

Appendix-1: Preliminary Search Strategy

Database: PubMed

Search date: 2020-06-15

Search specifications: no filters or limitations applied

Result: 778 references

Search string
<p>"Off-Road Motor Vehicles"[Mesh] OR "off-road bike*" [Title/Abstract] OR "off road bike*" [Title/Abstract] OR "off-road motor vehicle*" [Title/Abstract] OR "off road motor vehicle*" [Title/Abstract] OR "all-terrain vehicle*" [Title/Abstract] OR "all terrain vehicle*" [Title/Abstract] OR "all terrain motor vehicle*" [Title/Abstract] OR "all-terrain motor vehicle*" [Title/Abstract] OR "quad Bike*" [Title/Abstract] OR "quad-bike*" [Title/Abstract] OR "urban off road vehicle*" [Title/Abstract] OR "urban off-road vehicle*" [Title/Abstract] OR "4-wheel ATV" [Title/Abstract] OR "four-wheel ATV" [Title/Abstract] OR "4 wheel ATV" [Title/Abstract] OR "four wheel ATV" [Title/Abstract] OR "off-road recreational vehicle*" [Title/Abstract] OR "off road recreational vehicle*" [Title/Abstract] OR "recreational off-highway vehicle*" [Title/Abstract] OR "recreational off highway vehicle*" [Title/Abstract]</p> <p>AND</p> <p>Risk[MeSH Terms] OR Risk Reduction Behavior[MeSH Terms] OR causality[MeSH Terms] OR accident[MeSH Terms] OR risk management[MeSH Terms] OR protective devices[MeSH Terms] OR caus* [Title/Abstract] OR risk* [Title/Abstract] OR "precipitating factor*" [Title/Abstract] OR predispos* [Title/Abstract] OR hazard* [Title/Abstract] OR safe* [Title/Abstract] OR unsafe [Title/Abstract] OR harm* [Title/Abstract] OR danger* [Title/Abstract] OR proneness [Title/Abstract] OR protect* [Title/Abstract] OR prevent* [Title/Abstract] OR threat* [Title/Abstract] OR accident* [Title/Abstract] OR helmet* [Title/Abstract] OR seatbelt* [Title/Abstract]</p>

Appendix-2: Data Extraction-Data Items

1. Journal Article /Report Source Details
 - 1.1. Type of publication
 - 1.2. Journal/website of report
 - 1.3. Link
 - 1.4. Date of publication
 - 1.5. Date of access
 - 1.6. Citation
 - 1.7. Author name
 - 1.8. Author details
 - 1.9. Author email/contact

- 1.10. Link to other study/paper by the same team
2. Study /Report Detail
 - 2.1. Summary
 - 2.2. Aim/Objective
 - 2.3. Study population
 - 2.4. Location-geographic
 - 2.5. Demographic involved
 - 2.6. Study Design
 - 2.7. Qualitative/quantitative
 - 2.8. Primary/secondary data
 - 2.9. Data source
 - 2.10. Data management
 - 2.11. Statistical analysis
 - 2.12. Sample size
 - 2.13. Limitation
 - 2.14. Sensitivity analysis, or any other treatment
 - 2.15. Outcome-primary
 - 2.16. Outcome-secondary
 - 2.17. Outcome-others
 - 2.18. Vehicle specification
3. Data Quality Assessment Score
4. Data for Review
 - 4.1. Risk/Protective factor-personal-name
 - 4.2. Risk/Protective factor-personal-association/attributable factor
 - 4.3. Risk/Protective -vehicular-name
 - 4.4. Risk/Protective -vehicular-association/attributable factor
 - 4.5. Risk/Protective -environmental-name
 - 4.6. Risk/Protective -environmental-association/attributable factor
 - 4.7. Risk/Protective -socio-cultural-name
 - 4.8. Risk/Protective - socio-cultural -association/attributable factor
 - 4.9. Risk/Protective -others-name
 - 4.10. Risk/Protective -others-association/attributable factor

4.11. Statistically significant relationship

Appendix 3: Screening checklist

1. Does the study involve adverse health effect or injuries? Select if Yes
2. Are the health effect adverse and acute in nature? Select if Yes
3. Does the study focus primarily on quad bikes or similar all terrain vehicle? Select if Yes
4. Is it an opinion, editorial or commentary? Select if No.
5. Are the risk factors or protective factors to quad bike injury mentioned? Select if Yes.

Appendix 4: Mixed Method Assessment Tool Screening Questions

For all types

S1. Are there clear research questions?

S2. Do the collected data allow to address the research questions?

Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.

1. Qualitative

- 1.1. Is the qualitative approach appropriate to answer the research question?
- 1.2. Are the qualitative data collection methods adequate to address the research question?
- 1.3. Are the findings adequately derived from the data?
- 1.4. Is the interpretation of results sufficiently substantiated by data?
- 1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?

2. Quantitative randomized controlled trials

- 2.1. Is randomization appropriately performed?
- 2.2. Are the groups comparable at baseline?
- 2.3. Are there complete outcome data?
- 2.4. Are outcome assessors blinded to the intervention provided?
- 2.5. Did the participants adhere to the assigned intervention?

3. Quantitative nonrandomized

- 3.1. Are the participants representative of the target population?
- 3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?
- 3.3. Are there complete outcome data?
- 3.4. Are the confounders accounted for in the design and analysis?
- 3.5. During the study period, is the intervention administered (or exposure occurred) as intended?

4. Quantitative descriptive

- 4.1. Is the sampling strategy relevant to address the research question?
- 4.2. Is the sample representative of the target population?

- 4.3. Are the measurements appropriate?
 - 4.4. Is the risk of nonresponse bias low?
 - 4.5. Is the statistical analysis appropriate to answer the research question?
5. Mixed methods
- 5.1. Is there an adequate rationale for using a mixed-methods design to address the research question?
 - 5.2. Are the different components of the study effectively integrated to answer the research question?
 - 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?
 - 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?
 - 5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?