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Determinants of seat belt use behavior: a protocol for systematic review

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Determinants of seat belt use behavior: a protocol for a systematic review

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Abstract:

Introduction The use of a seat belt prevents severe accident damage and keeps passengers safe from injuries, for example, from being thrown out of the vehicle. The aim of this systematic review is to identify the determinants of seat belt usage behavior.

Methods and Analysis: We will include qualitative, quantitative and mixed-methods studies that report data on people older than 12 years of age as passengers, and commercial or personal vehicles will be included. MEDLINE/PubMed, Scopus, Web of Science, Embase and the Cochrane Database of Systematic Reviews will be investigated in the study. Articles will be evaluated according to their title and abstract. Papers that have inclusion criteria will be ordered for a complete review. In the third step for eligibility, the full text of the remaining articles will be studied independently by two authors for eligibility criteria. The quality of the selected studies will be assessed with appropriate tools. Based on data extraction, the type of determinant of seat belt use will be classified.

Ethics and dissemination Ethics approval is not required because this is a protocol for a systematic review and no primary data will be collected.We will try to maintain the rights of the authors of this article and the included articles in this systematic review. The findings of this review will be published in a related peer-reviewed journal.

PROSPRO registration number: This systematic review protocol is registered in the PROSPERO International Prospective Register of Systematic Reviews, registration number CRD420170675.

Key words: Determinant, seat belt, protocol

Strengths and limitation of this study

- The protocol following the PRISMA-P guidelines was written.
- This study will contribute to strengthening the evidence based on effective interventions for improving seat belt use.
- Study screening, data extraction, and risk of bias assessment of the current study will be independently conducted by two researchers.
- Heterogeneity between studies might be an obstacle for performing meta-analyses.

Introduction

The World Health Organization has called for paying more attention to the prevention of traffic injuries for its member countries. In addition, in 2008, a meeting of the United Nations General Assembly emphasized prevention of road accidents and an increase in the safety of roads.[1] Most of the road traffic deaths, more than 90%, occur in low- and middle-income countries. The African region is the region in which the most of the road traffic deaths occur, and people with lower incomes, although from high-income countries, are more likely to be involved in road traffic crashes.[2] Road traffic injuries have considerable influences on the economy of a society, individuals and their families. Significant costs may be associated with the treatment of the injured and the disabled, and the lives of family members of those who die are affected by accidents. Three percent of the gross domestic product of countries in the world is dedicated to road traffic crashes.[3]

The factors that affect road traffic accidents can be classified into 3 classes: human, environmental and vehicle-related factors.[4] Human factors such as the non-use of a seat belt and helmet, ignoring regulations, speeding, drug use, a lack of knowledge and skills and driving while intoxicated are among the most important behavioral factors that may expose a person to risks.[5-7]

The World Bank's Global Report considers actions such as the use of a seat belt to be the safest way to reduce the burden of road accidents in industrialized countries, saving many lives.[5] Studies have proven that the use of a seat belt prevents severe accident damage and keeps passengers safe from injuries, for example, from being thrown out of the vehicle.[8-10]

Based on a meta-analysis that was conducted recently, passengers who do not use a seat belt are more likely to become injured in car accidents than those who use it, and using a seat belt may

reduce front-seat fatalities by 60%.[11] Seat location, environmental conditions, the vehicle type, demographic factors, psychological factors, law enforcement and public education programs are the factors that affect seat belt behavior.[12-13]

For the calculation of a nationally representative estimation of consistent seat belt usage in each region, a behavioral risk factor surveillance system was used in a study in 2012; the study indicated that the use of seat belts differs based on the region where people live.[14] Another study demonstrated that elderly drivers and people with a higher education often use their seat belts more than others.[15]

The reasons for not using a seat belt are strongly related to the situation, not believing in its effectiveness and discomfort to use it. In both low- and high-risk traveling conditions, safety is the most important predictor of reported seat belt usage. To create habits of using a seat belt and emphasizing its safety, creating seat belt campaigns may be effective.[16]

Since no previous systematic review has identified the determinants of seat belt behavior, before any interventions for increasing the use of seat belts, the determinants of why people use/do not use seat belts should be identified. The aim of this systematic review is to identify the determinants of seat belt usage behavior. This study will be performed with the following two questions in mind:

What determinants are being indicated in the literature for seat belt usage?

What are the individual and non-individual reasons for seat belt usage?

Objectives

The objectives of this study are as follows:

1. To identify the determinants of seat belt usage; and

2. To find potential sources of heterogeneity in primary studies.

Methods & Analysis

The study protocol was registered in PROSPERO. After completing each stage, the status of the project was tracked and dated in PROSPERO.

Study Eligibility criteria

Studies will be selected according to the criteria outlined below:

-Population

In this systematic review, only studies reporting data about seat belts in commercial or personal vehicles (both driver or passenger/front or rear) and people older than 12 years of age as passengers will be included because the use of seat belts is recommended for this age range, and for those lower than this age range, child restraints should be used.[17] Studies on special populations such as pregnant women and people with health problems (e.g.,, abdominal surgery) who have limitations on seat belt usage will also be included but will be applied separately in the results.

-Exposure

We will consider studies that influence consumption, such as those addressing the determinants of seat belt usage.

- Comparators

The use of seat belts compared with the non-use of seat belts.

-study design

We will include qualitative, quantitative and mixed-methods studies in which the determinants of seat belt behavior are defined. Animal studies will not be considered.

-Determinants

Genetic factors, income, poverty, environmental factors, political situations, unemployment and homelessness, education, social and economic circumstances including social exclusion and deprivation, workplace stress, established customs, and activities are the determinants that significantly influence the health status of people and society.[18]

The meaning of determinants is the personal and impersonal factors that affect the use of seat belts. Personal determinants, such as age, sex, education, knowledge, and attitude, and impersonal determinants, such as the type of seat belt law, day and night, the location of passengers, and geographic region, will be included in this study. These determinants are not exhaustive; additional determinants of seat belt usage will be included and classified in this systematic review.

-Outcome

The results will be used to distinguish all possible elements that determine the reasons, times, conditions, and ways in which individuals wear or do not wear seat belts, in addition to the frequency of wearing a seat belt, either using self-report or measured objectively, and seat belt usage depending on the type of vehicle, seat location and type of seat belt.

-Language

A comprehensive search of several databases will be conducted without language restrictions.

-Setting

There will be no restrictions by type of setting.

Search Methods for Identification of Studies

Electronic searches

In this systematic review, we will develop a comprehensive search strategy for finding articles in the following databases:

- MEDLINE/PubMed,
- Scopus,
- Web of Science,
- Embase
- Cochrane Database of Systematic Reviews.

PubMed search strategy

The PubMed database search syntax are presented in supplementary appendix 1. This syntax is a combination of MeSH terms, key words and tags and will be adopted for other databases. We will use PubMed's email alert service for identification of newly published. If we identify additional relevant keywords during any of the electronic or other searches, we will modify the electronic search strategies to incorporate these terms and document the changes.

Searching other resources

We will search in the Google Scholar search engine and check the reference lists of relevant reviews and previous similar systematic reviews. Gray literature, including published abstracts, conference proceedings, reports, theses, and dissertations, will be searched using sources such as ProQuest Dissertations and Theses, NHS Evidence, OpenGrey, WHO, CDC and Transportation

research centers. Key journals are the other resources that will be searched. Finally, we will supplement our search by hand searching in Google.

In studies that seems to match our objectives, we will contact the corresponding author(s) for more information. At beginning we will send an email to the corresponding author(s) and request data. If we do not receive a response after three emails, we will exclude the research.

Three groups of search terms related to the population (occupant), the outcome (seat belt use) and terms related to determinants (determinants OR factor OR predictor) will be used. We will include articles available between 2000 (January) and 2017(January-December), and we will use the NNR (number needed to read) index for assessing the sufficiency of the number of articles. All identified articles will be imported into EndNote software. This protocol follows the PRISMA-P (preferred reporting items for systematic review and meta-analysis) checklist and will report the review article according to the PRISMA statement.[19]

Data collection and analysis

Study selection

In the first step, two reviewers (JH, MG) will test the screening questions based on the inclusion and exclusion criteria; then, the results of the search method will be screened for possible duplications, which will then be removed. In the next step, the same two reviewer independently will be evaluated the articles according to their title and abstract. Conflicts will be resolved by discussion to reach consensus. When consensus is not reached, a third reviewer (BA) will act as an arbitrator. The inclusion criteria include articles published between 2000 and 2017, and people travelling in passenger or commercial vehicles (both drivers and passengers) will be included. We will exclude studies that investigated booster seats or child restraints.

Papers that have inclusion criteria will be ordered for a full review. In the third step, for eligibility, the full text of the remaining articles will be studied independently by two authors (JH, MG) for eligibility criteria. (Figure 1)

Data extraction

The specific data of the studies will be performed independently by two reviewers (JH, BA), using a quantitative data extraction form.

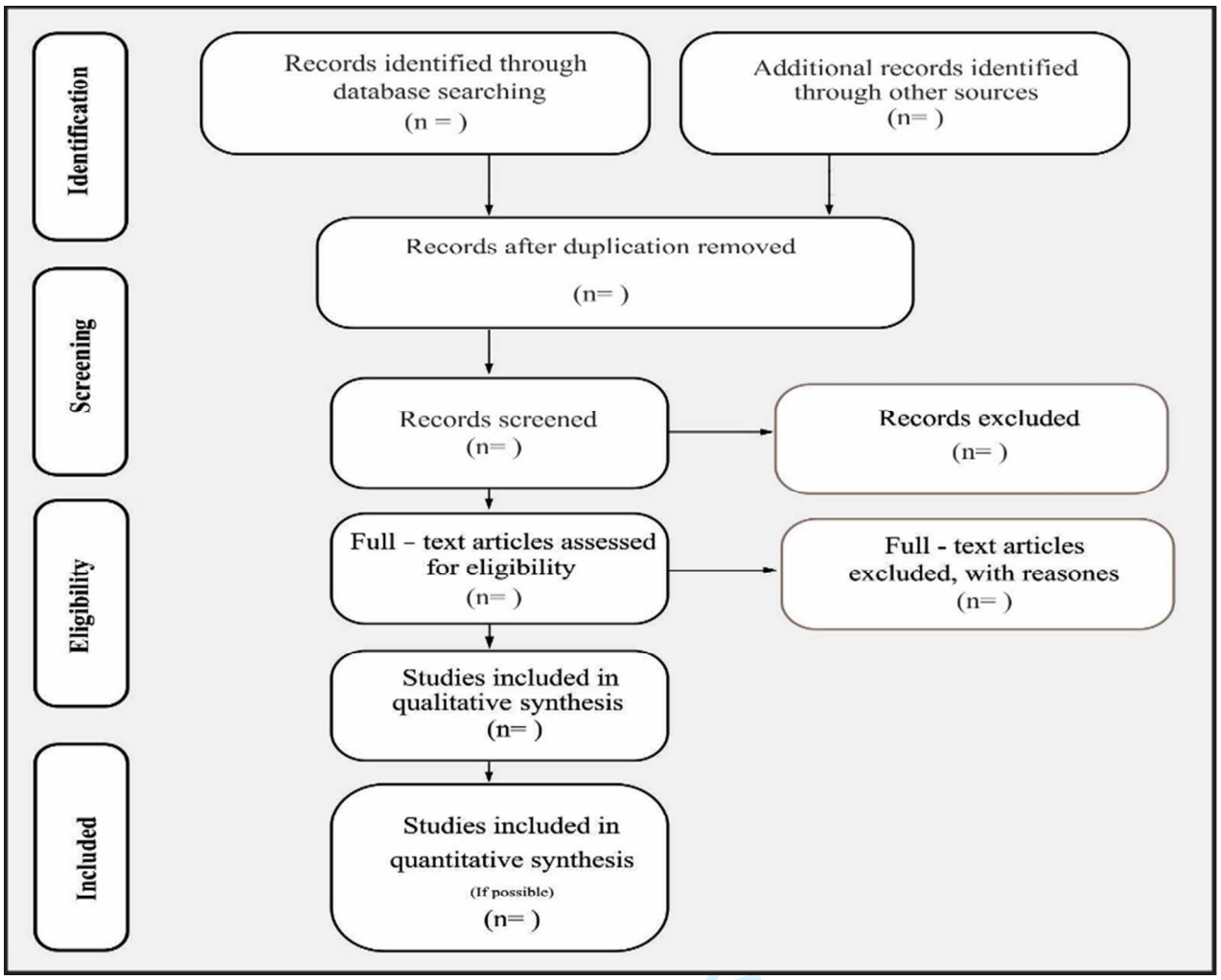
Any disagreement will be resolved by consensus between the two reviewers (JH, MG) and, when consensus is not reached, a third reviewer (BA) will act as an arbitrator and make a decision on the data entered.

The specific data of the studies such as the study population, study design, study country, outcomes and other necessary data will be extracted by using a standard form. Based on data extraction, the type of determinant of seat belt usage will be classified. (Figure 1)

Assessment of risk of bias of included studies

Assessment of the risk of bias and methodological quality within the included studies will be implemented by two reviewers (JH, SR) independently considering the items according to the Effective Public Health Practice Project (EPHPP) Quality Assessment tool for the assessment of quantitative studies, [20] the Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomized studies in this review[21] and the Joanna Briggs checklist for qualitative research for qualitative studies.[22]. According to the scores, the studies will be divided into 'high quality', 'fair quality' and 'poor quality' categories.

Figure 1: Flowchart presenting an overview of the search results.



Assessment of publication bias

To explore the possibility of small study bias, we will assess funnel plots (ie, plots of study results against precision) and Begg's and Egger's tests, when there are 10 or more included studies.[23]

Data Synthesis

Descriptive analysis

We will use the narrative analysis method[24], and the results of the study will be descriptively reported in a summery table that presents information on the study population, study design, sitting, quality of the study, behavioral measures and the results of seat belt usage.

We expect that in this systematic review, articles will be included from different study designs that are not suitable for lumping together in analysis; thus, it may not be possible to analyze the data using meta-analysis. It should be noted that in case of the existence of conditions, we will use meta-analysis, and subgroup analyses will be used to explore any possible sources of heterogeneity based on driver versus passenger, passenger location (front seat versus back seat), commercial versus passenger (personal) vehicles, and males versus females.

Summary of findings

We will systematically and comprehensively describe the results of each study, highlighting the important characteristics of the study where relevant, such as important similarities or differences (for example, the study design, population, intervention or other elements); then, patterns in the data will be explored. The reasons for both the similarities and differences in the findings will also be systematically explored, and possible explanations for the pattern of results will be considered in a logical manner for each of the included studies.

We will use the guidelines of Cochrane narrative synthesis as the framework for findings. These guidelines describe the following four major steps for narrative synthesis:

1. Developing a theory of how the intervention (exposer) works, why and for whom
2. Developing a preliminary synthesis of the findings of the included studies
3. Exploring relationships in the data within and between studies
4. Assessing the robustness of the synthesis.[25]

Ethics and Dissemination

Ethics approval is not required because this is a protocol for a systematic review and no primary data will be collected. The researchers will conduct a full and comprehensive search in electronic databases; additionally, study selection and data extraction will be performed. In the strategy noted in the method and analysis section performed by two independent reviewers, we will try to maintain the rights of the authors of this article and the included articles in this systematic review. The findings of this review will be published in a related peer-reviewed journal.

Discussion

The use of seat belts is the best way to reduce accident related deaths and injuries[26]. Although a seat belt is not able to prevent accidents, it has an influential role in reducing damage.[8]

Seat belt use by front-seat occupants reduced the risk of death in a crash by about 61%, which is greater than the effectiveness of air bags [27].

To date, few systematic reviews, Meta - analysis and protocol have been published about seat belts[11, 28-29]. However, none of them comprehensively investigated determinants of seat belt usage behavior. Only one Meta –analysis found by researchers that reviewed factors influence seat belt usage rates in the United States[30]. Hence, a systematic review is needed to comprehensively identify the determinants of of seat belt usage.

This study will clarify unknown aspects of the reasons why some people use or do not use seat belts. Investigating the determinants of seat belt behavior can help identify which determinants contribute most to seat belt use in car occupants and provide a comprehensive framework of factors that affect this behavior. Additionally, this study will provide important information for researchers, stakeholders in public health, and policy makers and for designing intervention

programs for increasing seat belt use. Also implications for future research can be drawn from the results of this study.

Contributorship statement

MGh is the guarantor. JH and BA drafted the manuscript. SR and JH contributed to the development of the selection criteria. MGh and OS reviewed and commented on this protocol. MGh and SR developed the risk of bias assessment strategy and data extraction criteria. JH and BA developed the search strategy. OS provided feedback and approved the final manuscript.

Competing interests

All authors have no conflicts of interest to be declared.

Funding

No funding to declare

Data sharing statement

To gain access to the data, researchers must submit a detailed description of their projects, as well as personal identification and institutional affiliation, and a complete list of data requested. All applicants will be required to sign an agreement of confidentiality that states that data will not be transferred without permission and that no attempts will be made to identify participants.

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Contributors JH, M GH, BA, SR, O-SH, YM and HS conceived and designed the study. JH, M GH, BA and SR developed the search strategies. JH, BA and M GH were responsible for the initial drafting, edited the manuscript and approved the manuscript for submission. O-SH, HS and YM revised the manuscript. JH and M GH will also screen potential studies, extract data and assess their quality. Any discrepancies will be resolved by consensus between JH and M GH. When consensus is not reached, BA will act as arbitrator.

Amendments of previously completed protocol (bmjopen-2017-018913)

1_ Edit English by American Journal Experts**.**

2_ Correction inclusion and exclusion criteria applied;

3_ Add a flow diagram depicting the flow of information through the different phases of systematic review

4_Expression the risk of reporting bias assessment

5_ PRISMA-P checklist Completed and included in submission

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APPENDIX 1: Search strategy for MEDLINE via PubMed

1. "Determinant Factor"
2. Correlate
3. Contributor
4. Predictor
5. Factor
6. Determinant*
7. 1 OR 2 OR 3 OR 4 OR 5 OR 6
8. Seatbelt
9. "Safety belt"
10. "Belt seat"
11. "Seat belt"
12. 8 OR 9 OR 10 OR 11
13-(2000/01/01:2017/12/31[dp])
14. 7 AND 12 AND 13

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Reported On page
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	P:1 line:1,2
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	NA*
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	P:2 line 44
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	P:1 line 6-20
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	P:14 line 291-296
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	P:14 line:298-304
Support:			
Sources	5a	Indicate sources of financial or other support for the review	NA
Sponsor	5b	Provide name for the review funder and/or sponsor	NA
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	NA
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	P:3,4 line:50-88
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	P:4,5,6 line 90_134
METHODS			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	P:6
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	P: 6,7,8
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	P:10

Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	P:10,11
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	P:8,9,10
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	P:8,9
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	P:5,6
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	P:6
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	P:9
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	P:11
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ)	NA
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	NA
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	P:11
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	P:10
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	NR

* NA: Not Applicable NR: Not Reporting

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Primary Subject Heading:	Public health
Secondary Subject Heading:	Health policy
Keywords:	Determinant, seat belt, protocol

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Abstract:

Introduction The use of a seat belt prevents severe accident damage and keeps passengers safe from injuries, for example, from being thrown out of the vehicle. The aim of this systematic review is to identify the determinants of seat belt usage behavior.

Methods and Analysis: We will include qualitative, quantitative and mixed-methods studies that report data on people older than 12 years as passengers as well as commercial or personal vehicles. MEDLINE/PubMed, Scopus, Web of Science, Embase and the Cochrane Database of Systematic Reviews will be investigated in the study. Articles will be evaluated according to the titles and abstract. Papers conforming to the inclusion criteria will be ordered for a complete review. In the next step for eligibility, the full texts of the remaining articles will be studied independently by two authors. The quality of the selected studies will be assessed with appropriate tools. Based on data extraction, the type of determinant of seat belt use will be classified.

Ethics and dissemination: Ethics approval is not required because this is a protocol for a systematic review and no primary data will be collected.We will try to maintain the rights of the authors of this article and the included articles in this systematic review. The findings of this review will be published in a related peer-reviewed journal.

PROSPRO registration number: International Prospective Register for Systematic Reviews (PROSPERO) registration number: CRD42017067511.

Key words: Determinant, Seat belt, Protocol

Strengths and limitations of the study

- The protocol following the PRISMA-P guidelines was written.
- We will use the NNR (number needed to read) index for assessing the sufficiency of the number of articles.
- Study screening, data extraction, and risk of bias assessment of the current study will be independently conducted by two researchers.
- Heterogeneity between studies might be an obstacle to perform meta-analyses.

Introduction

The World Health Organization (WHO) called for paying more attention to the prevention of traffic injuries for its member countries. In addition, in 2008, a meeting of the United Nations General Assembly emphasized on the prevention of road accidents and an increase in the safety of roads.[1] Most of the road traffic deaths, more than 90%, occur in low- and middle-income countries.[2] Road traffic injuries have considerable influences on the economy of a society, individuals, and their families. Significant costs may be associated with the treatments of the injured, and the disabled, and the lives of the family members of the dead are also affected by collisions. Three percents of the gross domestic product of countries in the world is dedicated to road traffic crashes.[3]

The factors that affect road traffic collisions can be classified into 3 classes: Human, environmental, and vehicle-related factors.[4] Human factors such as the non-use of a seat belt and helmet, ignoring regulations, speeding, drug use, lack of knowledge and skills, and driving while intoxicated, are among the most important behavioral factors that may expose a person to risks.[5-7]

The World Bank Global Report considers actions such as the use of a seat belt, as the safest way to reduce the burden of road collisions in the industrialized countries, and saving many lives.[5] Studies proved that the use of seat belt prevents severe collision damages and keeps passengers safe from injuries, such as, being thrown out of the vehicle.[8-10]

Based on a meta-analysis that was conducted recently, passengers who do not use a seat belts are more likely to become injured in car collisions than the ones who do, and using seat belts may reduce front-seat fatalities by 60%.[11] Seat location, environmental conditions, the vehicle type,

demographic factors, psychological factors, law enforcement and public education programs are the factors that affect seat belt use behavior.[12-13]

To calculate a nationally representative estimation of consistent seat belt usage in each region, a behavioral risk factor surveillance system was used in a study in 2012; the study indicated that the use of seat belts differed based on the region where people lived.[14] Another study demonstrated that elderly drivers and highly educated people often use seat belts more than others.[15]

The reasons for not using a seat belt are strongly related to the situations, not believing in its effectiveness and, discomfort to use it. In both low- and high-risk traveling conditions, safety is the most important predictor of reported seat belt usage. To create habits of using a seat belt and emphasizing on its safety, creating seat belt campaigns may be effective.[16]

Since no previous systematic review has identified the determinants of seat belts behavior, and prior to conducting interventions for promoting the use of seat belts, the determinants of why people use/do not use seat belts should be identified. The aim of this systematic review is to identify the determinants of seat belt usage behavior. The current study will be performed based on the following 2 questions in mind:

What determinants are being indicated in the literature for seat belt use?

What are the individual and non-individual reasons for seat belt use?

Objectives

The objectives of this study are as follows:

1. To identify the determinants of seat belt use

2. To find potential sources of heterogeneity in primary studies.

Methods & Analysis

The study protocol was registered in PROSPERO. After completing each stage, the status of the project will be tracked and dated in PROSPERO.

Study Eligibility criteria

Studies will be selected according to the following criteria:

-Population

In this systematic review, only studies reporting data about seat belts in commercial or personal vehicles (both driver or passenger/front or rear) and people older than 12 years as passengers will be included because the use of seat belts is recommended for this age range, and for those lower than this age range, child restraints should be used.[17] Studies on special populations such as pregnant women and people with health problems (e g, abdominal surgery) and limitations on seat belt usage will also be included but will be applied separately in the results.

-Exposure

We will consider studies that influence consumption, such as those addressing the determinants of seat belt usage.

- Comparators

The use of seat belts compared with the non-use of seat belts.

-study design

We will include qualitative, quantitative and mixed-methods studies in which the determinants of seat belt behavior are defined. Animal studies will not be considered.

-Determinants

Genetic factors, income, poverty, environmental factors, political situations, unemployment and homelessness, education, social and economic class including social exclusion and deprivation, workplace stress, established customs, and activities are the determinants that significantly influenced the health status of people and society.[18]

The meaning of determinants is the personal and impersonal factors that affect the use of seat belts. Personal determinants, such as age, gender, education, knowledge, and attitude, and impersonal determinants, such as the type of seat belt law, day and night, the location of passengers, and geographic region, will be considered in the current study. These determinants are not exhaustive; additional determinants of seat belt usage will be included and classified in this systematic review.

-Outcome

The results will be used to distinguish all possible elements that determine the reasons, times, conditions, and ways in which individuals wear or do not wear seat belts; in addition to the frequency of wearing a seat belt, either using self-report or measured objectively, and seat belt usage depending on the type of vehicle, seat location and type of seat belt.

-Language

A comprehensive search of several databases will be conducted without language restrictions.

-Setting

There will be no restrictions by the type of setting.

Search Methods for Identification of Studies

Electronic searches

In this systematic review, we will develop a comprehensive search strategy for finding articles in the following databases:

- MEDLINE/PubMed,
- Scopus,
- Web of Science,
- Embase,
- Cochrane Database of Systematic Reviews.

PubMed search strategy

The PubMed database search syntax are presented in supplementary appendix 1. This syntax is a combination of MeSH terms, key words and tags and will be adopted for other databases. We will use PubMed's email alert service for identification of newly published. If we identify additional relevant keywords during any of the electronic or other searches, we will modify the electronic search strategies to incorporate these terms and document the changes.

Searching other resources

We will search in the Google Scholar search engine and check the reference lists of relevant reviews and previous similar systematic reviews. Gray literature, including published abstracts, conference proceedings, reports, theses, and dissertations, will be searched using sources such as ProQuest Dissertations and Theses, NHS Evidence, OpenGrey, WHO, Center for Disease Control and Prevention (CDC) and transportation research centers. Key journals are the other resources that will be searched. Finally, we will supplement our search by manual searching in Google.

In studies that seems to match our objectives, we will contact the corresponding author(s) for more information. At beginning we will send an email to the corresponding author(s) and request data. If we do not receive a response after three emails, we will exclude the research.

Three groups of search terms related to the population (occupant), the outcome (seat belt use) and terms related to determinants (determinants OR factor OR predictor) will be used. We will include articles available between 1990 (January) and 2017(January-December), and we will use the NNR (number needed to read) index for assessing the sufficiency of the number of articles[19]. All identified articles will be imported into EndNote software. This protocol follows the PRISMA-P (preferred reporting items for systematic review and meta-analysis) checklist and will report the review article according to the PRISMA statement.[20]

Data collection and analysis

Study selection

In the first step, two reviewers (JH, MG) will test the screening questions based on the inclusion and exclusion criteria; then, the results of the search method will be screened for possible duplications, which will then be removed. In the next step, the same two reviewer independently will be evaluated the articles according to their titles and abstracts. Conflicts will be resolved by discussion to reach consensus. When consensus is not reached, a third reviewer (BA) will act as an arbitrator. The inclusion criteria include articles published between 1990 and 2017, and people travelling in passenger or commercial vehicles (both drivers and passengers) will be included. Studies on booster seats or child restraints will exclude.

Papers that have inclusion criteria will be ordered for a full review. In the third step, for eligibility criteria, the full texts of the remaining articles will be studied independently by two authors (JH, MG). (Figure 1)

Data extraction

The specific data of the studies such as the study population, study design, study country, outcomes and other necessary data will be extracted independently by two reviewers (JH, BA), using a quantitative data extraction form. Based on data extraction, the type of determinant of seat belt usage will be classified. (Figure 1)

Any disagreement will be resolved by consensus between the two reviewers (JH, BA) and, when consensus is not reached, a third reviewer (MG) will act as an arbitrator and make a decision on the data entered.

Assessment of risk of bias of included studies

Assessment of the risk of bias and methodological quality within the included studies will be implemented by two reviewers (JH, SR) independently considering the items according to the Effective Public Health Practice Project (EPHPP) Quality Assessment tool for the assessment of quantitative studies, [21] the Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomized studies in this review[22] and the Joanna Briggs checklist for qualitative research for qualitative studies.[23]. According to the scores, the studies will be divided into 'high quality', 'fair quality' and 'poor quality' categories.

Assessment of publication bias

To explore the possibility of small study bias, we will assess funnel plots (ie, plots of study results against precision) and Begg's and Egger's tests, when there are 10 or more included studies.[24]

Data Synthesis

Descriptive analysis

We will use the narrative analysis method[25], and the results of the study will be descriptively reported in a summery table that presents information on the study population, study design, sitting, quality of the study, behavioral measures and the results of seat belt usage.

We expect that in this systematic review, articles will be included from different study designs that are not suitable for lumping together in the analysis; thus, it may not be possible to analyze the data using meta-analysis. It should be noted that in case of the existence of conditions, we will use meta-analysis, and subgroup analyses will be used to explore any possible sources of heterogeneity based on driver versus passenger, passenger location (front seat versus back seat), commercial versus passenger (personal) vehicles, and males versus females.

Summary of findings

We will systematically and comprehensively describe the results of each study, highlighting the important characteristics of the study where relevant, such as important similarities or differences (for example, the study design, population, intervention or other elements); then, patterns in the data will be explored. The reasons for both the similarities and differences in the findings also will be systematically explored, and possible explanations for the pattern of results will be considered in a logical manner for each of the included studies.

The guidelines of Cochrane narrative synthesis will be employed as the framework for data synthesis. These guidelines describe the following four major steps for narrative synthesis:

1. Developing a theory of how the intervention (exposer) works, why and for whom

2. Developing a preliminary synthesis of the findings of the included studies

3. Exploring relationships in the data within and between the studies

4. Assessing the robustness of the synthesis.[26]

Ethics and Dissemination

Since no primary data will be collected, adherence to formal ethical guidelines in the current study is not a requirement. The researchers will conduct a full and comprehensive search in electronic databases; additionally, study selection and data extraction will be performed. In the strategy noted in the method and analysis section performed by two independent reviewers, we will try to maintain the rights of the authors of this article and the included articles in this systematic review. The findings of this review will be published in a related peer-reviewed journal.

Discussion

The use of seat belts is the best way to reduce collision related deaths and injuries[27]. Although a seat belt is not able to prevent collisions, it has an influential role in reducing damage.[8]

Seat belt use by front-seat occupants reduced the risk of death in a crash by about 61%, which is greater than the effectiveness of air bags [28].

To date, few systematic reviews, Meta - analysis and protocol have been published about seat belts[11, 29-230]. However, none of them comprehensively investigated determinants of seat belt usage behavior. Only one Meta –analysis found by researchers that reviewed factors influence seat belt usage rates in the United States[31]. Hence, a systematic review is needed to comprehensively identify the determinants of of seat belt usage.

This study will clarify unknown aspects of the reasons why some people use or do not use seat belts. Investigating the determinants of seat belt use behavior can help to identify which determinants contribute most to seat belt use in car occupants and provide a comprehensive

framework of factors that affect this behavior. Additionally, this study will provide important information for researchers, stakeholders in public health, and policy makers and for designing intervention programs for increasing seat belt use. Also implications for future research can be drawn from the results of this study.

Contributors JH, M GH, BA, SR, O-SH, YM and HS conceived and designed the study. JH, M GH, BA and SR developed the search strategies. JH, BA and M GH were responsible for the initial drafting, edited the manuscript and approved the manuscript for submission. O-SH, HS and YM revised the manuscript. JH and M GH will also screen potential studies, extract data and assess their quality. Any discrepancies will be resolved by consensus between JH and M GH. When consensus is not reached, BA will act as arbitrator.

Competing interests

Authors declared no conflicts of interest.

Funding

No funding to declare.

Data sharing statement

To gain access to the data, researchers should submit a detailed description of their projects, as well as personal identification and institutional affiliation, and a complete list of data requested. All applicants will be required to sign an agreement of confidentiality that states that data will not be transferred without permission and that no attempts will be made to identify participants.

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Amendments of previously completed protocol (bmjopen-2017-018913)

1_ Edit English by American Journal Experts**.**

2_ Correction inclusion and exclusion criteria applied;

3_ Add a flow diagram depicting the flow of information through the different phases of systematic review

4_Expression the risk of reporting bias assessment

5_ PRISMA-P checklist Completed and included in submission

Open Access

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Figure Legends

Figure 1: Flowchart presenting an overview of the search results.

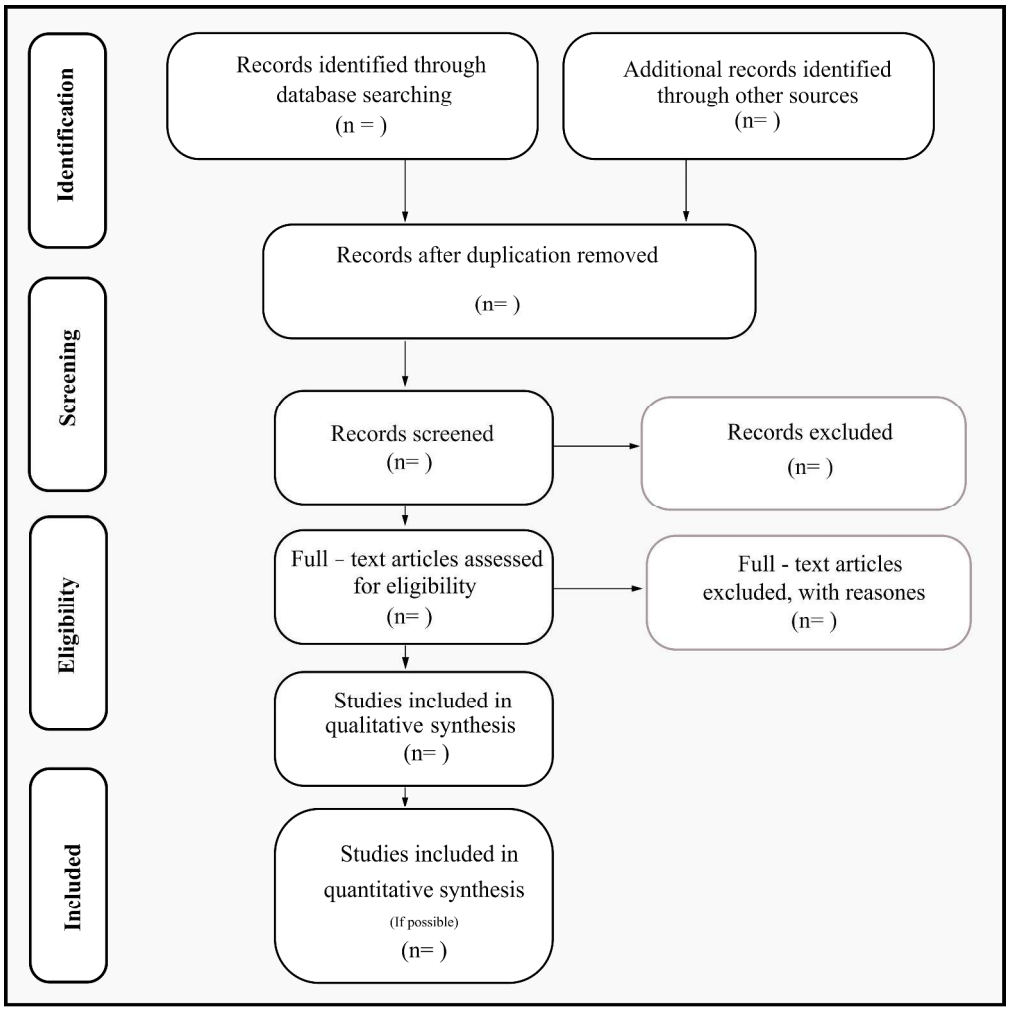

Figure 1: Flowchart presenting an overview of the search results

501x501mm (300 x 300 DPI)

APPENDIX 1: Search strategy for MEDLINE via PubMed

1. "Determinant Factor"

2. Correlate

3. Contributor

4. Predictor

5. Factor

6. Determinant*

7. 1 OR 2 OR 3 OR 4 OR 5 OR 6

8. Seatbelt

9. "Safety belt"

10. "Belt seat"

11. "Seat belt"

12. "Road safety"

13. 8 OR 9 OR 10 OR 11 OR 12

14-(1990/01/01:2017/12/31[dp])

14 – 7 AND 13 AND 14

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Reported On page
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	P:1 line:1,2
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	NA*
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	P:2 line 44
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	P:1 line 6-20
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	P:14 line 291-296
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	P:14 line:298-304
Support:			
Sources	5a	Indicate sources of financial or other support for the review	NA
Sponsor	5b	Provide name for the review funder and/or sponsor	NA
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	NA
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	P:3,4 line:50-88
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	P:4,5,6 line 90_134
METHODS			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	P:6
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	P: 6,7,8
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	P:10

Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	P:10,11
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	P:8,9,10
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	P:8,9
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	P:5,6
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	P:6
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	P:9
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	P:11
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ)	NA
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	NA
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	P:11
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	P:10
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	NR

* NA: Not Applicable NR: Not Reporting

BMJ Open

Determinants of seatbelt use behavior: a protocol for a systematic review

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2017-020348.R2
Article Type:	Protocol
Date Submitted by the Author:	16-Feb-2018
Complete List of Authors:	Ghaffari, Mohtasham Armoon, Bahram rakhshanderou, Sakineh mehrabi, Yadollah Soori, Hamid; Shahid Beheshti University of Medical Sciences, Epidemiology simsekoghlu, ozelem harooni, javad
Primary Subject Heading:	Public health
Secondary Subject Heading:	Health policy
Keywords:	Determinant, Seatbelt, Protocol

Determinants of seatbelt use behavior: a protocol for a systematic review

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Abstract

Introduction

The use of seatbelt may prevent of severe accident damages and keep passengers safe against hard injuries, for instance, it may prevent of getting thrown out of the vehicles. The current systematic review will be identification and analyzing of the determinants of seatbelt usage behavior.

Methods and Analysis

We will include qualitative, quantitative and mixed-method studies reporting the achieved data of people with the age greater than 12 years as passengers, as well as both of commercial or personal vehicles. Online data bases including MEDLINE/PubMed, Scopus, Web of Science, Embase, Cochrane Database of Systematic Reviews and the – PsychINFO will be investigated in the current study. Published and available articles will be evaluated according to the titles and abstracts. Published papers conforming to the inclusion criteria will be organized for a complete review. In the next step for eligibility, the full texts of the remaining articles will be studied independently by two authors. The quality of the selected studies will be assessed with appropriate tools. Based on the obtained information of data extraction, the type of determinants of seatbelt use will be classified.

Ethics and dissemination

Ethics approval is not required, since this is a protocol for a systematic review and no any primary data will be collected. The authors will do their best to maintain the rights of the used and included articles in the present systematic review. The findings of this review will be published in a related peer-reviewed journal.

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- Heterogeneity between studies may be an obstacle to perform meta-analyses.

Introduction

The World Health Organization (WHO) has announced for paying much attention to the prevention of traffic injuries/accidents for not only its member countries but also in all over the world. In addition, in 2008, a meeting held by United Nations General Assembly emphasized on the prevention and or reductions of road accidents and enhancements in the safety of roads according to the globally confirmed standards.[1] Most of the road traffic deaths (rather than 90%) occur in low- and middle-income countries.[2] Road traffic injuries have considerable influence on the economy of societies, individuals and their families. Considerable expenses may be associated with the treatment of injuries and disabilities and the support of family members who are affected by deadly collisions. Approximately 3% of the gross domestic product of countries around the world has been dedicated to the aftermath of road traffic collisions.[3]

The factors affecting road traffic collisions may be classified into 3 different categories: human, environmental, and vehicle-related factors.[4] Human factors, such as the non-use of seatbelts and helmets, ignoring regulations and rules, illegal speeding, drug abuse, and lack of knowledge and driving skills, as well as driving while drunk, are considered as the most common behavioral factors exposing a person to risk.[5-7]

The World Bank Global Report has considered actions such as the use of a seatbelt as the safest way to reduce the burden of road collisions and save lives in developed countries.[5] Studies have established that the use of a seatbelt may prevent severe collision damages and keep passengers safe and secure against being injured and being thrown out of vehicles.[8-10]

Appropriate use of seatbelts may reduce front-seat fatality rates by 60%. Based on a meta-analysis that was conducted recently, passengers who do not use a seatbelt are likely to be injured in car collisions .[11]

To calculate a nationally representative estimation of constant seatbelt use by passengers in each region, a behavioral risk factor surveillance system was applied in a study in 2012; the results of that study indicated that the use of seatbelts varied based on region.[12]

Despite the benefits related to seatbelt use, its application in most developing countries, including Iran, is not as high as it should be.[13] Although there have been dramatic achievements in recent years, mostly resulting from strict driving laws and severe cash penalties for persons who do not use seatbelts, many drivers and passengers still take the risk of driving or traveling without the use of a seatbelt.[14-15] Hence, we are facing with such complex conditions requiring deep study to clarify the various factors leading humans to this behavior. The results of such studies may help decision-makers focus their attention on priority areas.

Several studies have addressed determinants of seatbelt usage[15-18], but most of these studies are not shared formally in scientific databases and are not available to all researchers, and much time is required to gather main findings and identify the effective determinants of seatbelt use.

Systematic review is one effective methodology that can be beneficial for the identification of determinants of seatbelt application. To the author's knowledge, there has been no systematic review for this purpose.[19]

The aim of the current systematic review is to identify the determinants of seatbelt usage behaviors. The current review study will be performed based on the following 2 enquiries for the readers:

1. What determinants are being indicated in the literature for seatbelt use?

2. What are the individual and non-individual causes for seatbelt use?

Objectives

The objectives of the current review study are as follows:

1. Identification of the determinants of seatbelt use

2. Discovering of the potential sources of heterogeneity in primary studies.

Methods and Analysis

To study, the protocol was registered in PROSPERO. After completing each stage, the status of the project will be tracked and dated in PROSPERO.

Study Eligibility criteria

Studies will be selected according to the following criteria:

Population

In the current systematic review, only studies reporting data about seatbelts in commercial or personal vehicles (both drivers or passengers/front or rear) and people greater than 12 years as passengers will be included, since the use of seatbelts is recommended for people in the age ranged ≥12, and for those passengers lower than this age range, child restraints should be used.[20] Studies on special populations such as pregnant women and people with health issues or with physical disabilities (e g, abdominal surgery) and limitations on seatbelt usage will also be

included but the achieved results of these passengers will be applied separately in the present study.

Exposure

The authors will consider the studies influencing on consumption, such as those addressing the determinants of seatbelt usage.

Comparators

The use of seatbelts compared with the non-use of seatbelts.

Study design

The authors will include qualitative, quantitative and mixed-method studies in which the determinants of seatbelt behavior are described as well. Animal studies will not be considered in the present research.

Determinants

Genetic factors, income level, poverty rate, environmental factors, political situations, unemployment and homelessness rate, education levels, social and economic situations including social exclusion and deprivation, occupational stress, common ancient customs, and type of activities are the determinants that may significantly influence on the health status of people, communities and societies.[21]

The meaning of determinants is the personal and impersonal factors that may affect considerably on the application of seatbelts in communities' movements and transportations. Personal determinants including age, gender, education level, knowledge, and attitude, and impersonal determinants such as the type of seatbelt law (current traffic rules), time (day and/or night), location of passengers as well as geographical conditions will be considered for investigation in the present study. The above mentioned determinants are not exhaustive and completed,

additional determinants of seatbelt usage will be included, categorized and discussed in the current or further systematic reviews.

Outcome

The achieved results will be used to distinguish all possible parameters that may determine the causes, times, conditions, and ways of which individuals who wear and/or do not wear the seatbelts; in addition to the frequency of wearing seatbelts, the achieved results may either record self-report or measure objectively the seatbelt usage based on the vehicle type, seat location and type of seatbelts.

Language

A comprehensive study of several databases will be performed regardless the language restrictions.

Setting

There will be no any restrictions by the type of setting.

Search Methods for Identification of Studies

Electronic searches

In this systematic review, the authors will develop a comprehensive search strategy for finding appropriate scientific articles in the databases as mentioned at the following:

- MEDLINE/PubMed,
- Scopus,
- Web of Science,
- Embase,
- PsychINFO
- Cochrane Database of Systematic Reviews.

PubMed search strategy

The PubMed database search syntaxes are presented as well in supplementary appendix1. This syntax is a combination of MeSH terms, key words and tags and will be adopted for other databases. The authors will use PubMed's email alert service to identify the newly or/very recent published articles. If the authors identify additional relevant keywords through any of the applied electronic and/or other searches in the current study, they will modify and/or improve the electronic search strategies to combine these terms and documents with the alterations.

Searching other resources

The authors will search in Google Scholar search engine and check the reference lists of the relevant reviews and previously published similar systematic reviews. Gray literature, including published abstracts, conference proceedings, reports, and theses as well as dissertations, will be searched with the use of sources including ProQuest, Dissertations and Theses, NHS Evidence, OpenGrey, WHO, Center for Disease Control and Prevention (CDC) and transportation research centers. Key journals are the other resources that will be used in searching circle. Finally, the authors will complete the searches by manual searching in Google.

In the published studies that seems to match our objectives, the authors will contact to the corresponding author(s) for more information. At the beginning the authors will contact via email to the corresponding author(s) and request data. If the authors of the current study do not receive a response after three time contacts, we will exclude the research.

Three groups of search terms relevant to the population (occupant), the outcome (seatbelt use) and terms relevant to determinants (determinants OR factor OR predictor) will be applied. The authors will include articles that are available in years between January of 1990 (January) and 2017(January-December), and will use the NNR (number needed to read) index the sufficiency

of the number of the selected articles[22]. All of the identified articles will be imported into EndNote (reference manager) software. The current protocol follows the PRISMA-P (preferred reporting items for systematic review and meta-analysis) checklist and will report the review articles according to the PRISMA statement.[23]

Data collection and analysis

Study selection

In the first step, two reviewers (JH, MG) will test the screening questions based on the inclusion and exclusion criteria; then, the achieved results of the searching method will be screened for the possible duplications, afterwards the possible duplications will be removed. In the next step, the same two reviewers will independently evaluate the articles according to their titles and abstracts. Conflicts will be resolved by discussion till reaching consensus. If consensus does not reach on time, a third reviewer (BA) will be invited to act as an extra referee or arbitrator. The inclusion criteria include articles published in years between 1990 and 2017, and people travelling in different types of vehicle (both drivers and passengers) will be included. Studies on booster seats or child restraints will exclude**.**

Scientific papers containing inclusion criteria will be ordered for a full and complete review. In the third step, for eligibility criteria, the full texts of the remaining articles will be studied independently by two authors (JH, MG). (Figure 1)

Data extraction

The specific data of the studies including the studied population, the applied design, the selected country, the achieved outcomes and other necessary data will be extracted independently by two reviewers (JH, BA), with the use of a quantitative data extraction form. Based on the data extraction approach, the type of determinant of seatbelt usage will be classified. (Figure 1)

Any disagreement will be resolved by consensus between the two reviewers (JH, BA) and, when consensus does not reach, a third reviewer (MG) will act as an extra referee and/or arbitrator to make the final decision on the data entered.

Assessment of risk of bias of included studies

Assessment of the risk of bias and methodological quality within the included studies will be implemented by two of the reviewers (JH, SR) independently, considering the items according to the Effective Public Health Practice Project (EPHPP), Quality, Assessment tool for the assessment of the quantitative studies,[24] and the Newcastle-Ottawa Scale (NOS) for the evaluation of the quality of nonrandomized studies in the current review [25] as well as the Joanna Briggs checklist for qualitative research in terms of the qualitative studies.[26] According to the achieved scores, the studies will be classified into three different categories including high quality, fair quality and poor quality.

Assessment of publication bias

To explore/discover the possibility of small study bias, the authors will assess funnel plots (ie, constructed plots of the achieved results versus precision) and Begg's and Egger's tests, when there are 10 or more included studies.[27]

Data Synthesis

Descriptive analysis

The authors will apply the narrative analysis method[28], and the obtained results of the study will be descriptively reported in a summery table presenting complete information on the study population, study design, sitting patterns, quality of the performed study, behavioral patterns as well as the achieved results of seatbelt usage.

The authors expected that in the present systematic review, articles will be included from various study designs of which are not appropriate for lumping together in the analysis; therefore, it may not be possible to analyze the obtained data with the use of meta-analysis approach. It should be noted that in term of the existence of conditions, the authors will use meta-analysis and subgroup analyses to explore any possible sources of heterogeneity based on drivers versus passengers, passenger's location (front seats versus back seats) and commercial versus passenger (personal) vehicles as well as males versus females.

Summary of the findings

The authors will systematically and comprehensively describe the obtained results of each study, highlighting the important characteristics of the study including important similarities or differences (for instance, the study design, selected population, intervention or other elements); then, the patterns in the data will be explored and discovered as well. The reasons for finding both of the similarities and differences of the obtained outcomes in the current study will be systematically explored, and possible explanations for the pattern of results will be considered and described or reported in a logical manner for each of the performed studies.

The guidelines of Cochrane narrative synthesis will be employed as the framework for data synthesis. These guidelines describe the following four main steps for the narrative synthesis:

1. Developing a theory of how the intervention (exposer) works, why and for whom?

2. Developing a preliminary synthesis of the findings of the included studies.

3. Exploration of the relationships in the achieved data within and between the performed studies.

4. Assessing the robustness of the synthesis.[29]

Ethics and Dissemination

Since no primary and experimental data will be collected in the present study, adherence to formal ethical guidelines in the current study is not necessary. The authors will conduct a full and comprehensive search in various electronic databases; additionally, study selection and data extraction will be performed as well. The strategy mentioned in the method and the analysis section, will be performed by two independent reviewers, the authors will try to maintain the rights of the authors of the current research and the cited articles' in the present systematic review. The findings of the current review will be published in a relevant peer-reviewed journal.

Discussion

The use of seatbelts is the most logical way to reduce collision leading to death and hard injuries[30]. Although a seatbelt is not able to prevent collisions, but it has an effective role in not only reductions of the injuries' intensity but also it may be effective in prevention of the possible damages.[8]

Seatbelt use by front-seat occupants may reduce the risk of death in a crash by about 61%, which is greater than the effectiveness of air bags [31].

So far, few systematic reviews, Meta-analysis and protocol have been published on seatbelts[11, 32-33]. However, none of them comprehensively studied the determinants of seatbelt usage behavior. Only one Meta-analysis has been found by the authors of the current study that reviewed factors influencing of seatbelt usage rates in the United States [34]. Hence, a systematic review is required to comprehensively identify the determinants of seatbelt usage.

The present study will clarify unknown aspects of the reasons why some people used to use or do not use seatbelts. Studies on the determinants of seatbelt use behavior may help to identify which determinants contribute mostly to seatbelt use in car occupants and provide a comprehensive

framework of factors affecting significantly on this behavior. Additionally, the current study will provide important information for researchers, stakeholders in public health and policy makers as well as for designing intervention programs to increase seatbelt use. Moreover implications for future research may be drawn from the achieved results of the present study.

Contributors

JH, M GH, BA, SR, O-SH, YM and HS conceived and designed the study. JH, M GH, BA and SR developed the search strategies. JH, BA and M GH were responsible for the initial drafting, edition of the manuscript and approved the manuscript for submission. O-SH, HS and YM revised the manuscript. JH and M GH will also screen potential studies, extract data and assess their quality. Any discrepancies will be resolved by consensus between JH and M GH. When consensus is not reached, BA will act as an extra or third arbitrator to make a final decision**.**

Competing interests

The authors declare that there is no conflict of interest.

Funding

Not applicable.

Data sharing statement

To gain access to the data, the researchers should submit a detailed description of their projects, as well as personal identification and institutional affiliation, and a complete list of data should be requested. All applicants will be required to sign an agreement of confidentiality stating that data will not be transferred without permission and that no attempts will be made to identify the participants' ID.

Acknowledgements

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Amendments of previously completed protocol (bmjopen-2017-018913)

1_ Edit English by American Journal Experts**.**

2_ Correction inclusion and exclusion criteria applied;

3_ Add a flow diagram depicting the flow of information through the different phases of systematic review

4_Expression the risk of reporting bias assessment

5_ PRISMA-P checklist Completed and included in submission

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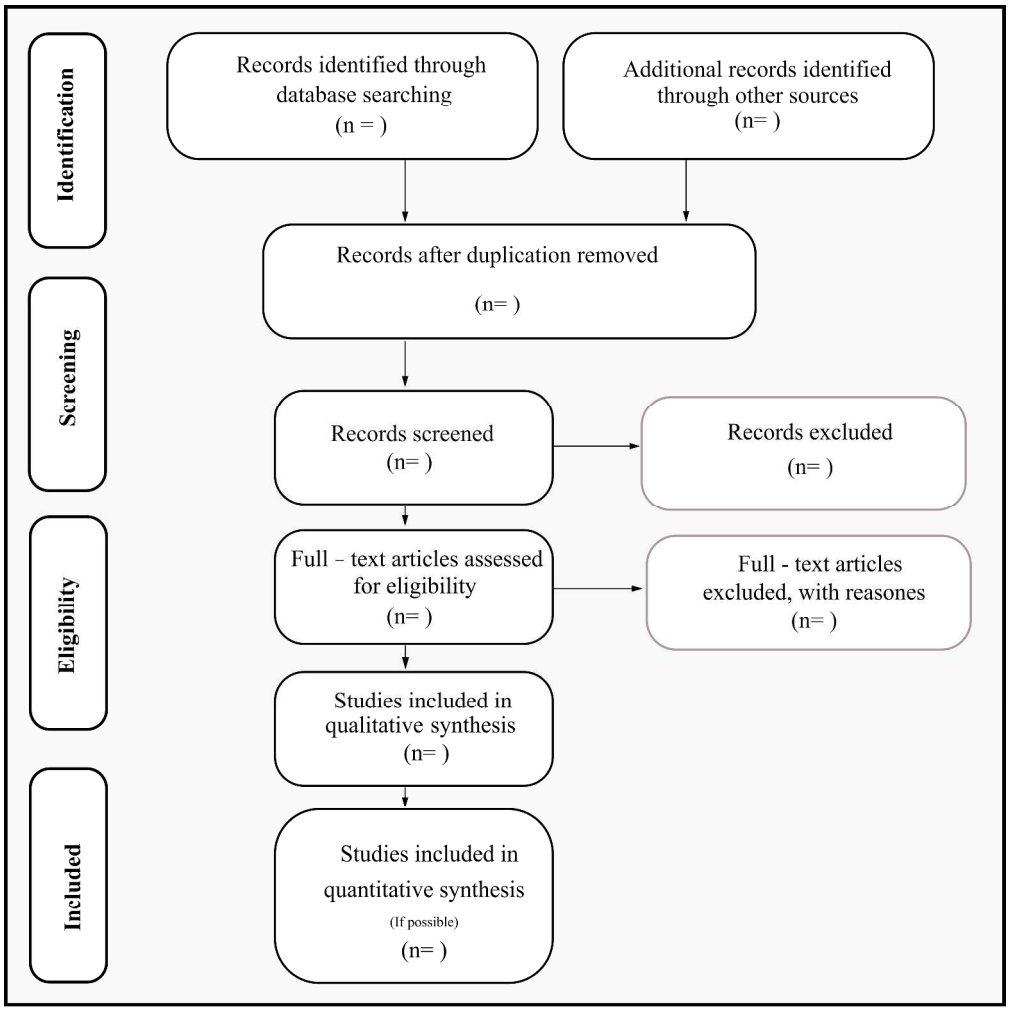
Figure Legends

Figure 1: Flowchart presenting an overview of the search results.



501x501mm (300 x 300 DPI)

APPENDIX 1: Search strategy for MEDLINE via PubMed

1. "Determinant Factor"

2. Correlate

3. Contributor

4. Predictor

5. Factor

6. Determinant*

7. 1 OR 2 OR 3 OR 4 OR 5 OR 6

8. Seatbelt

9. "Safety belt"

10. "Belt seat"

11. "Seat belt"

12. "Road safety"

13. 8 OR 9 OR 10 OR 11 OR 12

14-(1990/01/01:2017/12/31[dp])

14 – 7 AND 13 AND 14

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Reported On page
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	P:1 line:1,2
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	NA*
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	P:2 line 44
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	P:1 line 6-20
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	P:14 line 291-296
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	P:14 line:298-304
Support:			
Sources	5a	Indicate sources of financial or other support for the review	NA
Sponsor	5b	Provide name for the review funder and/or sponsor	NA
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	NA
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	P:3,4 line:50-88
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	P:4,5,6 line 90_134
METHODS			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	P:6
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	P: 6,7,8
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	P:10

Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	P:10,11
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	P:8,9,10
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	P:8,9
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	P:5,6
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	P:6
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	P:9
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	P:11
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ)	NA
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	NA
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	P:11
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	P:10
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	NR

* NA: Not Applicable NR: Not Reporting

BMJ Open

Determinants of Seatbelt Use Behavior: A Protocol for a Systematic Review

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2017-020348.R3
Article Type:	Protocol
Date Submitted by the Author:	16-Mar-2018
Complete List of Authors:	Ghaffari, Mohtasham Armoon, Bahram rakhshanderou, Sakineh mehrabi, Yadollah Soori, Hamid; Shahid Beheshti University of Medical Sciences, Epidemiology simsekoghlu, ozelem harooni, javad
Primary Subject Heading:	Public health
Secondary Subject Heading:	Health policy
Keywords:	Determinant, Seatbelt, Protocol

Determinants of Seatbelt Use Behavior: A Protocol for a Systematic Review

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Abstract

Introduction

The use of seatbelts could prevent severe collision damage to people in vehicle accidents and keep passengers safe from sustaining serious injuries; for instance, it could prevent passengers from being thrown out of a vehicle after the collision. The current systematic review will identify and analyze the determinants of seatbelt use behavior.

Methods and Analysis

We will include qualitative, quantitative, and mixed-method studies reporting the acquired data from passengers aged greater than 12 years and drivers, from both commercial and personal

vehicles. Online databases including MEDLINE/PubMed, Scopus, Web of Science, Embase, Cochrane Database of Systematic Reviews, and PsychINFO will be investigated in the current study. Published and available articles will be evaluated according to their titles and abstracts. Published papers conforming to the inclusion criteria will be organized for a complete review. Next, the full text of the remaining articles will be studied independently for eligibility by two authors. The quality of the selected studies will be assessed with appropriate tools. Based on the information obtained from the data extraction, the type of determinants of seatbelt use will be classified.

Ethics and dissemination

Ethics approval is not required, because this is a protocol for a systematic review and no primary data will be collected. The authors will ensure to maintain the rights of the used and included articles in the present systematic review. The findings of this review will be published in a relevant peer-reviewed journal.

PROSPRO registration number: International Prospective Register for Systematic Reviews (PROSPERO) registration number: CRD42017067511.

Key words: Determinant, Seatbelt, Protocol

Strengths and limitations of the study

- The protocol has been written according to the PRISMA-P guidelines.
- The authors will use the NNR (number needed to read) index for assessing a sufficient number of articles.
- Study screening, data extraction, and risk of bias assessment of the current study will be independently conducted by two authors.
- Heterogeneity between studies may be an obstacle to perform meta-analyses.

Introduction

The World Health Organization (WHO) has been paying tremendous attention to the prevention of traffic injuries/accidents not only in its member countries but also worldwide. In addition, in 2008, a meeting held by the United Nations General Assembly emphasized the importance of the prevention and/or reduction of road accidents and the implementation of enhancements in road safety according to globally confirmed standards.[1] Most of the road traffic-related deaths (more than 90%) occur in low- and middle-income countries.[2] Road traffic-related

injuries have a considerable effect on the economy of societies, individuals, and their families, and considerable expenses may be associated with the treatment of injuries and disabilities and the support of family members who are affected by fatal collisions. Approximately 3% of the gross domestic product of countries around the world has been dedicated to the aftermath of road traffic collisions.[3]

The factors affecting road traffic collisions may be classified into 3 different categories: human, environmental, and vehicle-related factors.[4] Human factors such as not using seatbelts and helmets, ignoring traffic regulations and rules, illegal speeding, drug abuse, lack of knowledge and driving skills, and driving under the influence of alcohol are considered the most common behavioral factors exposing a person to traffic accident risk.[5-7]

The World Bank Global Report has considered actions such as the use of a seatbelt as the safest way to reduce the burden of road collisions and to save lives in developed countries.[5] Studies have established that the use of a seatbelt may prevent severe collision damage and keep passengers safe and secure from sustaining serious injury and from being thrown out of vehicles after the collision.[8-10]

Appropriate use of seatbelts may reduce front-seat fatality rates by 60%. Based on a recent meta-analysis, passengers who do not use a seatbelt are more likely to be injured in car collisions .[11]

To calculate a nationally representative estimate of constant seatbelt use by passengers in each region, a surveillance system of behavioral risk factors was applied in a study in 2012; the results of that study indicated that the use of seatbelts varied based on region.[12]

Despite the benefits related to seatbelt use, its application in most developing countries, including Iran, is not as high as it should be.[13] Although there have been dramatic improvements in recent years, mostly resulting from strict driving laws and substantial cash penalties for persons who do not use seatbelts, many drivers and passengers still take the risk of driving or traveling without the use of a seatbelt.[14-15] Hence, we are faced with complex conditions that require a profound study to clarify the various factors that lead people to follow this behavior. The results of such studies may help decision-makers focus their attention on priority areas.

Several studies have addressed the determinants of seatbelt usage[15-18], but most of these studies were not shared formally in scientific databases and therefore are not available to all researchers; and a considerable amount of time is thus needed to gather the main findings and identify the effective determinants of seatbelt use.

Systematic review is an effective methodology that can be useful to identify the determinants of seatbelt use. To the authors' knowledge, no systematic review has been conducted to date regarding the effective determinants of seatbelt use.[19]

The aim of the current systematic review is to identify the determinants of seatbelt use behaviors. The current review study will be performed based on the following 2 questions for the reader:

1. What determinants are being described in the literature for seatbelt use?

2. What are the individual and non-individual reasons for seatbelt use?

Objectives

The objectives of the current review study are as follows:

1. Identification of the determinants of seatbelt use.

2. Discovering the potential sources of heterogeneity in primary studies.

Methods and Analysis

For this study, the protocol was registered in PROSPERO. After completing each stage, the status of the project will be tracked and dated in PROSPERO.

Patient and Public Involvement

There has been no patient and public involvement in this systematic review.

Study Eligibility criteria

Studies will be selected according to the following criteria:

Population

In the current systematic review, we will include studies reporting data on seatbelt use in commercial or personal vehicles for both drivers and passengers seated in front or rear.

Passengers aged greater than 12 years will include, as the use of seatbelts is recommended for people aged 12 years or older, and for passengers younger than 12 years, child restraints should be used.[20]

Studies on special populations such as pregnant women, people with health issues or with physical disabilities (e.g., abdominal surgery), and those with limitations on seatbelt use will also be included, but the results collected from these drivers or passengers will be treated separately in the present study.

Exposure

The authors will consider the studies those addressing the determinants of seatbelt usage.

Comparators

The results for use of seatbelts will be compared with those for not using seatbelts.

Study design

The authors will include qualitative, quantitative, and mixed-method studies in which the determinants of seatbelt behavior are described. Animal studies will not be considered in the present research.

Determinants

Genetic factors, income level, poverty rate, environmental factors, political situations, unemployment and homelessness rate, education levels, social and economic situations including social exclusion and deprivation, occupational stress, common ancient customs, and type of activities are the determinants that may significantly influence on the health status of people, communities, and societies.[21]

Determinants may be defined as personal and impersonal factors that have an effect on the wearing of seatbelts in the transport system of a community. Personal determinants including age, gender, education level, knowledge, and attitude, and impersonal determinants such as the type of seatbelt law (current traffic rules), time (day and/or night), location of passengers, and geographical conditions will be considered for investigation in the present study. The aforementioned determinants are not exhaustive and complete, and additional determinants of seatbelt usage could be included, categorized, and discussed in the current or further systematic reviews.

Outcome

The achieved results will be used to distinguish all possible parameters that may determine the causes, times, conditions, and ways in which individuals wear or do not wear seatbelts. In addition to the frequency of wearing seatbelts, the achieved results may either record self-reported seatbelt use or seatbelt use measured objectively based on the vehicle type, seat location, and type of seatbelts.

Language

A comprehensive study of several databases will be performed regardless of language restrictions.

Setting

There will not be any restrictions due to the type of setting.

Search Methods for Identification of Studies

Electronic search

In this systematic review, the authors will develop a comprehensive search strategy for finding appropriate scientific articles in the following databases:

- MEDLINE/PubMed,
- Scopus,
- Web of Science,
- Embase,
- PsychINFO
- Cochrane Database of Systematic Reviews.

PubMed search strategy

The PubMed database search syntaxes are presented in Supplementary Appendix 1. This syntax is a combination of MeSH terms, key words, and tags and will be adopted for other databases. The authors will use PubMed's email alert service to identify any newly or very recently published articles. If the authors identify additional relevant keywords through any of the applied electronic and other searches in the current study, they will modify and improve the electronic search strategies to combine these terms and documents with the alterations.

Searching other resources

The authors will search in Google Scholar search engine and check the reference lists of the relevant reviews and previously published similar systematic reviews. Gray literature, including published abstracts, conference proceedings, reports, and theses as well as dissertations, will be searched with the use of sources, including ProQuest, Dissertations and Theses, NHS Evidence, OpenGrey, WHO, Centers for Disease Control and Prevention (CDC), and transportation research centers. Key journals are the other resources that will be used in this search. Finally, the authors will complete the search process by manual searching in Google.

In the published studies that appear to match our objectives, the authors will contact the corresponding author(s) for more information. Initially the authors will contact the corresponding author(s) by email and request data. If a response is not received after three contact attempts, we will exclude the research from the review.

Three groups of search terms relevant to the population (occupant), the outcome (seatbelt use), and terms relevant to determinants (determinants OR factor OR predictor) will be used. The authors will include articles that are available between January 1990 and December 2017, and will use the NNR (number needed to read) index to ensure a sufficient number of selected articles[22]. All the identified articles will be imported into EndNote (reference manager) software. The current protocol follows the PRISMA-P (Preferred Reporting Items for Systematic Review and Meta-analysis) checklist and will report the review articles according to the PRISMA statement. [23]

Data collection and analysis

Study selection

In the first step, two reviewers (JH and MG) will test the screening questions based on the inclusion and exclusion criteria; then, the results obtained from the search method will be screened for possible duplications, and any possible duplications will be removed. Next, the same two reviewers will independently evaluate the articles according to their titles and abstracts. Conflicts will be resolved by discussion until a consensus is reached. If a consensus cannot be reached, a third reviewer (BA) will be invited to act as a referee or arbitrator. The inclusion criteria include articles published between 1990 and 2017, and the study population will include people traveling in different types of vehicles (both drivers and passengers). Studies on booster seats or child restraints will be excluded**.**

Scientific papers that match the inclusion criteria will be ordered for a full and complete review. Finally, to review eligibility criteria, the full texts of the remaining articles will be studied independently by two authors (JH and MG) (Figure 1).

Data extraction

The specific data of the studies, including the studied population, the applied design, the selected country, the achieved outcomes, and other necessary data, will be extracted independently by two reviewers (JH and BA) by using a quantitative data extraction form. Based on the data extraction approach, the type of determinant of seatbelt usage will be classified (Figure 1).

Assessment of risk of bias of included studies

Assessment of the risk of bias and methodological quality within the included studies will be conducted by two reviewers (JH and SR) independently, considering the items according to the Effective Public Health Practice Project (EPHPP) tool, Quality assessment tool for the

assessment of the quantitative studies, [24] and the Newcastle-Ottawa Scale (NOS) for the evaluation of the quality of nonrandomized studies in the current review. [25] We will also use the Joanna Briggs checklist for qualitative research for the qualitative studies.[26] According to the scores achieved, the studies will be classified into three different categories including high quality, fair quality, and poor quality.

Assessment of publication bias

To explore the possibility of small study bias, the authors will assess funnel plots (i.e., constructed plots of the achieved results versus precision) and Begg's and Egger's tests, when there are 10 or more included studies. [27]

Data Synthesis

Descriptive analysis

We will apply the narrative analysis method[28], and the results obtained from the study will be descriptively reported in a summary table presenting complete information on the study population, study design, sitting patterns, quality of the performed study, behavioral patterns, and the results of seatbelt usage.

The authors expect that in the present systematic review, articles will be included from various study designs that are not appropriate to analyze the obtained data by using the meta-analysis approach. It should be noted that in the existence of conditions the authors will use meta-analysis and subgroup analyses to explore any possible sources of heterogeneity based on drivers versus passengers, passenger's location (front seats versus back seats), commercial versus passenger (personal) vehicles, and males versus females.

Summary of the findings

The authors will systematically and comprehensively describe the results obtained from each study, highlighting the important characteristics of the study including important similarities or differences (for example, study design, selected population, intervention, or other elements); then, the patterns in the data will be explored and described. The reasons for the occurrence of both similarities and differences of the outcomes found in the current study will be systematically explored, and possible explanations for the pattern of results will be considered and described or reported in a logical manner for each of the included studies.

The guidelines of the Cochrane narrative synthesis will be employed as the framework for data synthesis. These guidelines describe the following four main steps for the narrative synthesis:

1. Developing a theory of how the intervention (exposer) works, why, and for whom?
2. Developing a preliminary synthesis of the findings of the included studies.
3. Exploring the relationships in the accumulated data within and between the performed studies.
4. Assessing the robustness of the synthesis.[29]

Ethics and Dissemination

Because no primary and experimental data will be collected in the present study, adherence to formal ethical guidelines in the current study is not necessary. The authors will conduct a full and comprehensive search in various electronic databases; additionally, study selection and data extraction will be performed. The strategy mentioned in the method and the analysis section will be performed by two independent reviewers, and the authors will try to maintain the rights of the authors of the current research and the cited articles' in the present systematic review. The findings of the current review will be published in a relevant peer-reviewed journal.

Discussion

The use of seatbelts is the most logical way to reduce collision leading to death and serious injuries[30]. Although a seatbelt by itself cannot prevent collisions, it has an effective role not only in reducing the injuries' intensity but also in preventing possible damage to passengers and drivers .[8]

Thus far, few systematic reviews, meta-analyses, and protocols have been published on the use of seatbelts[11, 31-32]. However, none of them comprehensively studied the determinants of the behavior of seatbelt use. We found only one meta-analysis that reviewed factors influencing the rate of seatbelt use in the United States [33]. Hence, a systematic review is required to comprehensively identify the determinants of seatbelt use.

The present study will clarify unknown aspects of the reasons why some people use or do not use seatbelts. Studies on the determinants of the behavior of seatbelt use may help to identify the determinants that contribute mostly to seatbelt use by car occupants and provide a comprehensive framework of factors that significantly affect this behavior. Additionally, the current study will provide important information for researchers, stakeholders in public health and policy makers, as well as for designing intervention programs to increase seatbelt use. Moreover, implications for future research may be drawn from the results obtained from the present study.

Contributors

JH, M GH, BA, SR, O-SH, YM, and HS conceived and designed the study. JH, M GH, BA, and SR developed the search strategies. JH, BA, and M GH were responsible for the initial drafting, editing of the manuscript, and approved the manuscript for submission. O-SH, HS, and YM revised the manuscript. JH and M GH will also screen potential studies, extract data, and assess their quality. Any discrepancies will be resolved by consensus between JH and M GH. When consensus is not reached, BA will act as an arbitrator to make a final decision**.**

Competing interests

The authors declare that there is no conflict of interest.

Funding

Not applicable.

Data sharing statement

To gain access to the data, the researchers should submit a detailed description of their projects, as well as personal identification and institutional affiliation, and a complete list of data should be requested. All applicants will be required to sign an agreement of confidentiality stating that data will not be transferred without permission and that no attempts will be made to identify the participants.

Acknowledgements

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Figure Legends

Figure 1: Flowchart presenting an overview of the search results.

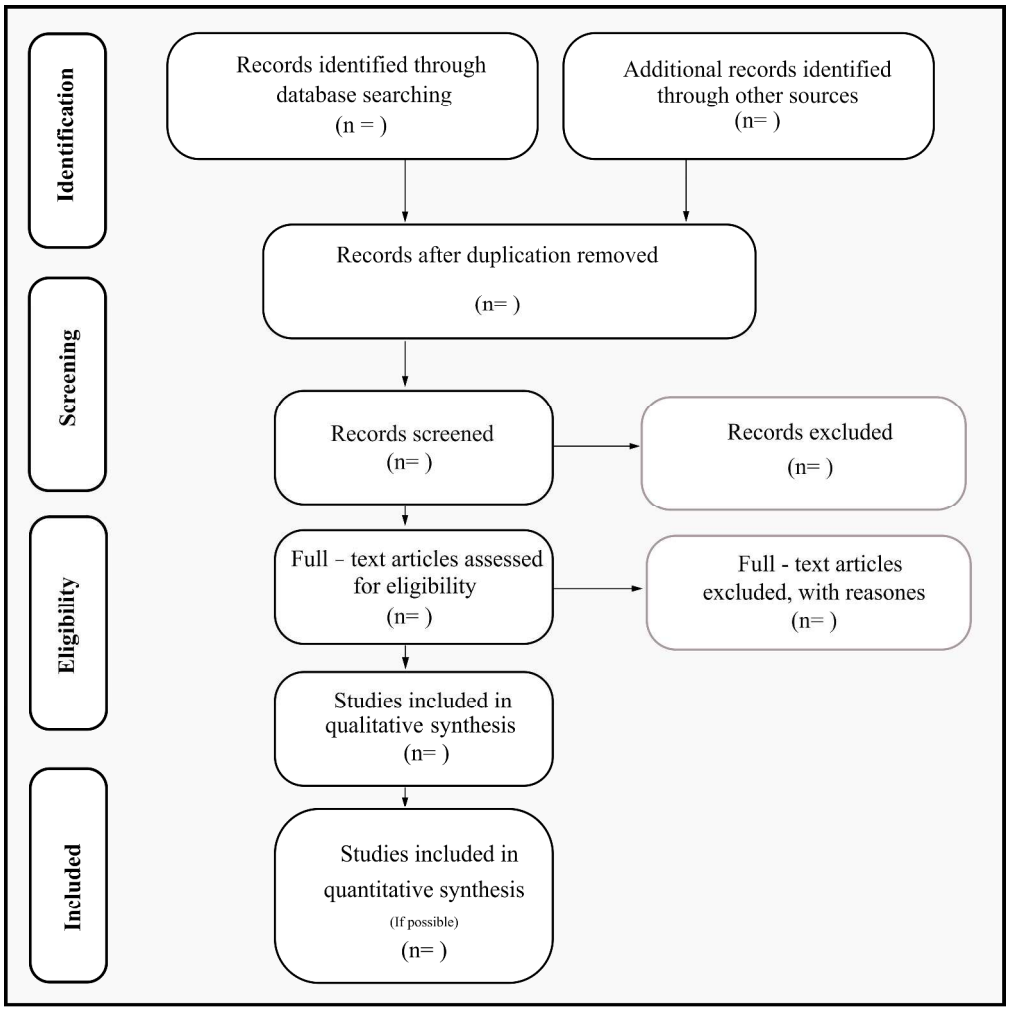

Figure 1: Flowchart presenting an overview of the search results.

501x501mm (300 x 300 DPI)

APPENDIX 1: Search strategy for MEDLINE via PubMed

1. "Determinant Factor"

2. Correlate

3. Contributor

4. Predictor

5. Factor

6. Determinant*

7. 1 OR 2 OR 3 OR 4 OR 5 OR 6

8. Seatbelt

9. "Safety belt"

10. "Belt seat"

11. "Seat belt"

12. "Road safety"

13. 8 OR 9 OR 10 OR 11 OR 12

14-(1990/01/01:2017/12/31[dp])

14 – 7 AND 13 AND 14

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Reported On page
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	P:1 line:1,2
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	NA*
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	P:2 line 44
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	P:1 line 6-20
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	P:14 line 291-296
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	P:14 line:298-304
Support:			
Sources	5a	Indicate sources of financial or other support for the review	NA
Sponsor	5b	Provide name for the review funder and/or sponsor	NA
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	NA
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	P:3,4 line:50-88
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	P:4,5,6 line 90_134
METHODS			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	P:6
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	P: 6,7,8
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	P:10

Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	P:10,11
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	P:8,9,10
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	P:8,9
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	P:5,6
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	P:6
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	P:9
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	P:11
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ)	NA
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	NA
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	P:11
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	P:10
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	NR

* NA: Not Applicable NR: Not Reporting