APPENDIX 1- Literature search report

Bibliographic database searches

Database: AMED
Host: EBSCO
Data Parameters: n/a
Date Searched: 10/1/2020
Searcher: SB
Hits: 2
Strategy:

1. TI "tranexamic acid" OR AB "tranexamic acid"
2. TI TXA OR AB TXA
3. TI cyklokapron OR AB cyklokapron
4. 1 or 2 or 3

Notes: Date limited 2010 – to date

Database: CENTRAL
Host: Cochrane Library
Data Parameters: Issue 1 of 12, January 2020
Date Searched: 10/10/2020
Searcher: SB
Hits: 196
Strategy:

#1 ("tranexamic acid"):ti OR ("tranexamic acid"):ab
#2 (TXA):ti OR (TXA):ab
#3 (cyklokapron):ti OR (cyklokapron):ab
#4 MeSH descriptor: [Tranexamic Acid] this term only
#5 #1 or #2 or #3 or #4
#6 (trauma*):ti OR (trauma*):ab
#7 (paramedic* or ems or emt or prehospital or "pre hospital" or "first responder*“ or "emergency medical technician*“ or "emergency services" or Ambulance* or HEMS or "field triage" or "out-of-hospital"):ti OR (paramedic* or ems or emt or prehospital or "pre hospital" or "first
responder*" or "emergency medical technician*" or "emergency services" or Ambulance* or HEMS or "field triage" or "out-of-hospital"):ab

#8 MeSH descriptor: [Ambulances] this term only
#9 MeSH descriptor: [Emergency Medical Technicians] this term only
#10 MeSH descriptor: [Air Ambulances] this term only
#11 MeSH descriptor: [Emergency Medical Services] this term only
#12 #6 or #7 or #8 or #9 or #10 or #11
#13 #5 and #12

Notes: Date limited 2010 – 2020

Database: CINAHL
Host: EBSCO
Data Parameters: n/a
Date Searched: 13/1/2020
Searcher: SB
Hits: 313

Strategy:

1. TI "tranexamic acid" OR AB "tranexamic acid"
2. TI TXA OR AB TXA
3. TI cyklokapron OR AB cyklokapron
4. (MH "Tranexamic Acid")
5. TI trauma* OR AB trauma*
6. TI ( (paramedic* or ems or emt or prehospital or "pre hospital" or "first responder*" or 
   "emergency medical technician*" or "emergency services" or Ambulance* or HEMS or "field 
   triage" or "out-of-hospital") ) OR AB ( (paramedic* or ems or emt or prehospital or "pre 
   hospital" or "first responder*" or "emergency medical technician*" or "emergency services" 
   or Ambulance* or HEMS or "field triage" or "out-of-hospital") )
7. (MH "Ambulances")
8. (MH "Aeromedical Transport")
9. (MH "Emergency Medical Services+")
10. S1 OR S2 OR S3 OR S4
11. S5 OR S6 OR S7 OR S8 OR S9
12. S10 AND S11
Notes: Date limited 2010 – to date; English language results only

Database: Cochrane Database of Systematic Reviews (CDSR)
Host: Cochrane Library
Data Parameters: Issue 1 of 12, January 2020
Date Searched: 10/10/2010
Searcher: SB
Hits: 6
Strategy: see CENTRAL search
Notes: Date limited 2010 – 2020

Database: Conference Proceedings Citation Index – Science (CPCI-S)
Host: Clarivate Analytics
Data Parameters: n/a
Date Searched: 10/1/2020
Searcher: SB
Hits: 86
Strategy:

1. TOPIC: ("tranexamic acid")
2. TOPIC: (TXA)
3. TOPIC: (cyklokapron)
4. #1 OR #2 OR #3
5. TOPIC: (trauma*)
6. TOPIC: (paramedic* or ems or emt or prehospital or "pre hospital" or "first responder*" or "emergency medical technician*" or "emergency services" or Ambulance* or HEMS or "field triage" or "out-of-hospital")
7. #5 OR #6
8. (#7 AND #4) AND LANGUAGE: (English) Indexes=CPCI-S Timespan=2010-2020

Database: Embase
Host: Ovid
Data Parameters: 1974 to 2020 January 09
Date Searched: 10/1/2020
Searcher: SB
Hits: 1250
Strategy:
1. "tranexamic acid".tw.
2. TXA.tw.
3. cyclokapron.tw.
4. Tranexamic Acid/
5. or/1-4
6. trauma*.tw.
7. (paramedic* or ems or emt or prehospital or "pre hospital" or "first responder*" or "emergency medical technician*" or "emergency services" or Ambulance* or HEMS or "field triage" or "out-of-hospital").tw.
8. exp ambulance/
9. rescue personnel/
10. air medical transport/
11. exp emergency health service/
12. or/6-11
13. 5 and 12
14. limit 13 to (english language and yr="2010 –Current")

Database: MEDLINE ALL
Host: Ovid
Data Parameters: 1946 to January 09, 2020
Date Searched: 10/1/2020
Searcher: SB
Hits: 513
Strategy:

1. "tranexamic acid".tw.
2. TXA.tw.
3. cyclokapron.tw.
4. Tranexamic Acid/
5. or/1-4
6. trauma*.tw.
7. (paramedic* or ems or emt or prehospital or "pre hospital" or "first responder*" or "emergency medical technician*" or "emergency services" or Ambulance* or HEMS or "field triage" or "out-of-hospital").tw.
8. Ambulances/
9. Emergency Medical Technicians/
10. Air Ambulances/
11. Emergency Medical Services/
12. or/6-11
13. 5 and 12
14. Limit 13 to (english language and yr="2010 – Current")

**Table A1.** Total number of hits per database and unique records

<table>
<thead>
<tr>
<th>Database</th>
<th>Hits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMED</td>
<td>2</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>196</td>
</tr>
<tr>
<td>CINAHL</td>
<td>313</td>
</tr>
<tr>
<td>CDSR</td>
<td>6</td>
</tr>
<tr>
<td>CPCI-S</td>
<td>86</td>
</tr>
<tr>
<td>Embase</td>
<td>1250</td>
</tr>
<tr>
<td>MEDLINE ALL</td>
<td>513</td>
</tr>
<tr>
<td><strong>Total records</strong></td>
<td><strong>2366</strong></td>
</tr>
<tr>
<td><strong>Duplicate records</strong></td>
<td><strong>605</strong></td>
</tr>
<tr>
<td><strong>Unique records</strong></td>
<td><strong>1761</strong></td>
</tr>
</tbody>
</table>

**OpenGrey search**
URL: [http://www.opengrey.eu/](http://www.opengrey.eu/)
Date Searched: 09/03/2021
Searcher: HN
Hits: 11
Strategy: "tranexamic acid" OR TXA

**Clinical trials registry search**
Registry: ClinicalTrials.gov
URL: [https://clinicaltrials.gov/](https://clinicaltrials.gov/)
Date Searched: 24/06/2020
Searcher: HN
Hits: 27
Strategy:

Intervention/treatment: "tranexamic acid" OR TXA OR cyklokapron

Title/Acronym: trauma OR prehospital OR "pre-hospital" OR emergency
Update searches

Bibliographic database searches

Database: AMED
Host: EBSCO
Data Parameters: n/a
Date Searched: 14/12/2020
Searcher: SB
Hits: 0
Strategy: see above (date limited 2020 to date of search)

Database: CENTRAL
Host: Cochrane Library
Data Parameters: Issue 12 of 12, December 2020
Date Searched: 14/12/2020
Searcher: SB
Hits: 65
Strategy: see above (date limited 2020 to date of search)

Database: CINAHL
Host: EBSCO
Data Parameters: n/a
Date Searched: 14/12/2020
Searcher: SB
Hits: 68
Strategy: see above (date limited 2020 to date of search)

Database: Cochrane Database of Systematic Reviews (CDSR)
Host: Cochrane Library
Data Parameters: Issue 12 of 12, December 2020
Date Searched: 14/12/2020
Searcher: SB
Hits: 0
Strategy: see above (date limited 2020 to date of search)
Database: Conference Proceedings Citation Index – Science (CPCI-S)
Host: Clarivate Analytics
Data Parameters: n/a
Date Searched: 14/12/2020
Searcher: SB
Hits: 7
Strategy: see above (date limited 2020 to date of search)

Database: Embase
Host: Ovid
Data Parameters: 1974 to 2020 December 11
Date Searched: 14/12/2020
Searcher: SB
Hits: 227
Strategy: see above (date limited 2020 to date of search)

Database: MEDLINE ALL
Host: Ovid
Data Parameters: 1946 to December 11, 2020
Date Searched: 14/12/2020
Searcher: SB
Hits: 132
Strategy: see above (date limited 2020 to date of search)

Table A2. Total number of hits per database and unique records

<table>
<thead>
<tr>
<th>Database</th>
<th>Hits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMED</td>
<td>0</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>65</td>
</tr>
<tr>
<td>CINAHL</td>
<td>68</td>
</tr>
<tr>
<td>CDSR</td>
<td>0</td>
</tr>
<tr>
<td>CPCI-S</td>
<td>7</td>
</tr>
<tr>
<td>Embase</td>
<td>227</td>
</tr>
<tr>
<td>MEDLINE ALL</td>
<td>132</td>
</tr>
<tr>
<td><strong>Total records</strong></td>
<td><strong>499</strong></td>
</tr>
<tr>
<td><strong>Duplicate records</strong></td>
<td><strong>189</strong></td>
</tr>
<tr>
<td><strong>Unique records</strong></td>
<td><strong>310</strong></td>
</tr>
</tbody>
</table>
**Clinical trials registry search**

Registry: ClinicalTrials.gov  
URL: https://clinicaltrials.gov/  
Date Searched: 25/01/2021  
Searcher: HN  
Hits: 30  
Strategy: see above

[Please note that the hits reported from each of the clinical trials registry search updates included duplicates from the previous searches. However, we also found that there were both new records as well as records from previous searches that were now missing or had since been removed from the registry. Therefore, the number reported in the PRISMA diagram (34) was the total number of unique records found over the three searches.]

**Update searches 2**

**Bibliographic database searches**

Database: AMED  
Host: EBSCO  
Data Parameters: n/a  
Date Searched: 8/6/2022  
Searcher: SB  
Hits: 4  
Strategy: see above (date limited 2020 to date of search)

Database: CENTRAL  
Host: Cochrane Library  
Data Parameters: Issue 5 of 12, May 2022  
Date Searched: 8/6/2022  
Searcher: SB  
Hits: 132  
Strategy: see above (date limited 2020 to date of search)

Database: CINAHL  
Host: EBSCO  
Data Parameters: n/a  
Date Searched: 9/6/2022  
Searcher: SB
Hits: 712
Strategy: see above (date limited 2020 to date of search)

Database: Cochrane Database of Systematic Reviews (CDSR)
Host: Cochrane Library
Data Parameters: Issue 6 of 12, June 2022
Date Searched: 8/6/2022
Searcher: SB
Hits: 0
Strategy: see above (date limited 2020 to date of search)

Database: Conference Proceedings Citation Index – Science (CPCI-S)
Host: Clarivate Analytics
Data Parameters: n/a
Date Searched: 8/6/2022
Searcher: SB
Hits: 15
Strategy: see above (date limited 2020 to date of search)

Database: Embase
Host: Ovid
Data Parameters: 1974 to 2022 June 07
Date Searched: 8/6/2022
Searcher: SB
Hits: 571
Strategy: see above (date limited 2020 to date of search)

Database: MEDLINE ALL
Host: Ovid
Data Parameters: 1946 to June 07, 2022
Date Searched: 8/6/2022
Searcher: SB
Hits: 306
Strategy: see above (date limited 2020 to date of search)

**Table A3.** Total number of hits per database and unique records
<table>
<thead>
<tr>
<th>Database</th>
<th>Hits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMED</td>
<td>4</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>132</td>
</tr>
<tr>
<td>CINAHL</td>
<td>712</td>
</tr>
<tr>
<td>CDSR</td>
<td>0</td>
</tr>
<tr>
<td>CPCI-S</td>
<td>15</td>
</tr>
<tr>
<td>Embase</td>
<td>571</td>
</tr>
<tr>
<td>MEDLINE ALL</td>
<td>306</td>
</tr>
<tr>
<td><strong>Total records</strong></td>
<td><strong>1740</strong></td>
</tr>
<tr>
<td><strong>Duplicate records</strong></td>
<td><strong>473</strong></td>
</tr>
<tr>
<td><strong>Duplicate record with previous search</strong></td>
<td><strong>222</strong></td>
</tr>
<tr>
<td><strong>Unique records</strong></td>
<td><strong>1045</strong></td>
</tr>
</tbody>
</table>

*OpenGrey search*

URL: [http://www.opengrey.eu/](http://www.opengrey.eu/)
Date Searched: 25/01/2021
Searcher: HN
Hits: 18
Strategy: "tranexamic acid" OR TXA

*Clinical trials registry search*

Registry: ClinicalTrials.gov
URL: [https://clinicaltrials.gov/](https://clinicaltrials.gov/)
Date Searched: 25/01/2021
Searcher: HN
Hits: 33
Strategy: see above

[Please note that the hits reported from each of the clinical trials registry search updates included duplicates from the previous searches. However, we also found that there were both new records as well as records from previous searches that were now missing or had since been removed from the registry. Therefore, the number reported in the PRISMA diagram (34) was the total number of unique records found over the three searches.]
APPENDIX 2 - Inclusion and exclusion criteria

<table>
<thead>
<tr>
<th>PEOS categories</th>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Any patients who have experienced traumatic injury</td>
<td>Patients receiving TXA who have not experienced traumatic injury or who have superficial minor wounds. Patients experiencing obstetric, post-partum haemorrhage.</td>
</tr>
<tr>
<td>Exposure</td>
<td>Factors influencing the decision to administer TXA.</td>
<td><strong>\textbf{TXA administration in hospital. Studies that solely report the clinical and/or cost effectiveness of TXA, dose or route of administration rather than the factors that influenced administration will be excluded.}</strong></td>
</tr>
<tr>
<td>Outcome</td>
<td>Papers detailing the characteristics of patients who did or did not receive TXA in the pre-hospital setting. Papers detailing characteristics of pre-hospital clinicians who administered TXA.</td>
<td><strong>\textbf{TXA administration in hospital. Studies that solely report the clinical and/or cost effectiveness of TXA, dose or route of administration rather than the factors that influenced administration will be excluded.}</strong></td>
</tr>
<tr>
<td>Setting</td>
<td>Any pre-hospital setting where patients are treated by pre-hospital clinicians outside of a hospital or primary care environment.</td>
<td>Any hospital or primary care setting.</td>
</tr>
<tr>
<td>Study design</td>
<td>Any primary research.</td>
<td>Review articles, editorials and letters.</td>
</tr>
</tbody>
</table>
APPENDIX 3 – Variable sought during data extraction

List of variables for which data was sought during data extraction:

- Citation
- Country
- Study aims
- Patient and clinician population characteristics
- Primary outcome
- Inclusion and exclusion criteria
- Recruitment method
- Study Design
- Sample size and sampling method
- Data source
- Intervention and comparator group (if applicable)
- Date and duration of data collection
- Setting
- Analysis
- Factors influencing TXA administration
APPENDIX 4 – PRISMA diagram

Identification of studies via databases and registers

Records identified from:
- Databases (n = 4605)
- Clinical Trials Registers (n = 34)

Records screened (n = 2858)

Reports sought for retrieval (n = 149)

Reports assessed for eligibility (n = 140)

Records removed before screening:
- Duplicate records removed (n = 1781)

Records excluded** (n = 2709)

Reports not retrieved (full text not available) (n = 9)

Reports excluded (n = 120):
- Review articles, editorials and letters (n = 51)
- Does not specify which patients received pre-hospital TXA (n = 16)
- Hospital or primary care setting (n = 9)
- Solely reports the clinical and/or cost effectiveness of TXA, dose or route of administration (n = 9)
- Abstract only published (n = 8)
- Conference proceedings (n = 5)
- Not investigating factors influencing decision to administer TXA (n = 6)
- Study design - no results (n = 5)
- Not relevant (n = 4)
- Duplicate (n = 5)
- Not in English (n = 2)

Studies included in review (n = 20)
Reports of included studies (n = 20)

Identification of studies via other methods

Records identified from:
- Citation searching (n = 65)
- OpenGrey website (n = 29)

Records screened (n = 94)

Records excluded (n = 90)

Reports not retrieved (n = 0)

Reports excluded (n = 4):
- Review articles, editorials and letters (n = 1)
- Does not specify which patients received pre-hospital TXA (n = 1)
- Not relevant (n = 2)

*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).
**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

### APPENDIX 5 - Characteristics of included civilian studies (n=13).

<table>
<thead>
<tr>
<th>First Author (date), country</th>
<th>Study design</th>
<th>Patient number</th>
<th>Data source</th>
<th>Dates and duration of data collection</th>
<th>Population</th>
<th>Factors influencing TXA administration</th>
</tr>
</thead>
</table>
| Bossers (2021), Netherlands  | Observational multi-centre cohort study | 1827           | Brain Injury: Prehospital Registry of Outcome, Treatments and Epidemiology of Cerebral Trauma (BRAINPROTECT) study database. | February 2012 - December 2017, 5 years 10 months | Adult patients with severe TBI attended by HEMS | Patient age - patients receiving TXA older than those not receiving TXA (47 vs 45 years).  
Injury type, severity - patients receiving TXA had higher Injury Severity Score (ISS) (27 vs 26), lower prehospital Glasgow Coma Score (GCS) (4 vs 5) and higher heart rate (98 vs 92). |
| El-Menyar (2020), Qatar       | Retrospective observational, case control | 204            | Qatar National Trauma Registry                                             | January 1 2017 to September 30 2018; 1 year 9 months | Adult trauma patients                                                     | Resources – patients did not receive TXA if critical care paramedics unavailable. |
| Goodwin (2021), UK           | Qualitative interview study | 18             | UK paramedic interviews                                                    | 2019                                        | N/A                                                                        | Knowledge and skills - inadequate training and a lack of knowledge of the effects of TXA or the evidence base behind its use and a lack of exposure to trauma patients were barriers to its administration.  
Resources - a lack of time and staffing was a barrier to administration. Helicopter Emergency Medicine Services (HEMS) attendance was a barrier to some as they preferred to wait for a HEMS team member to administer it.  
Protocol - guidelines felt restrictive or confusing. Disparity between paramedic, HEMS and doctor TXA protocols causes confusion. The drug preparation and administration route were seen as barriers to its use.  
Consequences and social influences - the benefits of TXA were seen to outweigh the risks. TXA was seen to signal a major trauma patient. Fear of repercussion for administering TXA inappropriately. Opinion of colleagues seen to influence TXA administration. |
<table>
<thead>
<tr>
<th>Study</th>
<th>Study Design</th>
<th>Sample Size</th>
<th>Data Sources</th>
<th>Analysis Period</th>
<th>Patient Group</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsden (2019), UK</td>
<td>Retrospective service evaluation</td>
<td>661</td>
<td>TARN, local trauma registries and individual patient hospital records</td>
<td>January 1 2017 to December 31 2017; 1 year</td>
<td>Adult and paediatric trauma patients</td>
<td><strong>Priorities</strong> - TXA not seen as a priority, with administering fluids or distracting injuries often taking precedent. Three-hour window of administration may reduce the perceived urgency of administration. The stress associated with trauma jobs may lead to TXA being overlooked or deprioritised. <strong>Injury type, severity</strong> - risk of bleeding influenced administration including clinical observations and patient presentation. Participants found identifying patients at risk of bleeding difficult. <strong>Injury type, Mechanism of Injury (MOI)</strong> - uncertainty over which injuries/conditions TXA is indicated for. MOI and type of injury were part of identify patients at risk of bleeding. <strong>Injury type, site</strong> - less obvious bleeding including occult/ internal haemorrhage was harder to identify.</td>
</tr>
<tr>
<td>McQueen (2013), UK</td>
<td>Retrospective service evaluation</td>
<td>123</td>
<td>HEMS clinical database.</td>
<td>6 months - Dates not stated.</td>
<td>Major trauma patients attended by HEMS</td>
<td><strong>Injury type, MOI</strong> – road traffic collisions more likely to receive TXA, falls less likely. <strong>Injury type, severity</strong> – patients given TXA more likely to have heart rate and blood pressure suggestive of bleeding. <strong>Resources</strong> – patients given TXA were more likely to be treated by a physician-led crew.</td>
</tr>
<tr>
<td>Neeki (2018), USA</td>
<td>Observational cohort study</td>
<td>724</td>
<td>Electronic medical record and trauma registry</td>
<td>March 2015 to July 2017; 2 years 4 months</td>
<td>Adult trauma patients</td>
<td><strong>Protocol</strong> - clinician judgement used to guide administration outside of the protocol. <strong>Injury type, MOI</strong> – most TXA patients had multiple injuries. <strong>Resources</strong> - time constraints on scene and the absence of a doctor as part of the HEMS crew meant TXA not given.</td>
</tr>
<tr>
<td>Ng (2018), Canada</td>
<td>Retrospective observational</td>
<td>117</td>
<td>British Columbia Trauma Registry and Royal Columbian Hospital records.</td>
<td>April 2012 to June 2015; 3 years 2 months.</td>
<td>Adult trauma patients</td>
<td><strong>Injury type, severity</strong> – more patients receiving TXA had moderate (9-12) or severe (3-8) GCS scores than those not receiving TXA. <strong>Resources</strong> - not all Emergency Medicine Service providers carrying TXA.</td>
</tr>
<tr>
<td>Nutbeam (2022), UK</td>
<td>Retrospective observational</td>
<td>216,364</td>
<td>Trauma and Audit Research</td>
<td>January 1 2017 to Dec</td>
<td></td>
<td><strong>Sex</strong> - female patients less likely to receive TXA (OR 0.35, 95% CI, 0.33-0.36).</td>
</tr>
<tr>
<td>Study</td>
<td>Design</td>
<td>Sample Size</td>
<td>Data Source</td>
<td>Follow-Up</td>
<td>Injury type, severity</td>
<td>Injury type, MOI</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-----------</td>
<td>-----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>van Wessem (2022), Netherlands</td>
<td>Prospective cohort study</td>
<td>234</td>
<td>Hospital data</td>
<td>November 2013; 7.5 years</td>
<td>Adult trauma patients</td>
<td>Females less likely than males to receive TXA in all ISS categories.</td>
</tr>
<tr>
<td>van Wessem (2021), Netherlands</td>
<td>Population based Prospective cohort study</td>
<td>422</td>
<td>Hospital data</td>
<td>November 2013; 7 years</td>
<td>Adult trauma patients with associated severe TBI</td>
<td>- patients receiving TXA younger than those not receiving TXA (41 vs 51 years).</td>
</tr>
<tr>
<td>Vu (2013), USA</td>
<td>Case series</td>
<td>13</td>
<td>British Columbia Ambulance Service AirEvac and Critical Care Operation data system.</td>
<td>4 months - Dates unclear</td>
<td>Adult major trauma patients</td>
<td>- patients receiving TXA younger than those not receiving TXA (41 vs 51 years).</td>
</tr>
<tr>
<td>Wafaisade (2016), Germany</td>
<td>Retrospective observational</td>
<td>5765</td>
<td>ADAC Air Rescue Service prehospital database and German Trauma Society Trauma registry</td>
<td>January 1 2012 to December 31 2014; 3 years</td>
<td>Critically injured adult trauma patients</td>
<td>- patients needing pre-hospital intubation or chest tube placement more likely to receive TXA.</td>
</tr>
<tr>
<td>Wong (2021), Canada</td>
<td>Retrospective observational</td>
<td>100</td>
<td>Hospital charts and British Columbia Trauma Registry</td>
<td>April 1 2016 to March 31 2017; 1 year</td>
<td>Adult trauma patients</td>
<td>- TXA group notably younger (38.2 years vs 49.1 years)</td>
</tr>
</tbody>
</table>
## APPENDIX 6- Characteristics of included military setting studies (n=7).

<table>
<thead>
<tr>
<th>First Author (date), country</th>
<th>Study design</th>
<th>Patient number</th>
<th>Data source</th>
<th>Dates and duration of data collection</th>
<th>Population</th>
<th>Factors influencing TXA administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benov (2019), Israel-Syrian Border</td>
<td>Retrospective observational</td>
<td>2339</td>
<td>Israel Defences Forces Trauma Registry</td>
<td>February 12 2013 to December 31 2017; 4 Years 10 months 19 days</td>
<td>Combat injuries, Syrian adult and paediatric refugees</td>
<td><strong>Protocol</strong> – TXA for penetrating torso injury regardless of haemodynamic status. All patients receiving freeze-dried plasma with a known time of injury &lt;3 hours received TXA. <strong>Injury type, MOI</strong> – majority of TXA patients had penetrating injury.</td>
</tr>
<tr>
<td>Fisher (2019), Iraq and Afghanistan</td>
<td>Retrospective observational</td>
<td>28,222</td>
<td>The Department of Defence Trauma Registry.</td>
<td>January 2007 to August 2016; 9 years and 8 months.</td>
<td>Adult trauma patients</td>
<td><strong>Injury type, severity</strong> – patients with higher ISS, tourniquet application or serious injuries to the thorax, abdomen, extremities and skin more likely to receive TXA. <strong>Injury type, MOI</strong> - explosive injury and gunshot wounds were more likely to receive TXA. More likely to have explosive injuries and less likely gunshot wounds in TXA patients who had a tourniquet applied. <strong>Patient age</strong> - amputation patients receiving TXA were younger than those not receiving TXA (22 vs 25 years).</td>
</tr>
<tr>
<td>Lipsky (2014), Israel</td>
<td>Retrospective observational</td>
<td>40</td>
<td>Israel Defences Forces Trauma Registry</td>
<td>December 2011 to February 2013; 1 year 2 months.</td>
<td>Adult trauma patients</td>
<td><strong>Protocol</strong> – 30% of TXA administrations had no clear indication for TXA administration. Altered level of consciousness mistakenly categorised as a sign of haemodynamic instability. <strong>Priorities</strong> – some non-administrations due to tactical limitations, resuscitation or to avoid delaying evacuation.</td>
</tr>
<tr>
<td>Mahalo (2021), Israel</td>
<td>Retrospective observational</td>
<td>1059</td>
<td>Israel Defences Force Trauma Registry and Israel National Trauma Registry</td>
<td>2006 to 2017; 10 years</td>
<td>Adult civilian and military trauma patients</td>
<td><strong>Injury type, severity</strong> - TXA administration associated with analgesic treatment.</td>
</tr>
<tr>
<td>Nadler (2014), Israel</td>
<td>Retrospective observational</td>
<td>94</td>
<td>Israel Defences Forces Trauma Registry and hospital charts</td>
<td>December 2011 to August 2013; 1 year 8 months.</td>
<td>Adult civilian and military trauma patients</td>
<td><strong>Protocol</strong> – more conservative protocol in the civilian service compared to the military service but higher proportion of patients given TXA outside of protocol (with clearance) by civilian service.</td>
</tr>
<tr>
<td>Authors</td>
<td>Study Design</td>
<td>Sample Size</td>
<td>Setting</td>
<td>Target Population</td>
<td>Key Findings</td>
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<tr>
<td>Nadler (2021), Israel</td>
<td>Retrospective observational</td>
<td>16529</td>
<td>Israel Defences Forces Trauma Registry and hospital charts</td>
<td>January 2006 to December 2018; 13 years</td>
<td>Adult civilian and military trauma patients</td>
<td>Protocol - New Clinical Practice Guidelines (indicating TXA at a heart rate of 130 instead of 110) introduced caused a significant decrease in the proportion of TXA administered. Only 22% of patients indicated for TXA received it.</td>
</tr>
<tr>
<td>Tsur (2020), Israel</td>
<td>Retrospective observational</td>
<td>3394</td>
<td>Israel Defences Forces Trauma Registry</td>
<td>January 1997 to December 2018; 11 years</td>
<td>Adult military trauma patients</td>
<td>Injury type, site – isolated neck injuries more likely to receive TXA than no-neck injuries.</td>
</tr>
</tbody>
</table>