Military families: the impacts of having a first child during service on military mothers

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ABSTRACT

Introduction The rights, roles and responsibilities of servicewomen in the UK Armed Forces has changed dramatically over time. Previously, service personnel were automatically discharged from the military if they became pregnant. As the percentage of servicewomen in the UK Armed Forces increases, having children during service is becoming more common and maternity policies are now in place. Having children during military service can impact on the health and well-being of servicewomen, including a greater risk of illness when returning to work.

Methods A cross-sectional, self-report survey was used for data collection. The response rate was approximately 45%. Female Army veterans were recruited via a female military association. The survey collected data on parental status, the timing of their first child (during or after service), and several current mental and physical health and well-being outcomes.

Results Of the 750 female Army veterans who completed the survey, 406 reported having children. Of those with children, 14.5% had their first child during service compared with 85.5% after service. The most frequently endorsed health outcomes were low social support, loneliness and common mental health difficulties. Participants who had their first child during military service were more likely to have left the service non-voluntarily.

Conclusions This study provided insight into the impacts of having a first child during military service on servicewomen. Overall, female Army veterans who had their first child during service had poorer outcomes, including leaving service non-voluntarily. However, none of the health or well-being outcomes remained significant after adjusting the results. This study explored a widely under researched population and field of research. Future research should seek to expand on our findings and continue to explore the impacts of having a first child during military service for military mothers.

Key messages

- Servicewomen now represent a growing percentage of the UK Armed Forces. They have a number of unique needs compared with their male counterparts.
- Previously, servicewomen were made to leave service if they became pregnant. It is becoming more commonplace for servicewomen to become mothers during their military service.
- Servicewomen who had their first child during military service were more likely to report low social support, loneliness and common mental health difficulties.
- Those who had a first child during service were more likely to have left the services non-voluntarily.

INTRODUCTION

Women have been part of the Armed Forces for centuries; however, historically their roles have been limited. Women have only been able to serve on the front line in ground close combat roles since 2016 and have only been able to apply for all British Armed Forces roles, including special forces, since 2018.[1] With women now representing an increasing proportion (11%) of the UK Armed Forces,[2] it is important to better understand their unique needs and challenges faced compared with their male counterparts. This includes trying to balance the demands of motherhood and military life. Ministry of Defence statistics show that, as of 2014, 31.3% of UK active-duty service members had children, and of these, 22.5% were servicewomen; an increase of 7% compared with the 5 years prior.[3] Before 1991, women serving in the UK Armed Forces were automatically discharged if they became pregnant, in line with the UK Armed Forces' exemption from the Sex Discrimination Act (1975).

As a member of the British Army, pregnant women are entitled to up to 52 weeks maternity leave, regardless of their length of service. This comprises of three time periods: (1) 2 weeks compulsory leave (the legal requirement), (2) 26 weeks Ordinary Maternity Leave (OML) and (3) 26 weeks Additional Maternity Leave (AML). However, entitlement to maternity pay is dependent on length of service. Servicewomen must have completed at least 26 weeks continuous service to qualify for enhanced pay during OML. Those with 1 year of continuous service, and an intention to return to service for at least 12 months following maternity leave, are entitled to both OML and AML but would not receive full pay through both periods. Previous research has suggested that factors including financial strain, as well as younger age and negative views of the military, predicted if active-duty Air Force women left the military to have a child.[4] One potential reason for women feeling as though they cannot have children during service could relate to the provision of maternity leave and pay. However, the number of servicewomen taking maternity leave has increased across all Services and ranks since 2002.[5] The most recent statistics report that, in 2018, 5.4% of UK servicewomen took maternity leave, with a higher percentage of Officers (6.1%) taking maternity leave than other ranks (5.2%).[5]

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The demands placed on women to balance work and family life, and the choices required to do so, are experienced by many working mothers. These issues affect mothers across a variety of occupations however, military service presents a unique set of workplace challenges for military mothers. In addition, military mothers in dual-serving relationships may feel these challenges exacerbated further. Military demands impact on childcare concerns, maternal separation anxiety and postpartum fitness.[3] Furthermore, women often feel they have a dual identity; mother versus servicewoman. Of the sample of military mothers studied by Nilsson and colleagues, some reported an inherent conflict between these two identities. In these instances, the mother limited contact with her children during deployment to lessen the pain of separation.[6] Servicewomen, when compared with employed civilian women, report experiencing greater parental role conflict, mainly facilitated by long-term separation due to deployment, childcare concerns and gender stereotypes.[7] A qualitative study exploring the perceptions of pregnancy on the working lives of women in the Spanish Armed Forces reported that servicewomen felt fearful when informing their command chain about their pregnancy. The military mothers also reported perceived physical restrictions related to pregnancy and postpartum were a threat to their previous achievements.[8]

Military service and deployment impacts on military families. Currently, there is an estimated 180 000 military children in the UK across all services.[9] Previous research focused on fathers' deployment, but there is limited research on the impact of mothers' deployment on military children. One study explored military personnel's perceptions of the impact of their deployment on their children; 55% reported that deployment had a negative impact.[10] A systematic review exploring the impact of deployment on military families with young children reported associations between deployment and parental stress, behaviour problems in children, poor healthcare utilisation and child maltreatment.[11] Another systematic review evaluating the effects of deployment on parenting and children/adolescents highlighted the negative impacts of deployment and reintegration on children's mental health, including anxiety, depression, suicidal ideation and substance use.[12] In addition, military mothers may feel guilty and distressed for missing their child's key milestones.[13] Recognising the impact of military service on military children may be one potential explanation for servicewomen often waiting until after service to have children.

The impact of military deployment on mental health has been widely researched. Although in most instances, military personnel cope well with deployment, for those experiencing home and military life stressors, the risk of developing adverse mental health outcomes is greater. When the stressors of deployment separation, combat exposure and adverse childhood experiences are combined, military mothers are at an increased risk of post-traumatic stress disorder (PTSD) and depressive symptomatology; negatively impacting on the quality of parenting and the parent–child relationship.[14]

Having a child during military service can impact negatively on the health and well-being of military mothers. One US study exploring postpartum depression in a military sample reported that 19.5% of their sample screened positive for postpartum depression.[15] Although this percentage was higher than the general population, there was a lack of association between postpartum depression and military-specific factors such as being in a dual-military relationship and impending deployment.[15] However, there are substantial differences in the structure and processes of the US and UK Armed Forces; therefore, findings cannot be generalised cross-culturally. One UK study reported on the health outcomes of returning to work after pregnancy.[16] It was found that UK female service personnel experienced a greater risk of illness and a combination of illness and injury in the immediate year postpartum compared with pre-pregnancy.[16]

Most of the literature exploring the impacts of service on military families has focused on serving fathers, their civilian spouses and children. The impacts of having children during military service on serving mothers remains a widely under-researched field. Recent research by Baumann and colleagues revealed that of a sample of UK female Army veterans who had children, 38.9% felt that they were made to leave the military due to having children, and of those who had their first child during military service, almost half (44%) felt that they were treated differently due to their childcare responsibilities.[17] The present study therefore aimed to explore the impacts of having a first child during military service on the health and well-being outcomes of female Army veterans in the UK with children.

METHODS

Participant sample and procedure

Data were collected as part of a wider study exploring the unique needs of female Army veterans. This study adopted a cross-sectional design. Participants were recruited via the Women's Royal Army Corps (WRAC) Association, a charity supporting women who serve, and have served, in the British Army through grant giving, campaigning for the needs of female veterans and providing peer support. The WRAC Association database was searched for members who met the inclusion criteria: (1) UK female veteran, (2) provided consent to be contacted by the Association and (3) provided a contact email address. The search identified 1911 female Army veterans who met the aforementioned criteria, and 231 were excluded due to invalid email addresses. In total, 1680 female Army veterans were contacted via email invitation a total of four times over a 6-week period between October and August 2020 and 750 (44.6%) completed the survey. The final sample consisted of 406 female Army veterans who had children.

Materials

Participants completed a self-reported online survey via *Survey Monkey,* which included questions relating to sociodemographic characteristics, military characteristics, and physical and mental health symptoms. Participants were informed of the study aim, reminded that participation was voluntary and provided with instructions on how to withdraw from the study.

Primary outcome measure

To explore the impact of military service on the decision to have children and the timing in which to have them, we asked: (1) if you have children, did you have them pre-service, during service or post-service, and (2) was your decision to have (or not have) children, and the timing in which to have them, affected by your military career?

Sociodemographic data included age, relationship status and employment status. Military characteristics included last rank prior to leaving service, being early service leaver, voluntary versus non-voluntary discharge, and experience of military adversities and challenges. Physical health was measured using the 15-item Patient Health Questionnaire (PHQ-15),[18] where a score of 15–30 represents high somatic symptom severity. The Oslo Support Scale (OSSS-3)[19] and the UCLA Loneliness Scale (UCLA 3-Item)[20] are both 3-item measures used to assess perceived social support and loneliness, respectively. A score of

3–8 on the OSSS-3 represents poor perceived social support and a score of 6–9 on the UCLA indicated loneliness. Alcohol use data were collected using the Alcohol Use Disorder Identification Test (AUDIT-10),[21] where a score of 8+ suggests hazardous or harmful alcohol use. Difficulties with anger were assessed using the 5-item Dimensions of Anger Reactions–Revised (DAR-5),[22] and a score of 12+ acted as the cut-off. Common mental health difficulties (CMDs), such as anxiety and depression, were assessed with the 12-item General Health Questionnaire (GHQ-12).[23] A score of 4+ indicated the presence of CMDs. The 20-item PTSD Checklist (PCL-5)[24] was used to assess PTSD. Analysis of the psychometric properties on the PCL-5 within UK veterans suggests a cut-off score of 34 which suggests the presence of probable PTSD.[25]

Analysis

Data were restricted to female Army veterans who reported having children. Missing data were not included in the analyses. The first stage of the analysis was to use descriptive statistics of the sociodemographic and military characteristics to describe the sample. Following this, the proportion of participants who endorsed having children was calculated and reported as mean and SD. The next stage of the analysis was to fit a logistic regression model to explore the associations between the timing of first child, and sociodemographic and military characteristics. The final stage of analysis was to conduct a linear regression to explore the relationship between the timing of first child and a number of current health outcomes. All analyses were conducted using STATA V.13.0.

RESULTS

Overall, 750/1680 (44.6%) participants completed the survey. Reasons for non-response are unknown. Of those who completed the survey, 406/750 (54.0%) reported having children, of whom 85.5% had their first child after military service compared with 14.5% who had their first child during military service. Sample demographics and military characteristics are reported in Table 1. The majority of the sample were aged over 50 (20–50 years: 5.9% vs 51+ years: 94.1%), were currently working or retired (working or retired: 89.9% vs not currently working: 10.1%), were in a relationship (in a relationship: 65.8% vs not in a relationship: 34.2%) and were heterosexual (heterosexual: 93.1% vs LGBT +6.9%). In addition, the majority of responders reported leaving the military voluntarily (voluntary: 73.5% vs non-voluntary: 26.5%) with their last rank being something other than an officer (officer: 16.8% vs other rank: 83.2%). Of the sample, 34.2% were early service leavers, defined as those who left after completing less than 4 years continuous service. Of the sample, 11.3% reported experiencing a high level of adversity during military service and 26.9% reported a high level of military challenges.

Table 2 reports the association between sociodemographic and military characteristics, and timing of first child. The findings show that participants who reported having their first child during military service were more likely to have left the military non-voluntarily (OR 2.23, 95% CI 1.23 to 4.07), experienced high adversity during their military service (OR 2.35, 95% CI 1.14 to 4.86) and experienced a high number of military challenges (OR 3.24, 95% CI 1.81 to 5.78) when compared with those who reported having their first child after military service. Once adjusted for all other variables, leaving the military non-voluntarily was the only factor that remained significantly associated with having a first child during military service (OR 2.40, 95% CI 1.00 to 5.76).

Table 1 Demographics and military characteristics

	N (%)
Age group	
20–50	24/406 (5.9)
51–60	134/406 (33.0)
61–70	142/406 (35.0)
71+	106/406 (26.1)
Employment status	
Working or retired	364/405 (89.9)
Not currently working	41/405 (10.1)
Relationship status	
In a relationship	264/401 (65.8)
Not in a relationship	137/401 (34.2)
Sexuality	
Heterosexual	295/317 (93.1)
LGBT+	22/317 (6.9)
Reason for leaving military	
Voluntary	286/389 (73.5)
Non-voluntary	103/389 (26.5)
Early service leaver	
No	256/389 (65.8)
Yes	133/389 (34.2)
Last rank	
Officer	67/398 (16.8)
Other rank	331/398 (83.2)
Timing of first child	
After service	347/406 (85.5)
During service	59/406 (14.5)
Adversity during military service	
Low	360/406 (88.7)
High	46/406 (11.3)
Military challenges	
Low	277/379 (73.1)
High	102/379 (26.9)

Frequencies may not add up to n=406 due to missing values.

The percentage of participants meeting case criteria for a range of health outcomes is reported in Table 3. The most frequently endorsed outcomes were low social support (67.9%), loneliness (42.7%) and CMDs (32.0%). This was followed by PTSD (11.3%), anger (11.3%) and poor physical health (10.4%). The associations between health and well-being outcomes, and timing of first child are also reported in Table 3. CMDs (β=1.14; 95% CI 0.08 to 2.21) and anger (β=1.06; 95% CI 0.16 to 1.96) were the most strongly associated with having a first child during military service. After adjustment for the significant sociodemographic and military characteristics (age group, reason for leaving the military and early service leaver), there were no significant associations between any health or well-being being outcomes and having first child during military service.

DISCUSSION

In this paper, we reported on the impact of the timing of first child on current health outcomes for UK female Army veterans. One key finding of the present study is that the individuals who had their first child during military service appear to have poorer outcomes than those who had their first child after military service. The presented data suggested that, prior to adjustment, there was a significant

Table 2 Associations between sociodemographic and military characteristics, and timing of first child

	Timing of first child		Having first Child during service	
	N (%)		OR (95% CIs)	
	During service	After service	Unadjusted	Adjusted*
Age group				
20–50	11/59 (18.6)	13/347 (3.8)	1.00	1.00
51–60	33/59 (56.0)	101/347 (29.1)	0.39 (0.16 to 0.94)	0.36 (0.12 to 1.10)
61–70	13/59 (22.0)	129/347 (37.2)	0.12 (0.04 to 0.32)	0.94 (0.02 to 0.38)
71+	2/59 (3.4)	104/347 (29.9)	0.23 (0.00 to 0.11)	0.04 (0.00 to 0.41)
Not currently working	5/59 (8.5)	36/346 (10.4)	0.80 (0.30 to 2.12)	0.53 (0.14 to 1.99)
Not currently in a relationship	11/58 (19.0)	126/343 (26.7)	0.40 (0.20 to 0.81)	0.578 (0.21 to 1.59)
Non-heterosexual orientation	1/45 (2.2)	21/272 (7.7)	0.27 (0.04 to 2.07)	0.20 (0.02 to 1.94)
Non-voluntary discharge from military	22/53 (41.5)	81/336 (24.1)	2.23 (1.23 to 4.07)†	2.40 (1.00 to 5.76)†
Early service leaver	7/57 (12.3)	126/332 (38.0)	0.23 (0.10 to 0.53)	0.31 (0.10 to 1.00)
Lower ranks	46/59 (78.0)	285/339 (84.1)	0.67 (0.34 to 1.32)	0.89 (0.32 to 2.46)
High adversity during military service	12/59 (20.3)	34/347 (9.8)	2.35 (1.14 to 4.86)†	1.12 (0.39 to 3.27)
High military challenges	28/57 (26.9)	74/322 (23.0)	3.24 (1.81 to 5.78)†	1.44 (0.60 to 3.49)

Frequencies may not add up to 59 (during) and 347 (after) due to missing values.
*Adjusted for all other variables in table.
†p<0.000.

association between non-voluntary discharge from the military, experience of military adversities and experience of military challenges, and having a first child during military service. However, after adjusting for all other factors, only non-voluntary discharge from the military remained significantly associated with having a first child during military service. In addition, prior to adjustment, there was a relationship between the timing of first child with health and well-being outcomes. For instance, having a first child during military service was significantly associated with CMDs and anger. The reasons for this remain unclear; however, one potential explanation could be the impact of the historical discharge from the military when becoming pregnant. Being discharged non-voluntarily could have potential implications on their well-being due to a loss of income and a loss of identity. Despite this, after adjusting for all significant characteristics (age group, reason for leaving the military and early service leaver), none of the health or well-being outcomes remained significantly associated with having a first child during military service.

Implications

At present, there is a gap in the literature surrounding the impacts of having a first child during military service on military mothers. Much of the existing literature focuses on the impacts of having a mother in the military on military children, or it explores military fathers and their civilian spouses. It is important that future research continues to build on our findings and explores how the impacts of having children during service differs for military mothers and military fathers. In addition, US research is more extensive than UK research. However, due to substantial differences in the structure and processes, including maternity policy, between the US and UK Armed Forces, it is not possible to generalise the findings cross-culturally. This paper acts as a starting point for future research which should continue to explore the relationship between timing of first child, sociodemographic and military characteristics, and health and well-being outcomes. Future research should seek to investigate the reasons why servicewomen decide whether to have their first child during or after service, for instance due to poor maternity policy. As the sample was an older population, future research should explore the impacts of timing of first child on younger female service personnel. This would allow exploration between previous and current maternity policies. Our findings are an important step towards understanding the unique challenges faced by UK female service personnel. Our study emphasises the need for having up-to-date maternity statistics so perhaps the annual UK Armed

Table 3 Associations between health/well-being outcomes and timing of first child

		Score		Having first child during service	
		Mean (SD)		β coefficient (95% CI)	
	N (%)	During	After	Unadjusted	Adjusted*
PTSD (PCL-5)	38/335 (11.3)	12.7 (16.08)	12.0 (16.2)	0.70 (–4.07 to 5.47)	–2.65 (–8.07 to 2.34)
CMD (GHQ-12)	113/353 (32.0)	3.91 (4.22)	2.76 (3.56)	1.14 (0.08 to 2.21)†	0.20 (–0.96 to 1.37)
Anger (DAR-5)	41/363 (11.3)	8.60 (3.58)	7.54 (3.03)	1.06 (0.16 to 1.96)†	0.48 (–0.53 to 1.49)
Physical health (PHQ-15)	33/317 (10.4)	6.89 (5.64)	7.03 (5.05)	–0.14 (–1.67 to 1.39)	–0.23 (–1.90 to 1.43)
Loneliness (UCLA-3)	158/370 (42.7)	5.25 (2.25)	5.12 (2.04)	0.14 (–0.46 to 0.73)	–0.36 (–1.00 to 0.27)
Low social support (OSSS)	254/374 (67.9)	9.45 (2.81)	9.77 (2.72)	–0.32 (–1.10 to 0.47)	0.34 (–0.51 to 1.19)

Frequencies may not add up to n=406 due to missing values.
*Adjusted for age group, reason for leaving military and early service leaver.
†p<0.000.
CMD, common mental health difficulty; PTSD, post-traumatic stress disorder.

Forces Maternity Report by the Ministry of Defence should be reinstated.

Limitations

Although this study used a large community sample, it was mainly an older population sample and was only made up of female Army veterans who were engaged with the WRAC Association. This sample may have been affected by the UK Armed Forces' exemption from the Sex Discrimination Act (1975) which forced servicewomen to leave the military if they became pregnant, which remained in force until 1991. Therefore, the results may not necessarily be representative of the wider female veteran community or female serving personnel. In addition, the full sample had previously served in the British Army, and therefore findings cannot be generalised to other services including the Royal Navy or Royal Air Force. Using a self-report survey means that the results are subjective and may be influenced by recall bias.

CONCLUSION

This study is one of the first to assess the impact of the timing of first child (during or after military service) on current health and well-being outcomes. We began to explore the relationship between the timing of first child, several demographic and military characteristics, and current physical and mental health symptoms. We found that female Army veterans who had their first child during military service had poorer outcomes, including being significantly more likely to leave the service non-voluntarily. No significant associations were reported between having a first child during military service, and health and well-being outcomes. Future research should seek to expand on our findings and explore how the timing of first child impacts on servicewomen.

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