MILITARY OCCUPATIONAL CODES: THEIR USES AND LIMITATIONS IN UNDERSTANDING OCCUPATIONAL EXPOSURE RISKS AND AS PREDICTORS OF DEPLOYMENT-RELATED LUNG DISEASE

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BACKGROUND

• Clinical Question:
  Does the military MOS (Military Occupational Specialty) have any utility in understanding occupational and environmental exposures in the military?

• Study Hypothesis:
  Certain military MOS’s help predict the development of deployment lung disease.
BACKGROUND
BACKGROUND

• Military Occupational Code (MOS): Army and Marines
• MOS maybe promising in understanding military occupational exposures
• MOS may not reflect deployment jobs
BACKGROUND

- MOS history
  - Appears to come from British Army
  - Simple coding system
    - Organize training and experience
    - Fighting units
  - Currently a management tool
    - Training
    - Assignments
    - Promotions
BACKGROUND

• MOS’s of different services
  • All train in initial MOS and then may retrain
  • Army
    • MOS system
  • Marines
    • MOS system
  • Air Force
    • AFSC – Air Force Specialty Code
  • Navy & Coast Guard
    • Ratings – Enlisted
    • Designators - Officers
BACKGROUND

- **Initial MOS**
  - Assigned at the recruiters office or in basic training
  - Must perform for two years
  - Apply for retraining after two years

- **Primary MOS**
  - Usually initial training
  - Majority of training

- **Duty MOS**
  - Reflects current assignment
    - Home station or deployment
HOW ARE MOS’S DEFINED

• Army
  • Revised in 1965 and 1983 – changes in military
  • Organization
    • Ground operations – Troops, armored equipment
    • Support operations – Logistics, medical, air support
  • 9 character system
    • 1st/2nd → Career field (11 for Infantry)
    • 3rd → Divides career field (11B for rifle infantryman)
    • 4th → Skill level (1=private, 6=sergeant major)
    • 5th → Special qualification
    • 6th/7th → Additional skills
    • 8th/9th → Language
HOW ARE MOS’S DEFINED

- Marines
  - Organization
    - Navy ground operations – Troops, armored equipment
    - Support operations – Logistics, medical, air support
  - 4 digit system
    - Very similar to the Army
    - Fewer job variations
    - Recent change to remove “man” to “marines” in job titles
HOW ARE MOS’S DEFINED

• Air Force
  • Organization
    • AFSC (Air Force Specialty Code)
    • Air and Space operations – Pilots, aircrew, space operators, aircraft maint.
    • Support operations – Logistics, medical, legal, chaplain
    • Revision in 1993
  • 5 character system
    • 1st → Career group (3-support, 4-medical)
    • 2nd → Career field (4-primary care, 5-surgery)
    • 3rd → Career field sub-divided
    • 4th → Skill level (3-apprentice, 5-journeyman)
    • 5th → Specialty (1-operations)
HOW ARE MOS’S DEFINED

• Navy
  • Organization
    • All Sea operations – Sailors, pilots, SEALS, space operators, aircraft maint.
    • Support operations – Logistics, medical
  • Ratings – Navy Enlisted Classification
    • 2-3 character
      • ABE – Aviation Boatswain’s Mate - Aviation
  • Designators – Officers
    • Character system similar to the Air Force
PREVIOUS USE OF MOS AS AN EPI TOOL

• Initial study: Looked at the development of PTSD in deployers vs. non-deployer
  • Study include MOS data – showed no effect

• Three other studies:
  • PTSD/depression for deployed occupations
    • Support, communications, health care, combat specialist, service, supply
  • PTSD, TBI, paralysis for MOS classifications in Combat Arms vs. All others.
  • Musculoskeletal issues based on MOS classification of
    • High intensity combat, moderate intensity combat, maintenance, driving, administrative, and all others
METHODS

• Study Design:
  • Four person panel to determine which MOS’s with higher likelihood of exposures
  • Limit the study to Army and Marines
  • Army MOS’s likely with higher exposures
    • Infantry: 11B
    • Field Artillery: 13D
    • Special Forces: 18B, C, D
  • Marines MOS’s likely with higher exposures
    • Infantry: 03
    • Artillery: 08
    • Military Police: 58
METHODS

• Study Design:
  • Grading scheme → ID MOS’s with the highest exposure risk for several hazardous exposures
  • Compare MOS’s with a database of deployers at National Jewish Hospital with deployment lung diseases
## METHODS

- **Study Design**

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<th>MOS</th>
<th>Sandstorms</th>
<th>Burn Pits</th>
<th>Air Pollution</th>
<th>Diesel Fumes</th>
<th>IED Blasts</th>
<th>Mortar Fire</th>
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METHODS

• Grading Scheme
  • Will likely use 1-3 grade for likelihood of exposure
    • 1 – not likely
    • 2 – possible
    • 3 – very likely
METHODS

- 4 person panel
  - 2 deployment veteran physicians
  - 2 physicians with extensive experience with deployers

- Panel will grade all MOS’s individually
  - Score of 9-18 = low risk of exposure
  - Score of 18-27 = high risk of exposure
METHODS

• Statistical Analysis
  • Use a yet to be determined statistical analysis to compare our MOS list and grading scheme to the data base at National Jewish
  • National Jewish data base includes:
    • MOS info
    • Deployment info
    • Demographics
    • Sx’s
    • Dx’s
RESULTS

• After analysis determine if the MOS’s classified as high risk exposure have higher rates of deployment lung disease
THANK YOU!

Project is being supported by:
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- National Jewish Hospital

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