthodontics. 2009;31(1):95-102.	
61- Karim AMI. Orhotodontic treatment need of adolescents in Haida Gwaii, Canada. The University of British Columbia.Thesis.2013.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
62- Kok YV, Mageson P, Harradine NWT, Sprod AJ. Comparing a quality of life measure and the Aesthetic Component of the Index of Orthodontic Treatment Need (IOTN) in assessing orthodontic treatment need and concern. J Orthod. 2004;31(4):312-8	This study didn't evaluate the relation between socioeconomic level and the self-perception of the orthodontic treatment need.
63- Kolawole KA, Ayeni OO, Osiatuma VI. Evaluation of self-perceived dental aesthetics and orthodontictreatment need among young adults. Arch oral res (Impr). 2012;8(2):111-9.	The socioeconomic level wasn´t evaluated.
64- Kumar CP, Londhe BSM, Kotwal CASM, Mitra CR. Prevalence of malocclusion and orthodontic treatment need in schoolchildren – A epidemiological study. Medical Journal Armed Forces India.2013;69(4);369-374.	The socioeconomic level wasn´t evaluated.
65- Lin F, Ren M, Yao L, He Y, Guo J, Ye Q. Psychosocial impact of dental esthetics regulates motivation to seed orthodontic treatment. American Journal of Orthodontics and Dentofacial Orthopedics.2016;150(13):476-482.	This study didn´t assessment the self-perception of the orthodontic treatment need.
66- Lubis HF, Laturiuw HP. Socioeconomic status and orthodontic treatment need based on the Dental Health Component. Dental Journal (Majalah Kedokteran Gigi). 2018;51(3): 119-123.	This study didn´t assessment the self-perception of the orthodontic treatment need.
67- Mafla AC, Barrera DA, Muñoz GM. Maloclusión y necesidad de tratamiento ortodóntico en adolescentes de Pasto, Colombia. Rev Fac Odontol Univ Antioq. 2011;22(2):173-85.	This study did not evaluate the self-perception of the orthodontic treatment need.
68- Mahmood TMA, Kareem FA. Psychological impact of dental aesthetics for Kurdish young adults seeking orthodontic treatment. Journal of Baghdad college of dentistry. 2012;24(1):146-152.	This study didn´t assessment the self-perception of the orthodontic treatment need.
69- Mandall NA, McCord JF, Blinkhorn AS, Worthington HV, O'Brien KD. Perceived aesthetic impact of malocclusion and oral self-perceptions in 14-15 years-old Asian and Caucasian children in greater Manchester. Eur J Orthod. 2000; 21:175-83.	The socioeconomic level wasn't evaluated.
70- Mandall NA, Wright J, Conboy F, Kay E, Harvey L, O´Brien KD. Index of orthodontic treatment need as a predictor of	It was not possible to extract data about socioeconomic level related to self-

orthodontic treatment uptake. American Journal of Orthodontics and Dentofacial Orthopedics. 2005;128(6):703-707.	perception of the orthodontic treatment need.
71- Marques LS, Barbosa CC, Ramos-Jorge ML, Pordeus IA, Paiva SM. Prevalência da maloclusão e necessidade de tratamento ortodôntico em escolares de 10 a 14 anos de idade em Belo Horizonte, Minas Gerais, Brasil: enfoque psicossocial. Cadernos de saúde publica. 2005;21(4):1099-106.	This study evaluate parent´s perception of the children´s oral aesthetics. It is not about self-perception of the orthodontic treatment need.
72- Marques LS, Ramos-Jorge ML, Ramos-Jorge J, Pereira LJ, Paiva SM, Pordeus LA. Self-perception regarding the need for orthodontic treatment among impoverished schoolchildren in Brazil. European journal of paediatric dentistry: official journal of European Academy of Paediatric Dentistry. 2009;10(3):125-30.	This study did not evaluate the self-perception of the orthodontic treatment need. It evaluated the factors that influence the self-perception of the orthodontic treatment need of students with low socioeconomic level.
73- Mary AV, Mahendra J, John J, Moses J. et al. Assessing quality of life using the oral health impact profile (OHIP-14) in subjects with and without orthodontic treatment need in Chennai, tamil, nadu, India. J Clin Diagn Res.2017;11(8):zc78-zc81. -	This study didn´t assessment the self-perception of the orthodontic treatment need.
74- Marya CM, Rekhi A, Nagpal R, Oberoi SS, Dhingra C. Perceived aesthetic impact of malocclusion in 16-24 year-old adults in the rural areas of India. Plast Aesthet. 2012;1:58-61.	The socioeconomic level wasn´t evaluated.
75- Miguel JAM, Sales HX, Quintão CC, Oliveira BH, Feu D. Factors associated with orthodontic treatment seeking by 12-15-year-old children at a state university-funded clinic. Journal of orthodontics. 2010;37(2):100-6.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
76- Miloglu DO, Çaglayan F, Kazanci DF. et al. The examination of relationship between orthodontic treatment need and quality of life in Turkish children. Ataturk Universitesi Dis Hekimligi Fakultesj Dergisi.2009;2009(1):8-13.	This study didn´t assessment the self-perception of the orthodontic treatment need.
77- Mishra S, Mani SA, Neil O, Mani A, Singh V, Singh RP. Need for orthodontic treatment among Indian adolescents: Evaluation Based On Public Health. Pravara Med Rev.2018;10(1).	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
78- Monteiro AKAP, Sarmento DJS, Pinto-Sarmento TCA, Diniz MB, Granville-Garcia AF, Duarte DA.2 Normative need for orthodontic treatment and perception of the need for such treatment among Brazilian adolescents. Dental Press Journal of Orthodontics. 2017; 2(3):41-46.	The socioeconomic level wasn´t evaluated.
79- Mtaya M, Astrom AN, Brudvik P. Malocclusion, psycho-social impacts and treatment need: A cross-sectional study of Tanzaninan primary school-children. BMC Oral Heatlh.2008;8(14).	This study didn´t assessment the self-perception of the orthodontic treatment need
80- Muralidharan S, Chauhan A, Gowda S, Ambekar R, Ambekar R, Rathore BS, Chabra S, Lalani A, Harani H. Assessment of	

orthotontic treatment need among tribal children of Indore division, Central India. Clujul Medical.2018;91(1):104-111.	This study didn´t assessment the self-perception of the orthodontic treatment need.
81- Mugonzibwa EA, Kuijipers-Jagtaman AM, van´t Hof MA, Kikiwily EN. Need for orthodontic treatment among Tanzanian children. East African Medical Journal. 2004;81(1):10-15.	The socioeconomic level wasn´t evaluated.
82- Nagarajan S, Pushpaniali K, The Relationship of malocclusion as assessed by the Dental Aesthetic Index (DAI) with perceptions of aesthetics, function, speedh and treatmen needs among 14-to 15-year-old Schoolchildren of Bangalore City, India. Oral health & preventive dentistry.2010;8(3).	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
83- Nalcaci R, Demirer S, Oztunr F, Altan BA, Sokucu O Bostanci V. The relationship of orthodontic treatment need with periodontal status, dental caries, and sociodemografphic factors. The Scientific World Jounal.2012;2012:6p.	This study didn´t assessment the self-perception of the orthodontic treatment need.
84- Nayak Ua, Winnier J, Rupesh S. The relationhip of dental aesthetic index with dental appearance, smile and desire for orthodontic correction. International Journal of Clinical pediatric.	The socioeconomic level wasn´t evaluated.
85- Neupane NR, Li G, Zhao J, Li H. Comparison of the subjective need for orthodontic treatment with its affecting factors between local students and foreign students in Nanjing. Ec Dental Science.2018.	The socioeconomic level wasn´t evaluated.
86- Nik TH, Nourouzi SH, Fard MJK, Noroozi H. The relationship between patient, parent and orthodontic treatment need and demand in 17-year-old students residing in Abade/Iran. 2007;4(3):107-114.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
87- Ngom PI, Diagne F, Dieve F, Ba D, Thiam F. Orthodontic treatment need and demand in Senegalese school children aged 12-13 years: an appraisal using IOTN and ICON. Angle Orthod. 2007;77(2):323-330.	The socioeconomic level wasn´t evaluated Sociodemographic data were obtained (age, sex).
88- Nobile CGA, Pavia M, Fortunato L, Angelillo IF. Prevalence and factors related to malocclusion and orthodontic treatment need in children and adolescents in Italy. European Journal of Public Health. 2007;17(6):637-41.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
89- Nur RB, Ilhan D, Fisekciouglu E. Total and interregional differences of the need for orthodontic treatment in Turkey:epidemiologic surveillance analysis. Turkish J Orthod.2014;27(1):1-8.	The socioeconomic level wasn´t evaluated.
90- O´Brien k, Wright JL, Conboy F, Macfarlane T, Mandall N. The child perception questionnaire is valid for malocclusions in the	

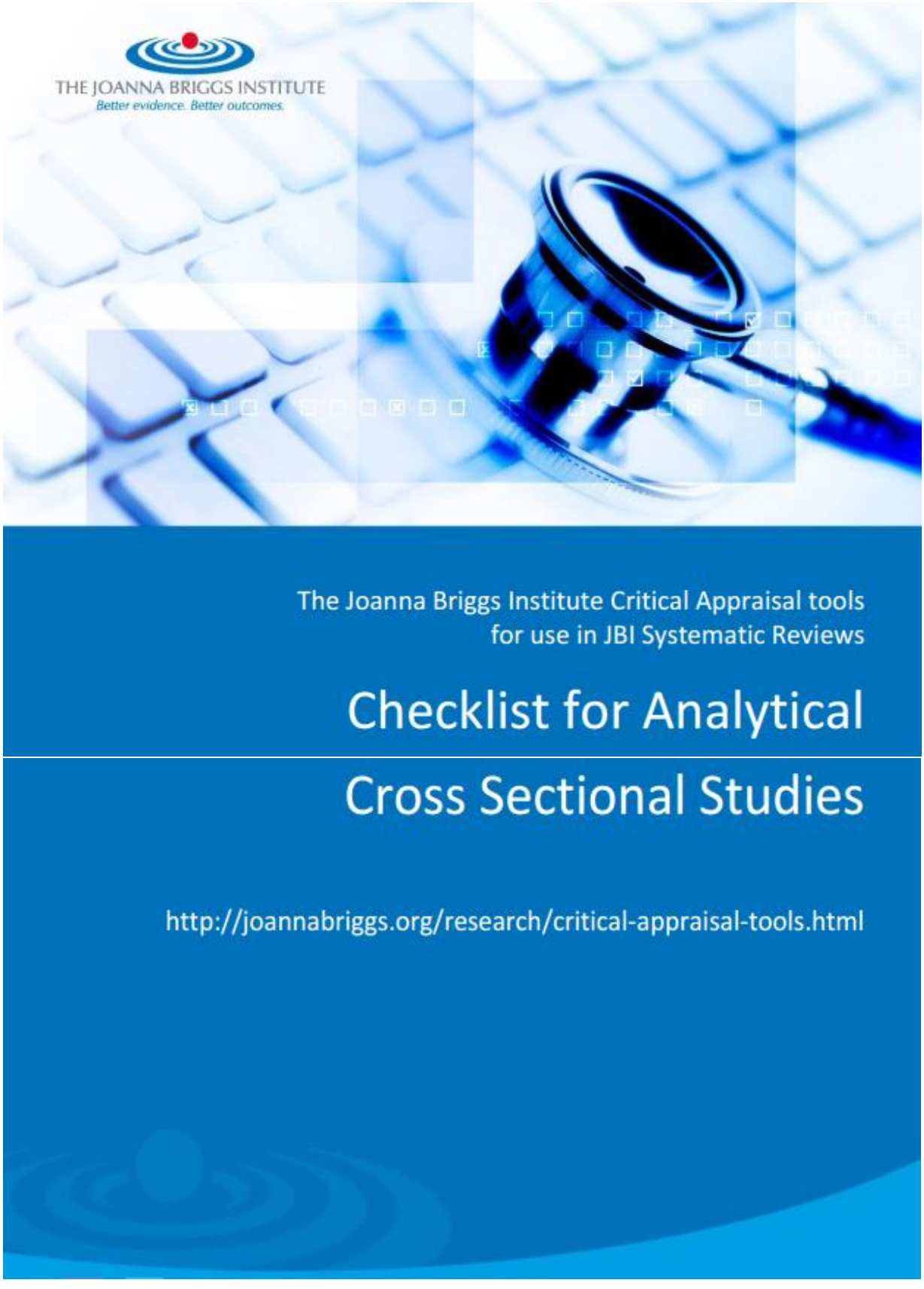
United Kingdom. American Journal of Orthodontics and Dentofacial Orthopedics. 2006;129(4):536-540.	This study didn´t assessment the self-perception of the orthodontic treatment need.
91- Onyeaso CO. Orthodontic treatment need and demand in a group of Nigerian adults: a teaching hospital-based study. Odonto-stomatologie tropicale = Tropical dental journal. 2004;27(107):32-6.	This study did not evaluate the self-perception of the orthodontic treatment need.
92- Onyeaso CO, Arowoiolu MO. Perceived, desired, and normatively determined orthodontic treatment needs among orthodntically untreated Nigerian adolescents.West African Journal of Medicine.2003;22(1).	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
93- Onyeaso CO. Oral health & preventive dentistry. Orthodontic treatment complexity and need with associated oral health-related quality of life in Nigerian adolescents. Oral health & Preventive Dentistry.2009;7(3):235-241.	The socioeconomic level wasn´t evaluated.
94- Onyeaso CO, Sanu OO. Perception of personal dental appearance in Nigerian adolescents. Am J Orthod Dentofacial Orthop. 2005;127(6):700-6.	This study reports the satisfaction with dental appearance, did not evaluate the self-perception of the orthodontic treatment need.
95- Oshagh M, Salehi P, Pakshir H, Bazyar L, Rakhshan V. Associations between normative and self-perception orthodontic treatment needs in young-adult dental patients. Korean J Orthod. 2011 Dec;41(6):440-446.	The socioeconomic level wasn´t evaluated. . The aim was to determine the correlation between normative and self-perception orthodontic treatment need
96- Oz E, Kuçukesmen C. Evaluation of the Relatioship betewwn malocclusion and the Periodontal Health, Caries, Socio-economic Status of Children. Meandros Med Dent J.2019;20:20-7.	This study didn´t assessment the self-perception of the orthodontic treatment need.
97- Prabhu S, Divva M, Sneha KV, Veena N. Prevalence of malocclusion, aesthetic self-perception and their correlation among 18 to 24d years old college students in Chennai. J Oral Hyg Heal. Journal of Oral Hygiene E Healthy.2017.	The socioeconomic level wasn´t evaluated.
98- Rajasekaran UB. Evaluation of perception and Awareness regarding orthodontic procedures among subjects attending a teaching dental Institution. International Journal of Oral Care and Research.2017;5(3):206-208.	This study didn´t assessment the self-perception of the orthodontic treatment need.
99- Rao M, Sing Y, Desai A. Comparative Assessment of and Selff-Perceived and Normative Orthodontic Treatment Need and Its Effect on the Self-Esteem of Students of a Prominent Indian Dental School – A Cross Sectional Survery. Journal of Public Health Research & Development. 2019;10(9):128-134.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
100- Raidranath S, En JTS, Heng APK. Orthodontic treatment need and self-perceived psychosocial impact of dental esthetics	The socioeconomic level wasn´t evaluated.

in a university adult population in Malaysia. Journal of Indian Orthodontic Society. 2017;51(2):69-74.	
101- Reddy S, John J Sarvanan S, Arumugham IM. Normative and perceived orthodontic needs among 12 year old school children in Chennai, india – A comparative study. Peer reviewed & Open Access Journal.2010;3(3):40-47.	The socioeconomic level wasn´t evaluated.
102- Reichmuth M, Greene KA, Orsini MG, Cisneros GJ, King GJ, Kiyak HA. Occlusal perceptions of children seeking orthodontic treatment: impact of ethnicity and socioeconomic status. Am J Orthod Dentofacial Orthop. 2005;128(5):575-82.	This study does not focus specifically on the self-perception of the orthodontic treatment need. It evaluates children´s perception of occlusal aesthetics.
103- Salonen L, Mohlin B, Gotzlinger B, Hellden L: Need and demand for orthodontic treatment in an adult Swedish population. *Eur J Orthod* 1992, 14:359-368.	This study didn't evaluated the relation between socioeconomic level and the self-perception of the orthodontic treatment need.
104- Santos Junior VE. Orthodontic treatment needs in children and its relationship with gender, family, income and ethnic groups. Revista Cubana de Estomatologia.2016;53(1):15-20.	This study didn´t assessment the self-perception of the orthodontic treatment need.
105- Searcy VL, Chisick MC. Perceived, desired, and normatively determined orthodontic treatment needs in male US Army recruits. *Community Dent Oral Epidemiol.* 1994;22:437–440.	There is no data about the association between socioeconomic level and the self-perception of the orthodontic treatment need
106- Senadeera WM, Perera IR, Rajapakshe TS, Dissanayake R, Kohl CE, Lantz SYP. The socio-demographic profile, treatment expectations and factors influencing perceived oral health status among Sri Lankan orthodontic patients.Sri Lankan Journal of Orthodontics. 2018;1(1):34-38.	The socioeconomic level wasn´t evaluated.
107- Shikha v, Rekha R, Radha G, Pallavi SK. Assessment of self-perceived and normative dental needs among teaching faculty of Visveswarapura Group of Institutions: A cross-sectional study. Journal of Indian Association of Public Health Dentistry. 2014;12(2):124-128.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
108- Singh V, Hamdan A, Rock P. The perception of dental aesthetics and orthodontic treatment need by 10- to 11-year-old children. Eur J Orthod. 2012;34(5):646-51. doi:10.1093/ejo/cjr080	The socioeconomic level wasn't evaluated.
109- Singh N, Bagga D, Sharma R, Singh R. Evaluation of reliability of index of orthodontic treatment need for assessment of orthodontic treatment need. International Journal of Orthodontics Reahbilitation.2017;8(1):5-10.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need
110- Spalj S, Slaj M, Athanasiou AE, Govorko DK, Slaj M. The unmet orthodontic treatment need of adolescents and influencing factors for not seeking orthodontic therapy. Collegium antropologicum. 2014;38 Suppl 2:173-80.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.

111- Spalj S, Katic V, Vidakovic R, Slaj M, Slaj M. History of orthodontic treatment, treatment needs and influencing factors in adolescents in Croatia. Central European Journal of Public Health.2016;24(2):123-127.	This study didn´t assessment the self-perception of the orthodontic treatment need.
112- Spencer AJ, Allister JH, Brennan DS. Predictors of fixed orthodontic treatment in 15-year-old adolescents in South Australia. Community Dent Oral Epidemiol. 1995;23(6):350-5.	This study did evaluated the self-perception occlusal aesthetics and not the self-perception of the orthodontic treatment need.
113- Stenvik A, Espeland L, Linge BO, Linge L. Lay attitudes to dental appearance and need for orthodontic treatment. Eur J Orthod.1997;19:271-7	The socioeconomic level wasn't evaluated
114- Sultana S, Hossain Z. Prevalence and factors related to malocclusion, normative and perceived orthodontic treatment need among children and adolescents in Bangladesh. Dental Press Journal of Orthodontics; 2019;24(3):44e1-44e9.	The socioeconomic level wasn´t evaluated. This study assessment sociodemographic variable and included the parent´s perception orthodontic treatment need.
115- Tessarollo FR, Feldens CA, Closs LQ. The impact of malocclusion on adolescent´s dissatisfaction with dental appearance and oral funcions. The Angle Orthodontics.2012;82(3):403-409.	This study didn´t assessment the self-perception of the orthodontic treatment need.
116- Torkan S, Heidari S, Pakshir H. The association of oral health-related quality of life and self-perceived esthetic impairment with orthodontic treatment seeking. Orthodontics: The Art & Practice of Dentofacial Enhancement 2012;13(1):226-233.	The socioeconomic level wasn´t evaluated.
117- Uthaman C, Sequeira PS, Jain J, Shamarao S, Jain V. Perception of personal dental appearance and Dental Aesthetic Index Score among 18-to 20-year-old college students in rural South India. Oral Health Preventive Dentistry.2015;13(6):495-499.	The socioeconomic level wasn´t evaluated.
118- Vedovello SAS, Dos Santos PR, De Carvalho ALM, Vedovello Filho M, Ambrosano GMB, Pereira AC, Meneghim MC. Exploring the perception of orthodontic treatment need using the Dental Aesthetic Index and Index of Orthodontic Treatment Need. American Journal of Orthodontics and Dentofacial Orthopedics.2019;156(6):818-822.	This study didn´t assessment the self-perception of the orthodontic treatment need.
119- Winniera JJ, Nayakb UA, Rupeshc S, Raod AP, Reddy NV. The relationship of two orthodontic indices with perceptions of aesthetics function, speech and orthodontic treatment need.2011;9:115-122.	The socioeconomic level wasn´t evaluated.
120- Yetkiner E, Vardar C, Ergin E, Yucel C. Orthodontic treatment need, self-esteem, and oral health-related quality of life assessment of primary schoolchildren: a cross-sectional pilot study. Turkish J Orthod. 2014;26:182-189.	The socioeconomic level wasn´t evaluated.

121- Zreagat M Hassan R, Ismail AR, Ismail NM, Aziz FA. Orthodontic treatment need and demand among 12-and 16 year-old school children in Malaysia. Oral Health Dental Management.2013;12(4);217-221.	The socioeconomic level wasn´t evaluated.
122- Gupta R, Mahanta S, Sah RP. Impacto of socio-demographics on Malocclusion and Traumatic dental injuries among 13-15 years old children in province II of Nepal. Orthodontic Journal of Nepal. 2019;9(1): 63-66.	It was not possible to extract data about socioeconomic level (rated by modified Kuppaswamy´s socioeconomic scale) related to self-perception of the orthodontic treatment need.
123- Mwangómbe FG. Orthodontic treatment need in children aged 12-14 years in Mombasa, Kenya. (Thesis). Faculty of Dentistry, University of the Western Cape.2016;114p.	The influence of socioeconomic status (high and low) on self-perception of the need for orthodontic treatment was not evaluated.
124- Serebe, C. The orthodontic treatment needs in children aged 12-15 years in a school in Khomas Region, Namibia. (Thesis) Faculty of Dentistry, University of the Western Cape.2018;80p.	The influence of socioeconomic status (high and low) on self-perception of the need for orthodontic treatment was not evaluated.
125- Raghavan S, Philip K, Batra P, Marcusson A. Aesthetic perceptions and psychosocial impact of malocclusion: comparison between cleft and non-cleft patients and their parents. Eur J Orthod.2019;41(1):38-45.	The socioeconomic level wasn´t assessment.
126- Kaieda AK, Bulgareli JV, Cunha IPD, Vedovello SAS, Guerra LM, Ambrosano GMB, Pereira AC, Paranhos LR, Cortellazzi KL. Malocclusion and dental appearance in underprivileged Brazilian adolescents. Braz Oral Res.2019;18(33):e014.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.
127- Sfreddo CS, Moreira CHC, Nicolau B, Ortiz FR, Ardenghi TM. Socioeconomic inequalities in oral health-related quality of life in adolescents: a cohort study. 2019;28(9):2491-2500.	This study didn´t assessment the self-perception of the orthodontic treatment need.
128- Taghavi Bayat J, Huggare J, Mohlin B, Akrami N. Determinants of orthodontic treatment need and demand: a cross-sectional path model study.Eur J Ortho.2017;39(1):85-91.	It was not possible to extract data about socioeconomic level related to self-perception of the orthodontic treatment need.

ANEXO A – JBI critical appraisal tools Checklist for Analytical Cross-Sectional Studies



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JBI Critical Appraisal Checklist for Analytical Cross Sectional Studies

Reviewer_____Date_____

Author _____Year_____Record Number_____.

	Yes	No	Unclear	Not applicable
1. Were the criteria for inclusion in the sample clearly defined?	☐	☐	☐	☐
2. Were the study subjects and the setting described in detail?	☐	☐	☐	☐
3. Was the exposure measured in a valid and reliable way?	☐	☐	☐	☐
4. Were objective, standard criteria used for measurement of the condition?	☐	☐	☐	☐
5. Were confounding factors identified?	☐	☐	☐	☐
6. Were strategies to deal with confounding factors stated?	☐	☐	☐	☐
7. Were the outcomes measured in a valid and reliable way?	☐	☐	☐	☐
8. Was appropriate statistical analysis used?	☐	☐	☐	☐