

Written evidence from King's Centre for Military Health Research and Academic Department for Military Mental Health, King's College London

Defence Committee - Women in the Armed Forces: From Recruitment to Civilian Life

We thank the Defence Committee for the opportunity to respond to the inquiry, 'Women in the Armed Forces: From Recruitment to Civilian Life (January 2021)'. We have research evidence from the King's Centre of Military Health Research (KCMHR) and the Academic Department of Military Mental Health (ADMMH), both based at King's College London (KCL). Our research evidence helps to inform approaches to the mental health and wellbeing of female service personnel and veterans. We provide evidence in the areas of, '*Mental health and wellbeing (including common mental health disorders (CMD), Posttraumatic stress disorder (PTSD) and alcohol misuse), 'Posttraumatic growth', 'Intimate Partner Violence, 'Retention' and 'Future Research Needs and Gaps'*. We summarise this research, providing implications and recommendations. Links to KCMHR key papers are integrated in the text, with full references in Appendix 1.

King's Centre for Military Health Research

KCMHR is the leading independent civilian UK centre of excellence for military health research. KCMHR was established in 1996 as a joint initiative between the Institute of Psychiatry, Psychology & Neuroscience and the Department of War Studies, King's College London. KCMHR draws upon the experience of a multi-disciplinary team and is led by Professor Sir Simon Wessely and Professor Nicola Fear. Our flagship cohort study of 20,000 UK Armed Forces - 'The Health and Wellbeing of the UK Armed Forces', has followed those who served in Iraq and Afghanistan since 2003 and now provides longitudinal data on their health outcomes, spanning over 17 years. Data from our studies have been used to analyse various military issues, and papers have been published in peer reviewed, scientific journals. Our findings are regularly reported in the press and help shape government policy towards military personnel and other occupational groups, with our research published in high impact journals such as the British Medical Journal and The Lancet.

Academic Department of Military Mental Health

ADMMH is funded by the MoD and collaborates closely with KCMHR. ADMMH aims to provide the highest quality research, and academic advice to the MoD both during peacetime and on operations on the mental health of the Armed Forces. ADMMH's mission is to act as the uniformed focus for military mental health research for the UK Armed Forces. The department aims to gather, assess and report on information that will enhance the health and operational effectiveness of the UK Armed Forces. ADMMH staff work to support the research efforts of the Defence Medical Services and other organisations or institutions that work to better understand and improve the health of serving personnel.

Mental Health and Wellbeing - Women in the Armed Forces

Background

- Limited research in the UK has been conducted into the effects of military service generally and combat exposure specifically upon women. A review published in 2009 was unable to identify any empirical, data relating to women deployed in a combat role within the UK military (Cawkill et al., 2009).
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/27406/women_combat_experiences_literature.pdf

KCMHR Research

- In 2002, a KCMHR study compared non-deployed women service personnel to women deployed to the mission in Bosnia and women deployed to the 1990-1991 Gulf War. The Gulf War group reported unexplained physical symptoms and adverse health outcomes more frequently than either the Bosnia-deployed or non-deployed group; however, this finding was also seen among male military personnel

(Unwin et al., 2002) <https://academic.oup.com/milmed/article-pdf/167/5/406/24218941/milmed-167-5-406.pdf>

- A subsequent KCMHR study compared men and women who deployed to Iraq/Afghanistan with those who weren't deployed. The mental health impact of deployment was similar for women and men (Rona et al., 2007). <https://doi.org/10.1093/ije/dyl273>
- Further analyses of men and women deployed to Iraq/Afghanistan found overall women reported higher levels of CMD compared to men (25.7% v 18.8%), but men reported higher levels of hazardous drinking compared to women (63.8% v 49.6%). When assessing specific mental health outcomes in response to combat events, men and women experienced similar levels of PTSD and CMD symptoms (Woodhead et al., 2012). <https://www.kcl.ac.uk/kcmhr/publications/assetfiles/iraqafghan/Woodhead2012-combatexposuregender.pdf>
- In the third wave (phase 3) of the KCMHR cohort study, the prevalence of female personnel (serving and veterans) reporting CMD symptoms was 24.3%, probable PTSD 5.9% and alcohol misuse 4.8%.
- The prevalence of CMD and PTSD was similar between women and men, however men were statistically significantly more likely to report alcohol misuse (men: 10.6% v women: 4.8%) (Stevellink et al., 2018). https://www.cambridge.org/core/services/aop-cambridge-core/content/view/E77CCC4B6D0B2A3B6A481C0980D29E93/S0007125018001757a.pdf/mental_health_outcomes_at_the_end_of_the_british_involvement_in_the_iraq_and_afghanistan_conflicts_a_cohort_study.pdf

Women in Ground Close Combat (WGCC)

During the pre-implementation evaluation phase of the Women in Ground Close Combat (WGCC) project by the MoD, secondary data analysis conducted by ADMMH/KCMHR which included assessments of the potential mental health impact of combat exposure, levels of work strain and the possible impact on help-seeking should the WGCC policy be implemented. Three analyses were carried out by ADMMH/KCMHR.

1. Data from phase 2 of the KCMHR cohort study assessed levels of work strain and mental health outcomes on return from deployment using self-report survey data obtained from 8799 men (88%) and 1185 women (12%).
 - As with previous findings we found alcohol misuse was significantly less problematic for women vs men (8% v 14%), and again women reported significantly more CMD (24% v 19%). Women also self-reported significantly higher levels of a lifetime history of depression (27% v 17%) and lifetime history of acts of self-harm (4% v 2%).
 - The prevalence of PTSD in men and women was the same at 6%.
 - Women were significantly more likely to seek help from healthcare providers than men.
 - Men were significantly more likely to have deployed operationally and for longer cumulative periods.
 - Compared to men, women were significantly more likely to report that their jobs were moderately rather than highly demanding (i.e., reported less work strain).
 - Compared to men, women were significantly more likely to report subjectively lower levels of control over their job.
 - Women's military careers were significantly shorter than men's careers.
 - Significantly more men left service to pursue improved career prospects; significantly more women than men left service because of health problems. (Jones et al., 2020) <https://doi.org/10.1093/occmed/kqaa019>
<https://www.kcl.ac.uk/kcmhr/publications/assetfiles/2020/jones-et-al-2020-military-women-and-help-seeking.pdf>
2. Data was analysed from a structured telephone interview study of individuals recruited from phase 3 of the KCMHR cohort study who reported that they had experienced a, 'mental health, stress or emotional

problem in the past three years'. This study comprised of 219 women from a total of 1448 participants (Stevellink et al., 2019).

- Analyses indicated that military service had a broadly similar mental health impact by gender (men v women respectively – anxiety: 17.8% v 20.5%, depression 7.7% v 7.9%, probable PTSD 8.8% v 7.9%), although women were significantly less likely to report alcohol misuse (20.4% v 8.4%) (again confirming previous study findings).
 - Levels of perceived social support were subjectively high for both men and women.
 - Women were significantly more likely to have sought help from formal medical sources compared to men (70.2% v 51.8%). For women, the most common reason given for seeking formal medical support was receiving advice from others or recognising that they themselves had a problem (Jones et al., 2019b) <https://doi.org/10.1080/00332747.2019.1626200>, <https://www.kcl.ac.uk//kcmhr/publications/assetfiles/2019/2019-onwards/mental-health-help-seeking-behaviour-and-social-support-in-the-uk-armed-forces-by-gender.pdf>
3. In an ADMMH Operational Mental Health Needs Evaluation, 'OMHNE' study, the mental health impact of combat exposure upon military women was explored. When assessed in an operational theatre, 4% of currently deployed women and 4% of currently deployed men had symptoms indicative of PTSD.
- While more women reported symptoms of CMD compared to men (22% v16% respectively), greater combat exposure was not associated with reporting more CMD symptoms.
 - Women were found to report less stigma men in relation to mental health and help-seeking and reported fewer negative relationship impacts arising from deployment.
 - Help-seeking rates were similar for men and women.
 - Overall, women were less likely than men to report high levels of unit cohesion (66% of women versus 71% of men) and were more likely to be deployed as individual augmentees (deployed individually rather than with their unit).
 - There was a greater proportion of women with a serving military partner, a quarter of whom were deployed at the same time (Jones et al., 2019a). <https://doi.org/10.1093/ocmed/kqz103>, <https://www.kcl.ac.uk//kcmhr/publications/assetfiles/2020/jones-2020-deployed-women-and-combat-exposure.pdf>

Intimate Partner Violence

- KCMHR is currently conducting research into intimate partner violence (IPV) in UK Armed Forces. Little UK data previously existed on IPV in the UK Armed Forces. (The World health Organisation defines IPV as “any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship”).
- KCMHR has conducted several systematic reviews and meta-analyses (collating and pooling of data from multiple studies) regarding IPV in military populations. These reviews only found research conducted in US and Canadian Armed Forces.
- Among studies that measured past-year physical IPV perpetration, the pooled prevalence was higher among men compared to women (26% and 20% respectively) and higher in veteran populations compared to active duty service personnel (Kwan et al., 2020). <https://doi.org/10.1016/j.avb.2020.101419>
- A systematic review found IPV victimisation prevalence was similar between female and male military populations – hence IPV should not only be framed as a ‘women’s issue’ (Sparrow et al., 2020). <https://journals.sagepub.com/doi/pdf/10.1177/1524838018782206>
- A systematic review found evidence that the burden of mental health need may be significant among military personnel who are victims of IPV. There was stronger evidence for an association between IPV and depression/alcohol problems than between IPV and PTSD. An association between IPV and mental health problems was more frequently found among veterans compared to active duty personnel. However,

the link between IPV and alcohol misuse was more consistently found among active duty samples. (Sparrow et al., 2017). <https://link.springer.com/article/10.1007/s00127-017-1423-8>

Post Traumatic Growth

- Post-traumatic growth is the experience of going through a trauma and, as a result, developing beneficial psychological consequences. These can vary from having a greater appreciation of life, seeing new possibilities in your future, relating better to others, developing personal strength or undergoing spiritual change.
- Data was drawn from phase 3 of the KCMHR cohort. 570 female military serving/ex-serving personnel took part in the survey. As a result of their deployments to Iraq/Afghanistan, 60 females (11.2%) reported no post-traumatic growth and 369 (63.9%) reported at least one instance of moderate/large post-traumatic growth.
- Females who served as reservists, had left service, were of younger age, were single and those that reported greater number of combat experiences were more likely to report moderate/large post-traumatic growth compared to those that experienced no/very low post-traumatic growth.
- Those that suffered from probable mental health issues were less likely to experience moderate/large post-traumatic growth compared to those that experience no/very low post-traumatic growth. (Dyball et al., 2021)

Retention

- Utilising data from the three phases of the KCMHR cohort study (2003-2016), we found that women with dependent children were more likely than men to leave the UK Armed Forces. Further investigation is required to determine why mothers (compared to fathers) were more likely to leave the Armed Forces. (Burdett et al., 2020). <https://doi.org/10.1080/00332747.2020.1729063>

Future Research Needs and Gaps

- There is limited evidence regarding female personnel's (serving and veterans) mental health and wellbeing. This combined with the MoD target to increase recruitment of women, and women now serving in ground close combat, means there is **need for independent long-term surveillance and research of female personnel's mental health** both in service and after leaving service to assess long-term trends and ensure services and support are fit for use.
- Gaps in UK research regarding women service personnel's mental health and wellbeing include, **eating disorders, sexual dysfunction, sexual assault and harassment**. Literature from the UK and US suggests these may be areas where female service personnel have increased risk of experiencing negative outcomes compared to male service personnel (Bartlett and Mitchell, 2015, McGraw et al., 2016, Rosebrock and Carroll, 2017, Godier and Fossey, 2018)
- There is limited UK research assessing **female service personnel's experience of family life**. US research finds female service personnel had higher rates of remarriage and divorce than male service personnel. Women were also more likely than men to be part of non-heteronormative family forms. Civilian husbands of US female service personnel reported lower marital satisfaction, less support from the community, and less satisfaction with the military lifestyle than military wives (Southwell and MacDermid Wadsworth, 2016). Hence more research is needed to explore the family needs and experiences of female service personnel in the UK.

Implications and Recommendations

- Overall, there are many similarities found in UK research between female and male service personnel's mental health outcomes, particularly when concerned with the effects of deployment or frontline combat, and in particular that men and women service personnel have a similar risk of developing PTSD.
- It is notable that there is an increased prevalence of CMD in female service personnel compared to males and therefore mental health services should expect a proportion of women service personnel and veterans

needing CMD treatments; however, this CMD prevalence difference is also noted in gender differences in the UK general population.

- Evidence does however show that alcohol misuse, across multiple studies, is reported at lower levels in women than men in the Armed Forces.
- Despite alcohol misuse being lower for women service personnel and veterans, it is still approximately twice as high as working age women in the UK general population (APMS 2014). Alcohol consumption by female personnel should still remain a priority intervention target.
- Additional resources for mental health services in Defence Medical Services may be needed to allow for increased presentation of women service personnel who are more likely to seek formal help.
- Individuals who experience IPV are more at risk of depression and alcohol problems, however IPV must not only be seen a 'women's' issue and more research should also assess male victimisation.
- Understanding post-traumatic growth in the military context, and the factors associated with it, could help build a more resilient, psychologically prepared military force.
- There is a need for more research in a number of priority areas:
 - Need for independent research with regards to female service personnel's mental health, separate to formal MoD surveys to allow for trust and anonymity in responses.
 - Need to assess impact of maternity, parenthood and health outcomes on retention of women service personnel.
 - Need to assess integration and inclusion of female service personnel in units (cohesion being protective for mental health), particularly focused on individual augmentees.
 - Need to address crucial gaps in evidence assessing women service personnel/veteran's health and wellbeing. These include mental health, eating disorders, sexual dysfunction, sexual assault and harassment, family life and experiences of transition.
 - Need for longitudinal studies and surveillance of women service personnel/veteran's mental health and wellbeing outcomes to ensure services and support remain fit for purpose into the future.

If the committee would like to discuss any of these aspects further, please get in touch with KCMHR and ADMMH. With best wishes,

Professor Nicola Fear/Professor Sir Simon Wessely

2 February 2021

Appendix 1- References

- BARTLETT, B. A. & MITCHELL, K. S. 2015. Eating disorders in military and veteran men and women: A systematic review. *International Journal of Eating Disorders*, 48, 1057-1069.
- BURDETT, H., STEVELINK, S. A., JONES, N., HULL, L., WESSELY, S. & RONA, R. 2020. Pre-service military-related and mental disorder factors associated with leaving the UK armed forces. *Psychiatry*, 1-16.
- CAWKILL, P., ROGERS, A., KNIGHT, S. & SPEAR, L. 2009. Women in ground close combat roles: The experiences of other nations and a review of the academic literature. *Defense Science and Technology Laboratory, Porton Down*.
- DYBALL, D., TAYLOR-BEIRNE, S., GREENBERG, N., STEVELINK, S. A. M. & FEAR, N. T. 2021. Deployment-related Post-Traumatic Growth in Iraq/Afghanistan Deployed Veterans/Serving Personnel: Sociodemographic, Health and Deployment-related Factors associated with Post-Traumatic Growth (*Manuscript in preparation*).
- GODIER, L. R. & FOSSEY, M. 2018. Addressing the knowledge gap: sexual violence and harassment in the UK Armed Forces. British Medical Journal Publishing Group.
- JONES, N., GREENBERG, N., PHILLIPS, A., SIMMS, A. & WESSELY, S. 2019a. British military women: combat exposure, deployment and mental health. *Occupational Medicine*, 69, 549-558.
- JONES, N., GREENBERG, N., PHILLIPS, A., SIMMS, A. & WESSELY, S. 2019b. Mental Health, Help-Seeking Behaviour and Social Support in the UK Armed Forces by Gender. *Psychiatry*, 82, 256-271.
- JONES, N., JONES, M., GREENBERG, N., PHILLIPS, A., SIMMS, A. & WESSELY, S. 2020. UK military women: mental health, military service and occupational adjustment. *Occupational medicine*.
- KWAN, J., SPARROW, K., FACER-IRWIN, E., THANDI, G., FEAR, N. & MACMANUS, D. 2020. Prevalence of intimate partner violence perpetration among military populations: A systematic review and meta-analysis. *Aggression and violent behavior*, 101419.
- MCGRAW, K., KOEHLMOOS, T. P. & RITCHIE, E. C. 2016. Women in combat: framing the issues of health and health research for America's servicewomen. *Military medicine*, 181, 7-11.
- RONA, R. J., FEAR, N. T., HULL, L. & WESSELY, S. 2007. Women in novel occupational roles: mental health trends in the UK Armed Forces. *International journal of epidemiology*, 36, 319-326.
- ROSEBROCK, L. & CARROLL, R. 2017. Sexual function in female veterans: A review. *Journal of Sex & Marital Therapy*, 43, 228-245.
- SOUTHWELL, K. H. & MACDERMID WADSWORTH, S. M. 2016. The many faces of military families: Unique features of the lives of female service members. *Military Medicine*, 181, 70-79.
- SPARROW, K., DICKSON, H., KWAN, J., HOWARD, L., FEAR, N. & MACMANUS, D. 2020. Prevalence of self-reported intimate partner violence victimization among military personnel: a systematic review and meta-analysis. *Trauma, Violence, & Abuse*, 21, 586-609.
- SPARROW, K., KWAN, J., HOWARD, L., FEAR, N. & MACMANUS, D. 2017. Systematic review of mental health disorders and intimate partner violence victimisation among military populations. *Social psychiatry and psychiatric epidemiology*, 52, 1059-1080.
- STEVELINK, S. A., JONES, M., HULL, L., PERNET, D., MACCRIMMON, S., GOODWIN, L., MACMANUS, D., MURPHY, D., JONES, N. & GREENBERG, N. 2018. Mental health outcomes at the end of the British involvement in the Iraq and Afghanistan conflicts: a cohort study. *The British Journal of Psychiatry*, 213, 690-697.
- STEVELINK, S. A., JONES, N., JONES, M., DYBALL, D., KHERA, C. K., PERNET, D., MACCRIMMON, S., MURPHY, D., HULL, L. & GREENBERG, N. 2019. Do serving and ex-serving personnel of the UK armed forces seek help for perceived stress, emotional or mental health problems? *European journal of psychotraumatology*, 10, 1556552.

- UNWIN, C., HOTOPI, M., HULL, L., ISMAIL, K., DAVID, A. & WESSELY, S. 2002. Women in the Persian Gulf: lack of gender differences in long-term health effects of service in United Kingdom Armed Forces in the 1991 Persian Gulf War. *Military Medicine*, 167, 406-413.
- WOODHEAD, C., WESSELY, S., JONES, N., FEAR, N. & HATCH, S. 2012. Impact of exposure to combat during deployment to Iraq and Afghanistan on mental health by gender. *Psychological Medicine*, 42, 1985.