

Paramedic Critically Appraised Topic (CAT)

Title: Effects of Occupational Stress on Fatigue in Paramedics

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PICO: In working paramedics, does occupational stress affect fatigue levels?

Search Strategy: (paramedic OR emt OR ems OR “emergency medical services”) AND (sleep OR fatigue OR hours OR “shift work”) AND (mood OR “mental health” OR stress OR behaviour OR depression OR “occupational stress”)

Limits: last 5 years, peer-reviewed, English

Search Outcome: 113 (CINAHL: 46 and MEDLINE: 67)

Relevant Papers: 2 papers were chosen as the most relevant within the past 5 years.

Title	Population	Design	Intervention/ Comparison	Outcomes measured	Results
(Pyper & Paterson, 2016)	134 rural and regional Australian ambulance workers (103 males and 31 females)	Mixed methods survey	N/A	Fatigue, Stress and emotional trauma	<u>Fatigue</u> When on call, 93% of individuals claimed sleeping ≤ 5h. When not on call, 43% of individuals claimed sleeping <8h. 55.9% of individuals claimed that they experienced fatigue at work. <u>Stress</u> *Stress data was missing from 4 individuals (2.98%)* Of those that responded 78.46%

					<p>reported low/normal levels of stress, 6.15% reported mild levels of stress, 10% reported moderate levels of stress, 3.08% reported severe levels of stress, and 2.31% reported extremely severe levels of stress.</p> <p><u>Emotional Trauma</u></p> <p>*Emotional trauma data was collected only from those who have reported traumatic experiences (17.16% of the total respondent population)*</p> <p>Of those that responded 26.12% reported low/normal levels of emotional trauma, 27.02% reported mild levels of emotional trauma, 36.03% reported moderate levels of trauma and 10.81%</p>
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					reported severe levels of trauma.
(Pow, King, Stephenson, & DeLongis, 2017)	87 paramedics (71 males and 12 females) licensed by the Canadian Medical Association working full-time hours	Longitudinal study of daily diaries	Diaries were to be completed in a 7-day period, where day 2-5 were working days. Write diaries within 1hr of waking up, at the end of the work day, and before sleep on those days.	Occupational stress, sleep quality, and perceived social support availability.	<p>The quality of sleep does not predict the amount of stress an individual could have in future.</p> <p><u>Workday</u> *All individuals reported high levels of occupational stress* Individuals have poorer sleep quality with low perceived social support availability. Individuals with high levels of perceived social support had less affected sleep quality.</p> <p><u>Off Workdays</u> *All individuals had a cumulative occupational stress after a workweek* Individuals have poorer sleep quality with low perceived</p>

					social support availability. Individuals with high levels of perceived social support had no significant difference with sleep quality associated to cumulative occupational stress.
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Comments: It is important to note that there are limitations in both studies as they were convenience samples, which may skew results. In addition, both of the studies collected their information on a self-report basis, thus bias could have affected the answers. Both studies also had predominantly male respondents, therefore the results may not be generalizable to the paramedic profession as a whole. Pyper & Paterson (2016) only studied rural and regional Australian paramedics. It is important to note that experiences may be different for those in urban settings and in different countries.

Clinical Bottom Line: As found in the study done by Pyper & Paterson (2016), it is likely that individuals working as paramedics will at some point in their career have stressors and will be fatigued as a result. More research needs to be done in this area in order to realize how big of an impact stress has on the sleep quality of paramedics. The practice of medical emergency services can be changed by educating paramedics on ways of coping with occupational stress. Such as having adequate social support, as mentioned in the Pow *et al.*, 2017 study, to mitigate the effects on sleep quality. This in turn would minimize exhaustion and increase alertness. By helping paramedics overcome fatigue, the quality of care will increase, as well as patient and paramedic safety.

References:

Pow, J., King, D. B., Stephenson, E., & DeLongis, A. (2017). Does social support buffer the effects of occupational stress on sleep quality among paramedics? A daily diary study. *Journal of Occupational Health Psychology, 22*(1), 71–85.
<https://doi.org/10.1037/a0040107>

Pyper, Z., & Paterson, J. L. (2016). Fatigue and mental health in Australian rural and regional ambulance personnel. *EMA - Emergency Medicine Australasia, 28*(1), 62–66.
<https://doi.org/10.1111/1742-6723.12520>