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Evaluation of nutritional knowledge, understand and practice of patients who attend a cardiac rehabilitation program in Preston

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Cardiac rehabilitation (CR) patients, who initially present as overweight or obese, are more likely to gain weight over a period of time[1]. According to the national association of cardiac rehabilitation (NACR) there was little or no change (at the end of their first year of attending CRP) in the body mass index (BMI) of individuals presenting with a BMI score of $\geqslant$30 kg/m_2 at baseline[2]. If patients are committed to making changes in other aspects of lifestyle (smoking cessation, increasing physical activity) then why are dietary changes so difficult to make? What do we know about our cardiac community and their perceptions on what they should eat and why?

The aim of this research was to evaluate the effectiveness of current nutrition intervention in reducing body mass (BM), waist circumference (WC) and BMI, within target CR programme (Heartbeat North West) based in Preston, Lancashire. A reduction in these measures are seen as important when reducing the risk of further progression of CHD[3]

Ethical approval was provided by BuSH ethics committee at The University of Central Lancashire. Heartbeat NW (CRP) provided written consent for the anonymised data to be evaluated. The start and end point Height, weight, WC and BMI from the each of the cohorts was collected by the EP on behalf of Heartbeat; it was anonymised and given to the researcher for analysis. Data was stored on a password protected computer to in the interests of participant confidentiality and in accordance with the data protection act. Data was then put into a statistical software package (version IBM SPSS 21) for statistical analysis. Paired samples t-tests were employed on each of the physiological outcome measurements: WC, BMI and body mass. Significance was accepted at the $p < 0{\cdot}05$ level. A total of 42 patients (12-F, 30-M) aged between 45–84years, mean 66 ± 10·45, Height 1·68 m ± 0·073, BM 84·35 kg ± 15·55, BMI 29·7 ± 6, and WC 104·1 ± 14·4, participated in a six week, "biggest looser" style intervention.

Table 1 displays the results of pre and post intervention anthropometric measurements, the percentage of change in each category

Table 1. Outcome measurements taken before and after the Heartbeat intervention

	Pre intervention		Post intervention		% change	p-values of the difference
	Mean	SD(±)	Mean	SD(±)		
Waist circumference (cm)	104·10	14·39	99·17	12·40	4·85	*0·001
BMI (Kg/m^2)	29·71	5·97	28·82	5·69	3·02	*0·001
Body mass (Kg)	84·35	15·55	81·85	15·04	3·01	*0·001

(* = significant difference $p < 0{\cdot}05$)

and the statistical significance.

The results showed participants who completed the 6 week intervention most (n = 37) had positive body composition changes. 5 did not see any changes. Significance values were set at $p = \leqslant 0{\cdot}05$ and differences pre-post in all three factors being investigated showed: BMI significance value $\leqslant 0{\cdot}005$, WC $\leqslant 0{\cdot}005$, and BM $\leqslant 0{\cdot}005$.In conclusion, evaluation of current practice demonstrated a significant positive change in BM, BMI and WC. However caution should be used when interpreting the results and limitations noted as: tighter controls measures needed, in order to establish eating patterns pre and post intervention as well as extending the programme and providing follow up studies in line with other interventions (5,6) and ensure patients do not resume old eating habits.

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