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Evaluation of a weight management programme delivered onboard a warship

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The United Kingdom Armed Forces are not exempt from the obesity epidemic⁽¹⁾. This is of concern due to the health, occupational and economic risks that it poses. In response to this problem, a nine-month healthy lifestyle intervention was implemented aboard a deployed Royal Navy (RN) warship in 2015. One component of the intervention was the delivery of a weight management programme (WMP). The present study evaluated the effectiveness of this WMP in accordance with best practice guidelines for weight management services⁽²⁾.

The delivery and content of the WMP was based on the National Institute for Health and Care Excellence (NICE) guidance for the provision of weight management services⁽³⁾. The programme was available for all members of the ship's company (*n* 242) who wanted to improve their health behaviours, rather than just those classified at risk of obesity related diseases according to the NICE guidelines⁽⁴⁾. Personnel with a body mass index of less than 18.5 kg.m⁻² (i.e. underweight) were not allowed to participate in the programme.

Forty-nine RN and Royal Marines personnel (males 84 %, females 16 %), mean (SD) age 31 (7) years attended the WMP for the duration of the deployment. This equated to 20 % of the ship's company. Participants' height, body weight and waist circumference were measured at three time points; pre-, mid- (4-5 months) and end- (9 months) of deployment.

The WMP adherence rate was 100 % (i.e. no drop outs). At pre-deployment, 45 % of participants were classified at any risk of obesity related diseases (12 % increased risk, 14 % high risk, 18 % very high risk). This reduced to 29 % at end-deployment (10 % increased risk, 14 % high risk, 4 % very high risk). There was a significant decrease in (mean [SD]) weight (91.8 [16.6] vs. 86.6 [14.8] kg, *P* < 0.001) and waist circumference (93.4 [12.8] vs. 85.7 [9.8] cm, *P* < 0.001) between pre- and end-deployment. Weight loss over the deployment was 5.2 [4.7] % of initial weight (*P* < 0.001). Weight and waist circumference reduction was greatest between pre- and mid-deployment, with smaller reductions between mid- and end-deployment. There was a medium negative correlation between relative weight loss and waist circumference reduction during the deployment and weight and waist circumference measured pre-deployment (*r* = 0.51, *P* < 0.001; *r* = 0.52, *P* < 0.001, respectively). The WMP therefore appeared to be more successful for participants at higher risk at pre-deployment. At the end of deployment 65 % and 61 % of participants achieved a weight loss greater than 3 % and 5 % of their initial weight, respectively; this exceeded the Department of Health best practice guidance for Tier-2 services⁽²⁾.

The findings from the present study support that an effective WMP can be delivered in a deployed military environment. Support should be offered to all personnel as prevention, rather than just being available as treatment to those classified at risk of obesity related diseases.

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