

THESIS ABSTRACT

Master of Public Health

Adventist University of Africa

School of Postgraduate Studies

Title: THE EFFECT OF BODY PUMP TRANSFORMATION PROGRAM ON WEIGHT LOSS AMONG ADULT WOMEN IN HARARE ZIMBABWE

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The escalating prevalence of obesity, particularly among adult women in Harare, Zimbabwe, presents a significant public health challenge, with 30% classified as overweight and 15% obese according to the 2021 Zimbabwe Demographic and Health Survey. This study evaluated the efficacy of the Body Pump Transformation Program, a 16-week intervention combining physical activity, nutrition, and sleep education, in promoting weight loss and improving health outcomes among 25 women aged 25–53 in Harare. Utilizing a one-group pre-test-post-test quasi-experimental design, the program aimed to address the multifaceted nature of obesity through structured exercise, dietary guidance, and sleep hygiene practices, grounded in Social Cognitive Theory to enhance self-efficacy and community support.

Results demonstrated an average weight loss of 2.90 kg, with significant variability (range: -15.8 to 23.0 kg), indicating diverse individual outcomes.

Participants exhibited high adherence to the program's components, with physical

activity engagement rated as “always” (mean: 4.28), dietary habits consistently practiced (mean: 4.24), and healthy sleep patterns maintained (mean: 4.30). Key findings include strong attendance at Body Pump classes (4–4.5 days/week), consistent dietary practices such as limiting processed foods, and adherence to sleep hygiene, all contributing to the program’s success.

Repeated measures ANOVA analysis confirmed significant weight and weight circumference losses month after month during the 4-month experimental period. This implies that the body pump transformation program was effective. The paired t-test analysis showed a significant improvement in the implementation of the body pump transformation program components. All participants implemented the requirements of the body pump classes and adhered to dietary practices and sleep hygiene across all magnitudes of average weight loss, thus, the Spearman correlation coefficient showed no significant relationship between program implementation and reduction in body weight.

Participants reported enhanced self-esteem, emotional well-being, and community support, though challenges like scheduling conflicts and dietary education gaps were noted. The study underscores the potential of holistic interventions to combat obesity in urban African settings, offering insights for tailored public health strategies. Limitations include the small sample size and lack of a control group, suggesting caution in generalizing findings. Recommendations include integrating flexible scheduling and enhanced nutrition workshops to improve accessibility and effectiveness.

Keywords: Obesity, Body Pump, Intervention, Weight Loss

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A thesis
presented in partial fulfillment
of the requirements for the degree
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by
Talent Melody Marange


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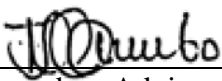
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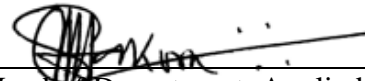
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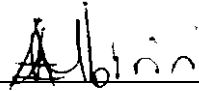
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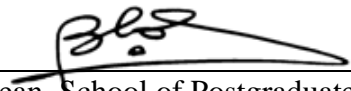
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Dedicated to my family and friends.

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CHAPTER 1

INTRODUCTION

This chapter comprises the background of the study, the problem statement, the research questions, the conceptual framework, and the research significance. It introduces the problem at hand and gives a background of aspects included in this study

Background of the Study

The increasing prevalence of overweight and obesity has become a global public health concern, affecting individuals of all ages, genders, and regions. It is characterized by an excessive accumulation of body fat that poses various health risks (Froth, 2017). According to the body mass index (BMI) classification, a BMI of 30.0 kg/m² or higher is classified as obesity (Osundolire & Gao, 2021). The prevalence of obesity is escalating to epidemic levels globally (Hruby & Hu, 2015).

Historically, obesity was predominantly observed in affluent countries; however, it has increasingly become a widespread issue in less affluent nations as well, including Zimbabwe (Bhurosy & Jeewon, 2014). While developed countries have the resources and strategies to combat this growing epidemic, developing nations, particularly many in Africa, often lack the necessary infrastructure and support systems to effectively address the crisis. This disparity highlights the urgent need for tailored interventions and policies that consider the unique challenges faced by these nations in tackling obesity and its associated health implications.

Africa is grappling with a pressing issue that was once predominantly associated with developed nations' obesity. Historically, obesity rates in Africa have remained relatively low; however, they are now on the rise across the continent, driven by factors such as urbanization, sedentary lifestyles, and the consumption of high-fat diets (Mareb, 2022). This troubling trend is particularly evident in Zimbabwe, where obesity rates are increasing, especially among women over the age of 25 (WHO, 2023). In addition, it has been noted that in urban Harare, changes in dietary habits, lifestyle choices, and reduced physical activity levels have contributed to a rising trend in weight-related health issues among women. For adult women, weight loss is often pursued for both aesthetic and health reasons, to improve overall well-being and reduce the risk of chronic diseases such as diabetes and hypertension (Smith & Johnson, 2020).

The shift towards physical inactivity is a significant contributor to this issue. Modern lifestyles often entail less physical activity due to sedentary occupations and an increased dependence on technology, further exacerbating the problem. Additionally, socio-economic factors play a crucial role in shaping dietary habits. In many cases, poverty and limited access to healthy food options lead to unhealthy eating patterns. This phenomenon has become increasingly prevalent in Zimbabwe, where the economic situation has led many to view eating as a desirable and necessary activity (Global Nutrition Report, 2022). As a result, approximately 27.9% of adult women in Zimbabwe are now living with obesity, highlighting the urgent need for comprehensive strategies to address this emerging health crisis.

By December 2023, it was projected that one in five adults and one in ten children and teenagers will be obese in ten high-burden African countries unless significant measures are implemented to reverse these trends (WHO, 2022).

Currently, over 650 million adults aged 18 and older are classified as obese worldwide (Mude et al., 2021). Despite this alarming figure, the global prevalence of obesity continues to rise (Agha & Agha, 2017). This persistent increase is largely attributed to the growing adoption of unhealthy lifestyles (Hruby & Hu, 2015). In Zimbabwe, the obesity prevalence among women exceeds the regional average of 20.8%, while the rate for men is lower than the regional average of 9.2% (Global Nutrition Report, 2022).

The management of obesity is a resource-intensive endeavour (D. D. Kim & Basu, 2016), which adds a new layer to the public health perspective on the issue. The economic impact of obesity, encompassing both direct and indirect costs, is substantial in both developed and developing nations (Sweis, 2024). While these costs are manageable in wealthier countries due to their extensive economic resources, they pose significant challenges in Africa, where poverty remains widespread. In Zimbabwe, socio-economic factors such as urbanization, shifts in dietary patterns, and limited healthcare access in rural regions play a crucial role in the obesity crisis. The financial burden of treating obesity-related health conditions further depletes the nation's healthcare resources, underscoring the urgent need for focused interventions and policies.

Reducing the risk of overweight and obesity necessitates a multifaceted approach that emphasizes the adoption of a healthy diet, which includes cutting down on calorie intake from fats and sugars. Regular physical activity is also essential, alongside supportive government policies that encourage healthier lifestyles and dietary choices. These policies can play a pivotal role by ensuring that nutritious foods are both accessible and affordable for all.

Physical activity is widely acknowledged as a critical component in managing individuals with overweight or obesity. When combined with a balanced diet, behavioural support, and the treatment of related health conditions, exercise yields significant benefits. Notably, engaging in regular physical activity promotes weight loss, facilitates fat reduction while preserving lean muscle mass, and aids in the long-term maintenance of weight loss (Azeez, 2022). This holistic approach underscores the importance of integrating diet, exercise, and supportive policies to effectively combat obesity.

Internationally, various interventions have been proposed to promote healthy lifestyles and combat obesity, including nutritional education programs, physical activity promotion, and policy initiatives such as sugar taxes and food labelling regulations (WHO, 2022). In Zimbabwe, integrating these strategies into national health policies and community-based programs is crucial to addressing the obesity epidemic among women. The desire for a healthy body and a fulfilling life is universal.

However, in recent decades, the global prevalence of overweight and obesity has risen dramatically, posing a significant threat to women's health across all demographics. Physical activity programs are widely recognised as effective interventions for weight management, yet there is limited research specific to their impact within this demographic in Zimbabwe. Understanding how a structured physical activity program can influence weight loss among women in Harare could offer valuable insights into tailored health interventions for this population. This study examines the effects of a physical activity program combined with diet and sleep on weight loss among adult women in Harare, Zimbabwe, shedding light on both the effectiveness and potential barriers to success.

Statement of the Problem

Overweight and obesity among adult women in Harare have reached alarming proportions, posing significant health risks and negatively impacting self-esteem (Mangemba & San Sebastian, 2020). According to the Ministry of Health and Child Care (2022), 30% of adult women in Harare are classified as overweight, and 15% are classified as obese. Despite the increasing awareness of the importance of weight management, many women struggle to achieve sustainable weight loss due to complex factors, including sedentary lifestyles, poor dietary habits, and inadequate sleep. The conventional approach to weight loss, often focusing solely on either diet or exercise, has yielded limited success. There is a pressing need for comprehensive interventions that address multiple lifestyle factors to combat obesity and improve overall well-being effectively. Improving overall well-being through focused interventions can lower related health risks, improve quality of life, and ease the strain on healthcare systems.

This study investigates the efficacy of the Body Pump Transformation Program, a four-month intervention combining physical activity, nutrition, and sleep education, in promoting weight loss and improving health outcomes (body composition, cardiovascular health, metabolic health, physical fitness, sleep quality, nutritional knowledge, and psychological wellbeing) among adult women in Harare. Emphasizing the interconnectedness of these factors and providing consistent support through weight tracking, nutritional guidance, and motivational strategies, the program seeks to address the multifaceted nature of obesity and empower women to achieve and maintain a healthy weight.

Research Questions

This study sought answers to the following questions:

1. What is the average weight loss among adult women in Harare after participating in the Body Pump Transformation program for 16 weeks?
2. What is the extent of the participants' implementation of the Body Pump Transformation Program (Physical Activity, Dietary Habits, and Sleep Patterns)?
3. Is there a significant relationship between the implementation of the body pump transformation program and the average weight loss among adult women in the study group?
4. What is the effect of combining the Body Pump program with physiological behaviour's (dietary habits and sleep patterns) on a) Body Mass Index and b) Waist Circumference?

Hypotheses

This study tested the following null hypotheses:

1. There is no significant relationship between the implementation of the body pump transformation program and the average weight loss among adult women in the study group.
2. There is a significant relationship between the implementation of the body pump transformation program and the average weight loss among adult women in the study group.

Conceptual Framework

Figure 1.

The Conceptual Framework of the Study



Theoretical Basis for the Body Pump Transformation Program

The Body Pump Transformation Program, designed for weight loss, aligns well with the Social Cognitive Theory (SCT). SCT emphasizes the importance of self-belief and learning by watching others change behaviour. Beliefs in collective efficacy, or the confidence in a group's ability to bring about social change, are essential in shaping policy and guiding public health efforts aimed at promoting health and preventing disease (Bandura, 1998). The Body Pump Transformation Program utilized key constructs of Social Cognitive Theory (SCT) to enhance participant engagement and facilitate effective weight loss. A central aspect of SCT is self-efficacy, which refers to an individual's belief in their capability to successfully execute behaviors necessary for goal achievement. To boost self-efficacy within the program, participants were encouraged to establish achievable short-term goals related to their fitness levels, track their progress, and celebrate small victories along the way. Furthermore, workout sessions led by skilled instructors provided mastery experiences and opportunities for participants to witness their improvements over time, reinforcing their belief in their ability to succeed in the program. By cultivating an environment where participants can set and achieve fitness milestones, the program fostered a sense of accomplishment that was vital for maintaining motivation and commitment.

Additionally, the Body Pump Transformation Program leverages observational learning and social support, two other critical elements of SCT to create a collaborative and encouraging atmosphere. Through group classes and peer interactions, participants were exposed to their peers who exemplified success, allowing them to learn vicariously and draw inspiration from others' journeys. Social support is further amplified through the establishment of a community where

participants can share experiences, celebrate progress, and challenge one another to improve. This collective efficacy belief in the group's ability to support each member's transformation plays a significant role in reinforcing positive behaviors and encouraging sustained participation in the program.

To boost participants' self-belief, the program incorporated personalized goals, progress tracking, and positive feedback. Observational learning was encouraged through expert instruction and group workouts. Overall, by strategically applying SCT principles, the Body Pump Transformation Program not only aimed at individual weight loss but also aspired to instill a lasting commitment to health and well-being through shared experiences and mutual encouragement.

Significance of the Study

Obesity among women in Harare is a growing public health concern with far-reaching implications for individuals and society. This study was significant as it aimed at addressing the issue by evaluating the effectiveness of a comprehensive weight loss program, the Body Pump Transformation Program. Investigating the interplay between physical activity, nutrition, and sleep, this research contributed to the understanding of factors influencing weight loss in this population.

The findings of this study have the potential to:

1. Inform the development of effective weight management programs: By identifying the program's strengths and weaknesses, policymakers and healthcare providers can develop more targeted interventions to address obesity.
2. Empower women: The study's focus on women aged 25-53 years contributes to the growing body of knowledge on gender-specific weight loss strategies, empowering women to make informed choices about their health.
3. Contribute to public health initiatives: The results of this study can inform public health campaigns and initiatives aimed at preventing and managing obesity in Harare.

4. Advanced scientific knowledge: By exploring the relationship between physical activity, nutrition, and sleep in weight loss, this research contributes to the broader understanding of obesity aetiology and management.

Ultimately, this study seeks to improve the health and well-being of women in Harare by providing evidence-based recommendations for effective weight loss interventions.

Scope and Limitations

Scope

The study focused on evaluating the effectiveness of the Body Pump Transformation Program (physical activity, nutrition, and sleep patterns) in promoting weight loss among 25 women residing in different parts of Harare, participating in physical exercises in Mt Pleasant. It explored the participants' perceptions of the program, which include challenges faced and recommendations for improvement. The study was conducted for 4 months.

Limitations

Findings in the study may not generalize well to other populations because the participants are limited to women aged 25-53 years residing in Harare. Additionally, the one-group pre-test-post-test experimental design, having no comparison group, may not strongly suggest that the changes observed between the pre-test and post-test are due to the intervention or other factors. The study can also be limited by financial and time constraints that can impact the scope of the study. The study relied on questionnaires for dietary and sleep frequency, which depend on participants' memory and honesty. Self-reports can introduce recall bias or social desirability bias, where participants over- or under-report behaviors (e.g., eating fruits or sleeping 6–8 hours). Inaccurate data may weaken the reliability of findings about dietary or sleep

patterns on weight loss. Uncontrolled factors, such as stress, physical activity outside the program, or hormonal changes, could influence weight loss, diet, or sleep outcomes. This is a major limitation to the study as these factors were not considered in the initial study.

Operational Definition of Terms

Adult women, in this study, were those aged 25 to 53 years old.

Body Mass Index (BMI) is a measurement of a person's leanness or corpulence based on their height and weight and is intended to quantify tissue mass.

Body Pump Transformation Program: A four-month exercise and nutrition intervention program consisting of weekly exercise sessions, nutritional counselling, and sleep education for adult women in Harare.

Dietary habits: The patterns of food consumption assessed using a dietary assessment tool, a food frequency questionnaire.

Obesity: A condition characterized by excessive body fat, defined as a Body Mass Index (BMI) of 30 or greater.

Physical activity: The amount of energy expended through bodily movement as measured by the International Physical Activity Questionnaire (IPAQ).

Sleep patterns: The quality and quantity of sleep as measured by the Pittsburgh Sleep Quality Index (PSQI).

Weight loss: The decrease in body weight measured in kilograms from baseline to the end of the four-month program, using a calibrated digital scale.

CHAPTER 2

LITERATURE REVIEW

This review delves into the impact of Body Pump on weight loss, drawing insights from various academic studies and expert opinions. The review explored the potential benefits of Body Pump, including its effectiveness in increasing muscle mass, boosting metabolism, and burning calories. It also examined the factors that can influence weight loss outcomes, such as age, gender, and individual physiological differences. Furthermore, the review discusses the challenges and barriers that individuals may face in adhering to Body Pump programs and provides recommendations for overcoming these obstacles.

Overview of Weight Loss Programs

The principle of weight gain is simple: energy intake exceeds energy expenditure. However, overweight and obesity are clearly the result of a complex set of interactions among genetic, behavioural, and environmental factors. Although the overweight population has been presented with hundreds, if not thousands, of weight-loss plans, diets, medications, and gadgets, the multifaceted aetiology of overweight makes it difficult for practitioners, researchers, and overweight people to find long-term, successful weight-loss and maintenance strategies (Andersen et al., 2020; Wadden et al., 2019).

Weight reduction and improved health outcomes, weight loss programs aim to promote sustainable weight reduction through lifestyle modifications, dietary changes,

and physical activity. Effective programs typically incorporate behavioural, nutritional, and physical activity components, leading to significant weight reduction and improved health outcomes (Hall, 2019; Wing, 2018). In order to achieve greater weight loss and better maintenance, comprehensive interventions may involve calorie restriction, increased consumption of fruits and vegetables, and regular physical activity (Bazzano, 2022; Haskell et al., 2007). Nevertheless, individual variability in response to weight loss programs continues to be a challenge.

Many weight loss methods, including commercial programs like Weight Watchers, behavioural programs like cognitive-behavioural therapy, and online programs like digital coaching, have shown effectiveness despite these obstacles (Tsai et al., 2019). Although goal setting, dietary education, physical activity planning, and support networks are frequently emphasized in successful programs (Klem, Wing, Lang, et al., 2020), long-term sustainability is still an issue because up to 80% of people regain their lost weight within a year.

Major weight loss programs, which include commercial, behavioral, and online approaches, offer various strategies to support individuals in their weight loss journeys. Notable commercial programs like Weight Watchers utilize a point-based system that encourages healthier eating habits and physical activity, along with providing access to support groups and resources for tracking progress (Tsai et al., 2019). Behavioral methods, such as cognitive-behavioral therapy, focus on changing individuals' thought patterns and behaviors related to food and exercise. These approaches often emphasize goal-setting, self-monitoring, and motivation techniques to foster healthier habits (Klem, Wing, McGuire, et al., 2020). Online platforms, like Noom, combine these methods by providing personalized coaching and education through digital channels while promoting community support through group

interactions. All these programs typically stress the importance of goal-setting, dietary education, physical activity planning, and the development of support networks to enhance adherence and accountability.

Despite their structured frameworks, which include personalized meal plans, dedicated coaching sessions, and community support, achieving long-term sustainability presents a significant challenge. Research shows that approximately 80% of individuals who lose weight through these interventions regain it within a year, highlighting the difficulty of maintaining lifestyle changes (Tsai et al., 2019). Effective weight loss programs incorporate periodic assessments, reinforcement of behavioral strategies, and resources that help participants transfer skills learned during the program into their daily lives. The emphasis on continuous support and adaptability remains crucial for fostering lifelong health and preventing weight regain, illustrating the complexity of weight management beyond initial weight loss success (Klem, Wing, Lang, et al., 2020).

Influence of Weight Programmes on Individual Health

Globally, programs of weight management have a great impact on individual health. They aid in addressing both physical and mental health outcomes. Such programs are vital in combating the increasing prevalence of obesity and its health risks including type 2 diabetes, certain cancers, and cardiovascular diseases. The success of such programs differs based on their design, execution, and the socio-cultural context in which they are applied.

Physical Health Benefits: Improvement in Body Composition

The Health Tourism weight loss program focuses on providing a comprehensive approach to weight management, emphasizing both physical and

psychological well-being. Through structured diets and exercise regimens, participants experience significant reductions in body mass and fat mass while preserving fat-free mass, which is essential for metabolic health. Research shows that individuals involved in this program achieve an average decrease in body mass index (BMI) of approximately 3-5 points over a span of 12 weeks, alongside substantial improvements in body composition metrics. These transformations often result in enhanced blood biochemistry, including better lipid profiles and lower blood pressure readings, contributing to overall health improvement (Sagayama et al., 2018).

This program encourages lifestyle changes that incorporate regular physical activity and balanced nutrition, effectively preventing health conditions commonly associated with obesity, such as hypertension, hyperlipidemia, and type 2 diabetes. Participants engage in structured exercise routines tailored to their fitness levels, which aids in weight loss while enhancing cardiovascular health and bodily function. Furthermore, dietitians and health coaches provide personalized guidance, ensuring adherence to nutritional guidelines that promote sustainable habits. As a result, the Health Tourism weight loss program not only facilitates weight reduction but also fosters long-term health benefits, positioning it as a viable option for those struggling with obesity (Rustaden et al., 2020).

Programs like the Health Tourism weight loss initiative demonstrate significant reductions in body mass and fat mass while maintaining fat-free mass, which is crucial for overall health. Participants in such programs have shown sustained weight loss and improvements in blood biochemistry and blood pressure. Effect of the Health Tourism weight loss programme on body composition and health outcomes in healthy and excess-(Sagayama et al., 2018). Regular exercise and dietary management are effective in preventing conditions such as hypertension,

hyperlipidaemia, and type 2 diabetes, which are prevalent among obese individuals Promoting Regular Exercise as a Path to Obesity Treatment (Rustaden et al., 2020).

Mental Health and Quality of Life

Behavioural weight management programs (BWMPs) have been associated with improvements in psychological well-being, self-esteem, and mental health composite scores. Despite the potential for weight regain, these programs do not harm mental health and may improve certain dimensions of mental health at and after program completion (Theodoulou et al., 2023).

Health-Related Quality of Life (HrQoL)

Weight loss programs can enhance HrQoL, particularly in physical domains of functioning. However, the relationship between weight loss and HrQoL is complex, and not all individuals experience improvements, highlighting the need for personalized approaches the complicated relationship between weight loss and health-related quality of life: satisfaction not guaranteed (Hwu, 2015).

Socio-Cultural and Behavioural Factors

The choice of weight-reducing strategies varies across different population segments and countries. Women, for instance, are more likely to change dietary patterns than engage in physical activity after surpassing a weight threshold. Understanding these differences is vital for designing effective public health campaigns as indicated in the global obesity study on drivers for weight reduction strategies (Grebitus et al., 2015).

Weight-Neutral Approaches

The Health at Every Size (HAES) approach advocate for a weight-neutral paradigm, focusing on holistic health and well-being rather than weight alone. This

approach aims to empower individuals to adopt health-enhancing practices irrespective of weight changes, challenging the traditional weight-centered health paradigm (O'Hara & Taylor, 2014).

Body Pump Transformation Program

Body Pump is a group fitness program developed by Les Mills International, a renowned company based in New Zealand that specializes in innovative workout classes. The program was introduced in the early 1990s by Philip Mills and his family, aiming to provide a fun and effective workout that engages multiple muscle groups.

This popular fitness regimen has spread to numerous gyms and fitness centers across the globe, with classes offered in over 100 countries. Many fitness enthusiasts appreciate Body Pump for its inclusive format, which caters to individuals of different fitness levels while still presenting a challenging workout. It is commonly featured in group fitness schedules, with many gyms offering several classes each week. Furthermore, this program often takes center stage at fitness events and conventions, highlighting its widespread appeal and effectiveness. In Zimbabwe, certified trainers like Ms. Eve from Eves Wellness Management are qualified to instruct Body Pump classes, helping to promote the program's benefits within the local fitness community.

Body Pump is a resistance training class that uses light weights with high repetitions. The Body Pump program was designed by Phillip Mills in 1990 while he was working at his father Les Mills' gym in Auckland, New Zealand. Phillip, inspired by the aerobics phenomenon in California, developed "Pump," which was later renamed Body Pump in 1997. The Body Pump program has been implemented globally in over 20,000 clubs and gyms across more than 80 countries. It was first showcased internationally in 1997 and has since become one of the world's most

popular group fitness programs (Les Mills International, 2020). Targeting all major muscle groups, it offers a full-body workout (van Baak & Mariman, 2023b). The program is designed to increase muscle strength and tone while burning calories (Willis et al., 2022). Key features include progressive overload, modifications for all fitness levels, and motivational music and instructors. Body Pump offers a full-body workout, muscle toning, calorie burning, and metabolic boost. Potential benefits include weight loss, increased strength and muscle mass, improved cardiovascular health, enhanced fitness, and stress reduction. Physiological Impacts of Body Pump

Body Pump classes are designed to improve muscle endurance and strength through repetitive weightlifting exercises. The program typically involves a series of tracks, each focusing on different muscle groups, which helps in building muscle endurance and strength over time (Ferrari et al., 2026). The program induces significant metabolic overload, as evidenced by elevated blood lactate levels during sessions. This indicates that Body Pump is effective in enhancing aerobic capacity and controlling body mass (Ferrari et al., 2020).

Although Body Pump is primarily a resistance training program, it also provides cardiovascular benefits. The continuous nature of the exercises, combined with the use of weights, helps in maintaining an elevated heart rate, contributing to improved cardiovascular health (Ferrari et al., 2020).

Comparison with Other Fitness Programs

Compared to Body Combat, another popular fitness program, Body Pump tends to have a lower intensity in terms of heart rate response. However, both programs are effective in achieving high-intensity domains, making them suitable for improving aerobic capacity and managing body weight (Ferrari et al., 2016). Body Pump is generally considered safe and adaptable to different fitness levels.

Participants can adjust the weights according to their strength and endurance levels, making it accessible for beginners and advanced users alike (Marinho et al., 2020).

Implementation Considerations

A typical Body Pump session lasts about 60 minutes and includes a warm-up, a series of tracks targeting different muscle groups, and a cool-down. This structure ensures a comprehensive workout that targets all major muscle groups (Ferrari et al., 2020). Individuals are encouraged to gradually increase the weights they use as they build strength and endurance. This progressive overload is crucial for continued improvement and avoiding plateaus (Marinho et al., 2020).

Regular participation in Body Pump classes has been associated with improvements in quality of life, particularly in terms of physical function and social aspects. This is especially beneficial for individuals recovering from medical conditions, such as renal transplant recipients, who may experience enhanced physical function and quality of life through structured exercise programs (Marinho et al., 2020).

Body Pump, a high-intensity group fitness program, has gained significant popularity for its effectiveness. While Body Pump is known for its high-repetition, low-weight resistance training, its effectiveness in promoting weight loss is nuanced and often requires a combination with other fitness activities or dietary interventions for optimal results. Les Mills International (2020) suggests that Body Pump can potentially lead to weight loss. By combining aerobic exercise with strength training, it can increase lean muscle mass, which boosts metabolism and increases calorie burn at rest.

Weight loss from Body Pump varies based on factors like initial body weight, diet, and lifestyle. Researches by van Baak and Mariman (2023) and (Rustaden et al.,

2020) indicate that regular participation, along with a calorie-controlled diet, can contribute to weight loss over time. However, it's important to balance exercise frequency to avoid overtraining and injury (Benton et al., 2016).

Body Pump stands out from other workouts due to its full-body approach, combining strength and cardio for long-term metabolic benefits. However, its suitability can vary (Berthiaume et al., 2015; Les Mills International, 2020). For a balanced fitness routine, incorporating Body Pump with other exercises is recommended (McArdle et al., 2014). As a high-intensity workout, Body Pump burns a significant number of calories during each session (Samdal et al., 2017). While the exact calorie burn can vary based on individual factors, it's generally estimated to be around 400-600 calories per class (van Baak & Mariman, 2023a).

The Impact of Body Pump on Weight Loss

The amount of weight one can lose from participating in Body Pump sessions varies based on several factors, including one's metabolic rate and workout intensity. While you can expect to burn an average of 400 calories during a 55-minute Body Pump workout (Les Mills International, 2020), it's important to focus on the long-term benefits of building lean muscle mass. Increasing muscle mass raises your metabolism, enhancing your body's ability to burn calories beyond your workout (Nes et al., 2023).

Acute and Chronic Effects of Body Pump

A single 60-minute Body Pump session can lead to a caloric expenditure of 250 to 334 kcal, with participants working at 60-74% of their maximum heart rate. This indicates a moderate intensity level, which is beneficial for cardiovascular health but may not be sufficient alone for significant weight loss, (Olmedo et al., 2021). Chronic effects on body composition, such as reductions in body fat percentage, are

more pronounced when Body Pump is combined with other activities like indoor cycling. This combination enhances the overall caloric burn and metabolic impact, leading to more significant changes in body composition (Olmedo et al., 2021).

Body Pump and Metabolic Health

Body Pump training has been shown to increase resting metabolic rate (RMR) by approximately 8.5% over 12 weeks, similar to traditional heavy-load resistance training. This increase in RMR can contribute to weight management by enhancing daily energy expenditure (Rustaden et al., 2020). An eight-week Body Pump Program greatly improved individual's lipid profiles has been shown that people with dyslipidaemia, who are also obese in obese women with dyslipidaemia, an eight-week Body Pump program significantly improved lipid profiles, reducing triglycerides, cholesterol, and low-density lipoprotein (LDL) while increasing high-density lipoprotein (HDL). These changes suggest that Body Pump can positively affect metabolic health, which is crucial for weight management (Lailaei et al., 2022).

Integration with Diet and Other Exercise Programs

Combining Body Pump with a hypo energetic diet, particularly those with altered macronutrient ratios can enhance weight loss outcomes. Diets with reduced carbohydrates and increased protein have shown significant reductions in body mass and fat percentage when paired with exercise (Kerksick et al., 2019). Programs like the Transforming Your Life and Diabetes Prevention Program, which incorporate behavioural and dietary modifications, have demonstrated comparable weight loss outcomes. These programs highlight the importance of a comprehensive approach that includes exercise like Body Pump for effective weight management (Carels et al., 2017).

Psychological and Behavioural Aspects

Body Pump not only impacts physical health but also improves psychological variables such as motivation and perception of health. These psychological benefits can enhance adherence to exercise programs, which is critical for long-term weight management (Carels et al., 2017). Emotional factors play a significant role in weight loss programs.

Programs focusing on increasing positive emotions and reducing negative ones can lead to better adherence and outcomes, suggesting that Body Pump could be more effective when integrated into a supportive and emotionally engaging program (Ahern et al., 2024). When Body pump is combined with other intervention programs such as dietary and exercise programs, its effectiveness is maximised. Some of the benefits for body pump include improved strength, metabolic health, and psychological well-being,

The Benefits of Muscle Build-Up from Body Pump

Regular Body Pump workouts can help build lean muscle mass (Rustaden et al., 2020). This is crucial for weight loss as muscle burns more calories at rest than fat. As you increase your muscle mass, your metabolism will naturally increase, helping you burn more calories even when you're not working out (Benton et al., 2016; Borsheim & Bahr, 2003). Resistance training with weights is a great calorie burner and an excellent way to build muscle. As muscles repair from workouts, your body's metabolism is increased (di Cesare et al., 2016). This means that calories are burned at an increased rate long after you finish your Body Pump class (van Baak & Mariman, 2023b). With increased muscle mass, you will use more energy, resulting in a greater rate of weight loss.

Body Pump generates a long-term physiological response that is more potent than a calorie-matched cardio class (Dombrowski et al., 2014). The after-burn effect (EPOC) contributes to increased calorie burn post-workout (Foss & Hallèn, 2015; van Baak & Mariman, 2023b). By increasing your cardio fitness, you can strengthen your body's stamina, allowing you to work out for longer and at a higher intensity. The harder you work, the more fat you'll torch. Body Pump is not just a strength training program but it also incorporates aerobic elements (Garber et al., 2011). This can help improve cardiovascular health (H. A. Haugen et al., 2003; LaForgia et al., 2016), leading to a stronger heart and better overall fitness.

A healthier heart can support weight loss efforts. The intensive exercises in Body Pump classes, combined with repetitive movements, will get the heart pumping, improving endurance and maximizing weight loss results. There's evidence that strength training can improve heart health more significantly than cardio exercise, and studies show how high-repetition strength training can strengthen bones. Engaging in regular physical activity, managing stress effectively, and ensuring adequate sleep are other important strategies that can support a weight loss journey. Les Mills International (2020) emphasizes that Body Pump can be one part of this integrated approach to weight management. The main advantage of Body Pump is its efficiency in providing a full-body workout that combines strength and cardio in a time-efficient manner.

The Impact of Body Pump on Weight Loss in Women

Body Pump training has been shown to improve muscular strength and decrease metabolic stress during exercise in women, although it may not significantly change body mass or body fat percentage (Greco et al., 2011). In obese women, Body

Pump training can lead to significant improvements in lipid profiles, which is beneficial for cardiovascular health (Lailaei et al., 2022). Despite a decrease in lean muscle mass, women participating in weight loss programs that include aerobic training and Body Pump can experience improvements in muscle efficiency and performance (Emerenziani et al., 2019). This suggests that Body Pump can help optimize body efficiency even if it does not significantly alter body composition.

Influence of Age on Weight Loss Outcomes

Older Adults and Weight Loss

Research from the Weight Loss Maintenance trial suggests that individuals aged 60 and above tend to experience greater initial and sustained weight loss compared to younger adults. This is particularly true when older adults engage in structured interventions like personal counselling or internet-based programs (Svetkey et al., 2014). Another study supports this by showing that age does not negatively impact the success of weight loss through lifestyle modifications, indicating that older adults can achieve weight loss comparable to younger individuals (Leyden et al., 2021).

Middle-Aged Women

A study focusing on obese women aged 30-50 years found that an eight-week body pump training program significantly reduced triglycerides, cholesterol, and other atherogenic factors, suggesting that body pump exercises can be effective for weight loss and improving health markers in this age group (Lailaei et al., 2022).

Additionally, a study on circuit training, which shares similarities with body pump, demonstrated significant reductions in body fat percentage in women aged 22 to 53,

indicating the effectiveness of such programs across a broad age range (J.-W. Kim et al., 2018).

Body Pump and Weight Gain in Adult Women

During midlife, particularly around the menopausal transition, women face an increased risk of weight gain due to various factors unique to this life stage. This weight gain is commonly linked to aging, hormonal fluctuations, decreased physical activity, and shifts in body composition (Better Health Channel, 2020). Unlike other hormonally driven transitions, such as menarche and pregnancy, menopause often leads to increased fat mass and abdominal fat, both of which are independent risk factors for cardiovascular disease.

Individual factors, including genetics, dietary habits, and existing health conditions, alongside societal influences like education, income, and food marketing, further complicate the issue. For many women aged 40 to 60, the average weight gain can reach approximately 1.5 pounds (0.7 kg) per year, making weight management a significant challenge. Clinical trials highlight the effectiveness of counselling interventions for weight maintenance or loss in women with normal or overweight BMI, emphasizing the importance of tailored approaches that include dietary changes and physical activity (Klem, Wing, McGuire, et al., 2020).

Menopause is particularly recognized as a critical period for weight gain, driven by lower oestrogen levels due to the decline in ovarian function. This hormonal shift, coupled with aging and lifestyle changes, contributes to increased body fat and waist circumference (Chopra et al., 2019; Toth et al., 2000). Emotional factors, including stress and psychological distress, can also lead to unhealthy eating patterns, exacerbating weight gain during this time.

Obese women often report more severe menopausal symptoms, and significant weight loss can alleviate these symptoms, such as hot flashes and mood disorders (P.U.R.E. Collaboration, 2020). However, achieving meaningful weight loss is often more complex for perimenopause women due to various interconnected factors (Better Health Channel, 2020).

The rising rates of obesity, particularly among women, can be traced back to age-specific reproductive cycles, including pregnancy, lactation, and menopause (Chopra et al., 2019). Hormonal imbalances during menopause disrupt energy homeostasis by affecting hunger and satiety signals, leading to increased appetite and food intake (Koo et al., 2017; Mauvais-Jarvis, 2015). Consequently, menopausal women may experience a higher accumulation of abdominal fat.

Weight gain among menopausal women is influenced by both modifiable and non-modifiable factors. Non-modifiable aspects include physiological changes like ageing and slower metabolism, while modifiable behaviours such as diet and physical activity can significantly impact weight trajectories (Kozakowski et al., 2017). Many women turn to unhealthy eating as a coping mechanism for emotional distress, and a preference for convenience foods often leads to irregular meal patterns and increased caloric intake (Chopra et al., 2019).

Additionally, ageing is associated with reduced physical activity, as many women experience a decline in muscle strength that hampers their ability to engage in daily tasks (Bondarev et al., 2018). Barriers to effective weight-loss strategies often stem from physiological states, underlying metabolic issues, psychological factors, and a lack of social support, all of which are prevalent during menopause (Chopra et al., 2019).

The relationship between weight gain and menopausal symptoms poses a bidirectional challenge, impacting both health and quality of life. Effective dietary management involves creating a caloric deficit while enhancing overall diet quality, typically advocating for a daily intake of 1200–1500 kcal with a balanced macronutrient distribution (Dwyer & Bailey, 2019). Physical activity is equally crucial, with recommendations suggesting at least 150 minutes of moderate-intensity exercise per week, complemented by resistance training to preserve muscle and bone health (Chopra et al., 2019).

Ultimately, while weight gain is a common issue in middle-aged women, the interplay of hormonal changes, lifestyle factors, and psychological well-being creates unique challenges for effective weight management. Incorporating structured exercise programs, such as Body Pump, can aid in building muscle mass and enhancing overall health. However, success in weight loss also relies on maintaining a healthy diet, managing stress, and addressing any underlying hormonal imbalances.

Age and Weight Gain: A Detailed Analysis

As we age, our bodies undergo several changes that can contribute to weight gain. One of the most significant changes is a decline in metabolism, which means our bodies burn fewer calories at rest. Additionally, we tend to lose muscle mass and gain fat mass with age. This shift in body composition can further slowdown metabolism, making it more challenging to maintain a healthy weight.

A healthy weight is influenced by various factors, including age, sex, muscle mass, bone mass, and lifestyle. Traditional measures like body mass index (BMI) do not adequately account for all of these factors.

Changes in total body weight differ for men and women. Men often gain weight until about age 55, after which they may begin to lose weight, likely due to a decline in testosterone levels (Walson, 2024). Women, on the other hand, typically gain weight until age 65 before starting to lose it.

Body shape naturally changes as we age (Villareal et al., 2017; Walson, 2024). While some of these changes are unavoidable, lifestyle choices can either accelerate or slow the process. After age 30, individuals generally begin to lose lean tissue, such as muscle and bone density. It is estimated that people lose nearly half an inch (about 1 centimetre) in height every decade after age 40 (Villareal et al., 2017).

Starting as early as age 30, lean body mass decreases by a little over half a pound annually (O'Hara & Taylor, 2014). Although this change may not be immediately apparent on the scale, the lean weight lost is often replaced by fat (van Baak & Mariman, 2023b).

Weight loss patterns also vary between genders. Men tend to gain weight until around age 55, after which they gradually start to lose it, possibly due to reduced testosterone production. Women usually stop gaining weight by age 65 (Hurtado et al., 2024).

Excess body weight has been linked to an increased risk of death from various causes and cardiovascular disease in adults aged 30 to 74 (Powell-Wiley et al., 2021). The relative risk associated with higher body weight is particularly pronounced among younger individuals (Goodpaster, 2020).

Changes in weight and body composition with age are closely connected to health status and physical function (Wing, 2018). Aging is generally associated with reductions in both total and lean mass, leading older adults to frequently report weight and strength loss in their later years.

Weight gain during early adulthood and midlife often involves increases in both fat and muscle mass, while weight loss in older age is associated with a disproportionate decline in muscle mass (Villareal et al., 2017). Additionally, fat distribution and muscle quality change with age, with waist circumference and intra-abdominal visceral fat increasing at a faster rate than total body weight (Alley et al., 2008).

These age-related changes in body composition have significant implications for health in later life. Obesity is linked to disability, although the mechanisms behind this association remain unclear (O'Hara & Taylor, 2014). BMI is often a less reliable indicator of fatness in older adults due to changes in body composition, such as height loss and increased body fat even among those who maintain a stable weight (Alley et al., 2008). Furthermore, BMI does not account for fat distribution, which is crucial for assessing health risks.

Intentional weight loss has been associated with declines in cardiovascular risk factors (Alley et al., 2008) and improvements in physical function (Dahl et al., 2014; Villareal et al., 2017) among overweight older individuals. It is also linked to decreased mortality in animal models (Alley et al., 2008).

Aging-related changes, such as decreased energy expenditure and physical activity, are significant contributors to weight gain in midlife women (Hurtado et al., 2024). Hormonal changes during menopause also influence body fat distribution, often increasing central adiposity. Many women in midlife report concerns about weight gain and increased abdominal fat (Hurtado et al., 2024).

Several factors can contribute to changes in weight and body composition, including decreased physical activity (Weindruch et al., 1986), declining hormone levels (including decreased oestrogen and androgen), and dietary changes (Hurtado et

al., 2024). These changes may lead to the development of overweight and obesity, subsequently increasing the risk of cardiovascular disease and mortality (O'Hara & Taylor, 2014).

Persistent weight gain throughout adulthood, particularly if it does not stabilize during midlife, can significantly contribute to the onset of overweight and obesity. Increases in stored energy, often manifesting as weight gain, arise from an imbalance between calorie intake and total energy expenditure (TEE) (Hurtado et al., 2024).

While age-related changes in metabolism and body composition play a role in weight gain, lifestyle factors are often more significant contributors (Alley et al., 2008).

Challenges and Barriers to Body Pump Adherence

Exercise interventions are designed to enhance various physical capacities, including muscle strength, flexibility, balance, and motor control. These interventions are particularly beneficial for individuals with orthopaedic and neurological conditions (Fredin & Lorås, 2017; Shen et al., 2016). However, the effectiveness of these exercise programs heavily depends on adherence to the prescribed routines. Research indicates that adherence is not merely a matter of compliance but is pivotal for achieving positive treatment outcomes (Hubbard et al., 2012; Ogwumike et al., 2014). The complexity of adherence can be broken down into external and internal barriers, which together significantly impact an individual's ability to engage consistently in physical activity.

Barriers to adherence can be classified into two main categories: external and internal (Koo et al., 2017). External barriers typically pertain to environmental factors

that hinder participation, such as the availability of safe exercise locations and supportive infrastructure. In contrast, internal barriers are more personal and can include individual preferences, psychological factors, and attitudes towards exercise (Ferrari et al., 2020). It is critical to recognize that the success of any intervention is contingent upon the level of adherence, as the outcomes are often closely linked to how consistently individuals engage with the prescribed activities (Ogwumike et al., 2014).

Understanding adherence as a multifaceted and complex phenomenon is essential (Sabate, 2023). Various determinants influence an individual's adherence to exercise interventions, encompassing personal characteristics, disease-related factors, and the nature of the therapy, provider-related elements, and broader healthcare system influences. Personal characteristics, for instance, include (Svetkey et al., 2014) socio-demographic factors, motivation levels, economic status, and social support networks. Socioeconomic status, in particular, has been shown to correlate with adherence levels (Ferrari et al., 2020), where individuals may struggle to engage with prescribed exercise due to perceived costs or lack of access to healthcare providers (Broadwater-Hollifield et al., 2015). Conversely, some studies have suggested that socio-demographic variables may not significantly impact adherence, indicating that the relationship is not straightforward (Hartigan et al., 2020; Sabate, 2023).

Motivational factors also play a crucial role in determining adherence. A lack of motivation or perceived benefits from the treatment can lead to decreased engagement (Levin et al., 2016). Commonly cited reasons for not adopting a physically active lifestyle include insufficient time, inconvenience, and low self-efficacy. Additional barriers such as fear of injury, lack of self-management skills, and absence of support from family and friends can further compound these issues

(Ferrari et al., 2020). Environmental factors, including access to parks, sidewalks, and safe exercise routes, also significantly influence an individual's ability to engage in physical activity regularly.

Dropout rates in exercise programs, such as Body Pump, often stem from a variety of physical, psychological, and social barriers. Physical limitations, including injuries and chronic conditions, can discourage continued participation (Ferrari et al., 2020; Hartigan et al., 2020). Additionally, time constraints due to busy schedules or rigid class timings may prevent individuals from maintaining their commitment (Koo et al., 2017). Psychological barriers, such as fear of injury and lack of confidence, can also deter individuals from sticking with exercise routines. Furthermore, social factors, including the absence of a supportive network or financial constraints, can lead to disillusionment and eventual dropout from these programs.

To overcome these barriers and enhance adherence to exercise interventions, several strategies can be employed. Listening to one's body and allowing for rest when experiencing pain or fatigue is paramount to prevent injuries and burnout (Koo et al., 2017). Finding a supportive community or workout partner can significantly boost motivation and accountability (Hartigan et al., 2020). Establishing realistic goals and gradually increasing workout intensity can help individuals maintain engagement without feeling overwhelmed. Ogwumike et al. (2014) has it that varying routines to incorporate different forms of exercise can stave off boredom and keep participants challenged. For those facing difficulties attending classes, home workouts present a viable alternative. Additionally, Broadwater-Hollifield et al. (2015) posit that addressing psychological barriers through professional support can foster self-confidence and a more positive outlook on fitness goals.

The role of social support in maintaining adherence to exercise programs like Body Pump cannot be overstated. A supportive community or workout buddy can enhance motivation (Koo et al., 2017), provide accountability and offer encouragement during challenging times. Furthermore, being part of a group fosters a sense of belonging, making the exercise experience more enjoyable and fulfilling. Recognising and addressing the multifaceted nature of adherence, trainers can better support individuals in achieving their fitness goals and improving their overall health outcomes.

Body Composition Changes

Body Composition in Older Women

A study on elderly women participating in a physical rehabilitation program showed significant reductions in body mass, fat mass, and BMI, highlighting the potential for body pump and similar exercises to improve body composition in older adults (Brito-Gomes et al., 2015). Another study on combined physical training in elderly women also reported increased lean mass and decreased fat mass, further supporting the benefits of exercise programs for older populations (Rocha et al., 2019).

Younger Adults

For younger women, a four-week exercise program focusing on self-loads resulted in weight and fat mass reduction, particularly in the lower limbs and abdomen (Fernandez-Garcia et al., 2017). This suggests that body pump exercises can be effective for younger adults as well, although the extent of weight loss may vary based on individual factors.

Exercise and Diet Synergy

A study examining the effects of exercise combined with dietary modifications found that significant weight loss and improvements in body composition were achieved when exercise was paired with a hypo energetic diet. This was true across various age groups, indicating that diet plays a crucial role in enhancing the effects of exercise programs like body pump (Kerksick et al., 2019).

Effectiveness of Weight Management Programs in Africa

Weight management programs in Africa have a significant impact on individual health, addressing the rising obesity rates and associated health risks. Dietary Intervention programs (physical and behavioural changes) are essential in the management of weight, to improve health outcomes. However, the success of these programs is greatly influenced by various factors that are unique to the African context as detailed below:

Weight management programs in Africa play a crucial role in addressing the increasing prevalence of obesity and its related health risks. With rising rates of overweight and obesity across the continent, particularly in urban areas, these programs serve as essential tools for promoting healthier lifestyles and improving overall health outcomes (WHO, 2021). Effective dietary intervention programs incorporate both physical and behavioral changes, educating individuals about nutrition while encouraging healthier eating patterns and regular physical activity. Understanding and integrating local foods and traditional dietary practices into these programs enhances compliance and sustainability, making it easier for participants to adopt and maintain healthier habits (Msyamboza et al., 2012).

The success of these programs greatly depends on various factors unique to the African context. Socioeconomic disparities influence dietary choices, as access to nutritious foods can be limited by poverty and high costs (Afdal & Karim, 2018). Educational initiatives increase awareness of the importance of healthy eating and active living, while promoting opportunities for physical activity within communities fosters greater participation (Bleich et al., 2017). Additionally, addressing behavioral and psychological factors, such as mental health and cultural attitudes toward body image, is vital (Neumann et al., 2017). Tailoring interventions to reflect these factors and employing a multifaceted approach, weight management programs can significantly improve health outcomes and support long-term success in managing weight across diverse populations.

Socio-Cultural and Economic Influences

In many African societies, obesity is often perceived as a sign of wealth and good health, which can hinder weight management efforts. This cultural perception can lead to resistance against weight loss initiatives, as being overweight is sometimes associated with positive attributes such as beauty and success (Arojo & Osungbade, 2013; Correia et al., 2014). Economic barriers also play a significant role. Healthy foods are often perceived as expensive and less satisfying, which discourages individuals from adopting healthier eating habits. Additionally, the lack of time and resources to engage in physical activities further complicates weight management efforts. Barriers and facilitators of weight management: Perspectives of the urban poor in Accra, Ghana (Afrifa-Anane et al., 2022).

Health Outcomes of Weight Management Programs

Successful weight management programs have been shown to improve health outcomes significantly. For example, participants who maintained weight loss in Accra, Ghana, under the Nutriline Weight Loss Programme exhibited lower serum total cholesterol levels compared to those who did not maintain weight loss. This suggests that sustained weight loss can lead to better lipid profiles, although the impact on other parameters like glucose levels was not statistically significant Impact of Successful Weight Loss Maintenance on Serum Lipids and Glucose Concentrations of Previous (Addo et al., 2019).

Behavioural weight management programs (BWMPs) have also been linked and associated with adjusting dietary habits to include more fruits and vegetables while reducing salt and animal protein intake can mitigate these effects improvements mental health outcomes, such as psychological well-being and self-esteem, despite the potential for weight regains. These programs do not appear to harm mental health and may even offer psychological benefits (Theodoulou et al., 2023).

Policy and Programmatic Interventions

Policies targeting obesity in Africa often align with global recommendations, focusing on creating supportive environments for healthy behaviours. There is however a greater need for an all-inclusive policy that integrates multisectoral partnership and addresses economic barriers. Examples of policies include those that promote healthy eating and physical activity in schools, communities, and at the national level (Adom et al., 2021). School-based interventions are particularly crucial as they target young learners, promoting healthy behaviours that can be sustained into adulthood. Such programs aim at improving dietary habits and increasing physical

activity and yet they are greatly affected by resource limitations and cultural barriers. These programs focus on increasing physical activity and improving dietary habits, although their success is contingent on overcoming resource limitations and cultural barriers (Adom et al., 2021).

Innovative Approaches and Challenges

Innovative programs like South Africa's Vitality program demonstrate the potential of incentive-based approaches to encourage healthy behaviours. Offering rewards for participation in wellness activities, such programs can increase engagement and reduce healthcare expenditures. This model could be adapted to other African contexts to enhance the effectiveness of weight management initiatives. (Lambert & Kolbe-Alexander, 2023). Regardless of these efforts, there is a need for continuous support and monitoring for effective long-term weight management. Participants in weight management programs often require continuous motivation and resources to sustain weight loss, highlighting the importance of external support systems as revealed in a qualitative study on clients' experiences of weight-management programmes (Cioffi, 2022).

While weight management programs in Africa show promise in improving individual health, they must navigate complex socio-cultural and economic landscapes. Addressing these challenges requires tailored interventions that consider local beliefs and resource constraints, alongside innovative strategies that incentivize healthy behaviours.

Weight Programs in Zimbabwe

Weight programs in Zimbabwe have a significant impact on individual health, particularly in addressing issues related to obesity, chronic diseases, and overall physical well-being. These programs, which often include components such as

resistance training, caloric restriction, and community-based nutrition initiatives, are crucial in a country experiencing a nutrition transition. This change is often characterised by a move from traditional diets to Western diets and eating patterns, thus leading to overweight and obesity. The following sections explore the various aspects of weight programs and their influence on health in Zimbabwe.

Obesity and Chronic Disease Risk

Zimbabwe is experiencing a rapid increase in obesity and related chronic diseases, such as cardiovascular disease (CVD), due to changing diets and lifestyles. This is particularly evident in urban areas where the prevalence of overweight and obesity is higher compared to rural regions. Overweight and obesity in urban and rural Zimbabweans (Mathe & Brodie, 2020; Mhlanga & Sookan, 2018). Urban women in Zimbabwe are at a higher risk of chronic diseases compared to their rural counterparts, highlighting the need for targeted weight management programs in urban settings (Mhlanga & Sookan, 2018).

Community-Based Nutrition Programs

The Community Food and Nutrition Program in Zimbabwe has been instrumental in addressing malnutrition and improving nutritional status through community-based initiatives. These programs have shifted focus from mere food relief to promoting food production and nutrition education, significantly reducing malnutrition rates and hospital admissions for related conditions (Mutonhori et al., 2023). Such programs emphasize the importance of locally available foods and communal efforts in food production, which not only improve nutrition but also foster community involvement and sustainability (Mutonhori et al., 2023).

Physical Activity and Resistance Training

Resistance training programs have shown positive effects on body composition and health markers in people living with HIV in Zimbabwe. Participants in these programs experienced increased lean body mass, reduced fasting blood glucose and cholesterol levels, and improved muscular strength (Mbayo & Sookan, 2020). The sedentary lifestyle prevalent among adults in Zimbabwe, particularly in academic settings, underscores the need for regular physical activity to combat obesity and related health issues. Recommendations include developing habitual fitness routines and incorporating aerobic-oriented training to reduce health risks (Afrifa-Anane et al., 2022).

Weight Reduction Programs

Weight reduction programs that combine caloric restriction with exercise have been effective in improving health outcomes. These programs lead to significant weight loss and improvements in vital health indicators such as blood pressure, cholesterol, and overall physical fitness (J. Y. Kim & Kim, 2019). The integration of exercise with dietary modifications enhances the benefits of weight reduction programs, making them more effective in reducing obesity-related health risks (J. Y. Kim & Kim, 2019).

Resistance training programs in Zimbabwe have proven to be effective interventions for improving the health and body composition of individuals living with HIV. Implemented in various clinical and community settings such as hospitals and NGOs, these structured exercise regimens focus on enhancing muscular strength and overall well-being. Research indicates that participants in a 12-week program experienced significant gains in lean body mass, alongside reductions in fasting blood glucose and cholesterol levels, contributing to better metabolic and cardiovascular

health. The social aspect of group sessions fosters community support, enhancing motivation and adherence among participants. Overall, these programs represent a promising adjunct therapy in the management of HIV, addressing both physical and psychosocial health challenges faced by individuals in Zimbabwe (Mbayo & Sookan, 2020).

Challenges and Considerations

The prevalence of parasitic infections and malnutrition in certain communities indicates that weight programs must be tailored to address these underlying health issues (Mutonhori et al., 2023). Additionally, the potential side effects of weight-reducing diets, such as constipation due to reduced intake of non-starch polysaccharides, need to be managed through proper dietary guidance (Davies et al., 2019). Overall, a comprehensive approach that includes community involvement, education, and tailored interventions is essential for the success of weight programs in improving individual health in Zimbabwe.

Dietary Habits in Obesity Development and Maintenance

Dietary habits play a significant role in obesity development and maintenance (Walson, 2024). Excessive calorie intake, particularly from processed foods, sugary drinks, and unhealthy fats, can contribute to weight gain. Conversely, a balanced diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats can support weight loss and overall health. According to Kumar Verma et al. (2024), dietary factors play a significant role in the development of metabolic syndrome and associated conditions. Excessive calorie intake, particularly from processed foods, sugary drinks, and unhealthy fats, can contribute to weight gain. Conversely, a balanced diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats

can support weight loss and overall health. Pure Collaboration This large-scale study, involving over 135,000 participants from 21 countries, confirmed the association between a healthy diet (high in fruits, vegetables, whole grains, and nuts) and lower risk of mortality from cardiovascular disease, cancer, and all-cause mortality. Obesity is a major global health problem with significant implications for life expectancy.

While lifestyle modifications like improved diet and exercise are integral to its management, achieving and maintaining long-term weight loss remains challenging for many (Dalle et al., 2013; Stanforth et al., 2000; Zhou et al., 2014). Dietary habits significantly influence body pump outcomes, which encompass muscle hypertrophy, strength, and overall fitness levels. There is a strong relationship between physical activity and nutrition and exercise, which involves macronutrient balance, timing of intake, and individual dietary needs.

Macronutrient Balance and Timing

Protein is essential for muscle protein synthesis (MPS), which is a key factor in muscle growth and repair. Moreso, however, the success of protein intake can vary with age. Older adults may require higher protein doses to achieve similar MPS responses as younger individuals, suggesting that dietary protein needs should be adjusted according to age to optimize muscle mass and strength (Mathe & Brodie, 2020). The balance of carbohydrates and fats also plays a role in athletic performance. For power athletes, optimizing macronutrient intake according to training cycles is essential. This includes adjusting carbohydrate and fat intake to match the intensity and phase of training, which can enhance performance and recovery (Payne et al., 2022).

Dietary Patterns and Body Composition

A Mediterranean Diet, rich in fruits, vegetables, and healthy fats, has been shown to improve body composition and muscle endurance. Recovery and Performance can be enhanced It supports a low-inflammatory state, which can enhance recovery and performance (Kaufman et al., 2023). High-protein diets can benefit athletic performance by supporting muscle growth and maintenance. However, they must be balanced to avoid potential deficiencies, particularly in plant-based diets where micronutrient intake might be compromised (Kaufman et al., 2023).

Influence on Physical Fitness and HealthIt has been noted that the quality of diet, strongly influences fitness levels and body composition. For example, healthier dietary habit in middle-aged women is associated with improved physical fitness and lean mass it has been noted that eating a healthy diet can lead to cardiorespiratory fitness. This is also, seen in individuals who follow a Mediterranean-style diet. This suggests that dietary quality can enhance overall fitness and metabolic health (Mi et al., 2022).

Challenges and Considerations

Dietary adaptations. Western diets generally lead to acid-base imbalances and electrolyte homeostasis, which in the long run, affects health and fitness. These effects can be reduced by correcting eating patterns to include fruits and vegetables while lowering the intake of animal protein (Qian, 2018).

Dietary trends. Popular dietary trends, such as ketogenic and intermittent fasting, have varying impacts on performance. While some may support weight management and muscle maintenance, they can also pose challenges in adherence and nutrient sufficiency (Kaufman et al., 2023).

While dietary habits significantly influence body pump outcomes, individual variability and specific needs must be considered. Factors such as age, training intensity, and personal health goals play crucial roles in determining the optimal dietary strategy. Moreover, while some dietary patterns like the Mediterranean diet show broad benefits, others may require careful management to avoid potential downsides. Therefore, personalized nutrition plans, possibly developed with professional guidance, are essential for optimizing fitness and health outcomes

Sleep patterns. Sleep is often overlooked as a factor in obesity, but it plays a significant role in regulating appetite, energy expenditure, and hormonal balance. Inadequate sleep can disrupt the body's natural circadian rhythm, leading to hormonal imbalances that can promote weight gain (Sumithran et al., 2014). According to Gangwisch et al. (2022), individuals who slept less than six hours per night were at a higher risk of developing obesity compared to those who slept seven or more hours. In the same study, it has been demonstrated that sleep deprivation can increase levels of ghrelin, a hormone that stimulates hunger, and decrease levels of leptin, a hormone that suppresses appetite. The influence of sleep patterns on body pump outcomes is approached with diversity, encompassing the effects of sleep quality, duration, and timing on physical performance and recovery.

Sleep quality and cardiovascular response. Poor sleep quality negatively affects cardiovascular responses during exercise, which can influence body pump outcomes. Individuals experiencing poor sleep quality are at a higher risk of developing diastolic blood pressure and higher resting heart rate. They have been shown to exhibit, as well as reduced heart rate recovery post-exercise. These factors can impair exercise performance and recovery, potentially diminishing the benefits of body pump sessions (Yüksel et al., 2014).

Sleep duration and strength performance. Sleep restriction, even over short periods, can significantly reduce strength performance. Studies have shown that partial sleep deprivation leads to decreased grip strength and submaximal performance in exercises like bench and leg press. However, a 1-hour power nap can mitigate these effects, restoring performance levels to those observed with normal sleep patterns (Brotherton et al., 2019). Chronic sleep restriction of 1-2 hours less than the recommended duration does not appear to hinder the positive effects of resistance training, such as increases in muscle size and strength, suggesting some resilience in trained individuals to moderate sleep loss (Borba et al., 2024).

Sleep and body composition. Cumulative short sleep duration is associated with increased body mass and waist circumference, which can indirectly affect body pump outcomes by altering body composition. This relationship underscores the importance of adequate sleep for maintaining optimal body composition, which is crucial for effective resistance training (Krueger et al., 2015).

Sleep and recovery. Sleep is integral to recovery processes post-exercise. Poor sleep can impair physical, physiological, and perceptual recovery, which are essential for maintaining performance in subsequent body pump sessions. Increasing total sleep time has been shown to enhance recovery, although the exact amount required remains unclear (Pitchford, 2019). Acute sleep loss negatively impacts various physical performance metrics, including strength and endurance, which are critical for body pump activities. The timing of exercise relative to sleep loss is also important, with morning sessions being less affected than those in the afternoon or evening (Craven et al., 2022).

Sleep Patterns in Athletes

Collegiate athletes often report sleep durations below the recommended levels, which can affect their performance and recovery. Monitoring and optimizing sleep patterns in athletes can help improve their training outcomes, including those related to body pump exercises (Hartigan et al., 2020). Beyond lifestyle factors, environmental factors like sleep debt and medications also influence obesity (Jastroch et al., 2014; Zheng et al., 2019). Physiological adaptations to weight loss, such as changes in appetite-related hormones and energy homeostasis, can favour weight regain (Les Mills International, 2020; van Baak & Mariman, 2023a).

While weight management programs offer numerous health benefits, they also face challenges such as weight regain and the need for sustained behavioural changes. Additionally, the global obesity epidemic continues to worsen, with significant implications for both physical and economic health (Gregg & Shaw, 2017). For effective programs to take place, they must be adaptable to the needs of individuals and cultural settings. Moreover, the stigmatization associated with obesity can negatively impact mental health, emphasising the importance of compassionate and inclusive health interventions (O'Hara & Taylor, 2014).

In conclusion, weight management programs play a critical role in improving individual health globally. They offer significant benefits in lowering health risks associated with Obesity and thereby enhancing the quality of life. Moreover, the program's success widely relies on its capability to address the various needs of the individual and community whilst stressing the importance of cultural and personalised sensitive approaches.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

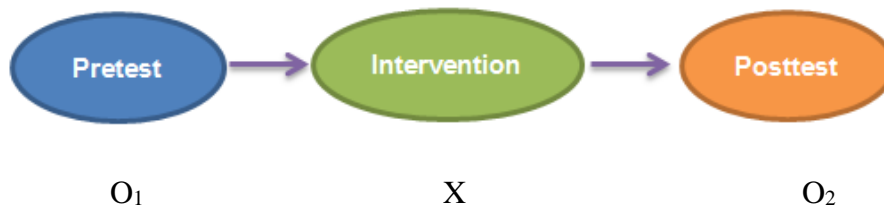
This chapter presented an overview of the study methods and designs that were employed in this project. Research methodology and data-gathering strategies were covered after a justification of the research design. The measures to guarantee validity and dependability were discussed, as well as the ethical measures

Research Design

This study employed a one-group pre-test-post-test quasi-experimental research design, which involved one set of repeated measurements taken before and after treatment on one group of subjects (Portney, 2020). To evaluate the effects of the Body Pump Transformation program on the weight of the research participants, baseline data was collected on participants' physical characteristics, eating habits, exercise levels, and sleep patterns before the intervention. After the intervention, the same data was collected again to assess any changes. The effect of treatment was determined by measuring the difference between pre-test and post-test scores. Below is the paradigm of the design.

Figure 2.

The Research Design Paradigm



Interpretation:

O₁ means a baseline measurement (pre-test) was taken before any intervention or treatment is applied.

X is the intervention or treatment that was administered to the entire group of participants.

O₂ means a follow-up measurement (post-test) was taken after the intervention or treatment has been completed.

Body Pump Transformation Program

As described by van Baak and Mariman (2023a), Body Pump is a full-body workout using light weights and high repetitions, whereas Body pump transformation program is a comprehensive intervention program designed to help adult women in Harare, Zimbabwe to achieve weight loss and overall health improvement. The program combines guided exercise with dietary patterns and sleep education, delivered through a mix of in-person sessions and digital communication.

Program Phases

The program was divided into three phases:

Phase 1: foundation (month 1). The initial phase, also known as the Foundation Stage, involved at least three training sessions per week. The primary

objective of this stage was to establish fundamental techniques and moderate exercise intensity. In addition to physical training, participants were introduced to basic dietary principles. This included guidance on balanced diets, portion control, and hydration. Furthermore, the group learned about sleep hygiene and effective strategies for creating a conducive sleep environment.

Phase 2: progression (months 2-3). The Transformation Stage intensified the training regimen to 3-4 Body Pump sessions per week. Participants progressively increased exercise intensity and complexity to maximize results. To complement their physical efforts, advanced nutrition guidance was provided, including meal planning and supplement recommendations. Additionally, the program delved deeper into sleep techniques, stress management, and relaxation exercises to optimize recovery and overall well-being.

Phase 3: the transformation stage (months 3-4). The final phase, the Transformation Stage, pushed participants to their limits with 4-5 Body Pump sessions per week. These sessions incorporated high-intensity interval training and challenging routines to maximize results. To support these intense workouts, participants received personalized nutrition advice to fine-tune their diets, address specific nutritional needs, and implement effective weight management strategies. Furthermore, the program focused on maintaining optimal sleep habits, addressing potential sleep disorders, and developing long-term sleep strategies to ensure sustained progress and overall well-being.

Additional program components.

1. **Baseline Assessment:** Pre-program assessment to understand participants' starting point.
2. **Monthly Assessments:** Regular tracking of anthropometric measurements and dietary adherence for all the participants

3. **WhatsApp Group:** Daily nutrition tips, healthy recipe sharing, and community support.
4. **Motivation and Support:** Incentives, recognition, and group discussions to foster a sense of community.
5. **Individual Coaching:** Personalized guidance to address specific challenges and concerns.
6. **Post-Intervention Assessment:** Final evaluation to assess the program's overall impact. The participants completed the same intervention assessment used at the beginning of the program, but this time at the end of the program.

Population and Sampling

The study population consisted of women aged 25-53 years residing in Harare. Adult women were a key target group for weight loss interventions due to biological, societal, and health-related factors. Women were more susceptible to weight gain due to hormonal fluctuations, societal pressures, and a focus on health and wellness. Weight loss in women was linked to a reduced risk of chronic diseases (WHO, 2023).

Participants were adult women with a BMI between 25 and 30 (overweight) or above 30 (obese). They had to be generally healthy with no significant medical conditions. Women who were pregnant or breastfeeding, or those with chronic illnesses such as diabetes, heart disease, or severe mental health disorders, were excluded from this study.

Sampling Procedures

To estimate or anticipate a fact, circumstance, or consequence about a larger group, the sampling procedure, according to McPhail (2021), entailed choosing a small subset or element from a larger group. A good sample thus represented the entire population. The study hence employed a convenience sampling technique depending on the availability and willingness of study participants. Convenience sampling involved recruiting individuals primarily because they were available,

willing, or easy to access or contact on a practical level (Campbell et al., 2024).

Qualtrics (2024) stated that a sample is a subset of a larger group that accurately reflects the characteristics of the entire population. The participants' selection process was influenced by the participants who were already taking part in the Body Pump exercises in Mt Pleasant, Harare.

Sample Size

The sample size of 25 women was justified based on statistical power considerations, the study's controlled and intensive design, practical constraints, and its exploratory nature. Houser (2021) support for small sample sizes in exercise interventions reinforces the adequacy of this sample for detecting significant changes in weight loss and body composition. The homogeneity of the participant group, close monitoring, and pre-post design further enhanced the study's ability to yield meaningful results with a smaller sample.

While generalizability may be limited, the sample size was appropriate for the study's goals of refining the intervention and providing insights into the combined effects of Body Pump exercises, diet, and sleep education on weight loss. A sample size of 25 provided adequate statistical power to detect meaningful changes in primary outcomes such as weight loss and body composition. They were enrolled in the 4-month Body Pump Transformation Program from November 2024 to March 2025 in Harare.

Instrument(s) for Data Collection

Addressing the research questions, research instruments allowed the researcher to gather data on the issue being studied. The researcher developed the instruments based on the objectives of this study. A questionnaire was used, and structured interviews were conducted.

Anthropometric Measurements

Anthropometric measurements are a valuable tool for collecting data on the human body. They involve measuring physical dimensions such as height, weight, body circumference, and skinfold thickness. These measurements provide insights into an individual's physical health, nutritional status, and overall body composition. Anthropometric measurements are a valuable and versatile data collection tool that can provide valuable insights into physical health, nutritional status, and growth and development (USAID, 2017).

Questionnaire

According to McLeod (2018), questionnaires offer a reasonably affordable, rapid, and efficient means to collect significant amounts of data from a broad sample of people. For this reason, the researcher employed a questionnaire in this study. The questionnaire measured the participants' implementation of the Body Pump Transformation program in the areas of physical activity, diet, and sleep patterns. All the participants answered the questionnaire for the baseline and to ascertain changes during the study. The survey included both closed- and open-ended questions, allowing respondents to elaborate on some of the inquiries

Validity and Reliability of the Instruments

Validity refers to the accuracy of the research instrument (Ranganathan et al., 2024). To ensure the content validity of the questionnaire, the variables were properly conceptualized from a review of the literature. Expert validation was obtained by submitting the questionnaires to the supervisors for their feedback toward improvement.

Reliability denotes the consistency of a measure (Middleton, 2020). The reliability of the questionnaire was established through pilot testing. The

questionnaire was administered to a group of women who finished the Body Pump Transformation Program in the previous cohorts. Cronbach's alpha coefficient was determined. A Cronbach's alpha of .60 or higher means that the questionnaire is reliable.

The Cronbach's alpha results indicate that all three sections of the questionnaire (Physical Activity, Dietary Habits, and Sleep Patterns) demonstrate acceptable to excellent internal consistency reliability (see Appendix C). The Physical Activity section exhibits particularly high reliability, Cronbach's alpha of .964. This indicates excellent internal consistency for the 8-item scale measuring physical activity. All items contributed strongly to the reliability, with corrected item-total correlations ranging from .701 to .959. Removing any item would not significantly improve the reliability, as the Cronbach's alpha if an item were deleted ranges from .953 to .971.

A Cronbach's alpha of .622 for Dietary Habits suggests weak internal consistency for the 7-item scale measuring dietary habits. The corrected item-total correlations range from .035 to .613, with some items (e.g., "I eat moderate lunch...") showing weak correlations. Removing the item "I eat moderate lunch..." would increase the Cronbach's alpha to .672, indicating that this item may not align well with the overall scale. However, this item was retained since its removal will not significantly increase the reliability from marginal to acceptable (.70 and above). The reliability coefficient of .622 is higher than the set cut-off value of .60.

The Cronbach's alpha for Sleep Patterns is .742, which is acceptable internal consistency for the 7-item scale measuring sleep patterns. The corrected item-total correlations range from .287 to .767, with the item "I am usually asleep between the period 10 pm to 2 am" showing the strongest correlation. Removing the item "I avoid

caffeine and alcohol intake...” would slightly improve the Cronbach’s alpha to .758, thus it was retained.

Table 1.

Summary of Reliability Results

Scale	Cronbach’s Alpha	Interpretation
Physical Activity	.964	High internal consistency
Dietary Habits	.622	Weak internal consistency
Sleep Patterns	.742	Acceptable internal consistency

Data Collection Procedure

The researcher made sure that before participating in the study, all participants provided informed consent, ensuring their understanding and willingness to engage in the Body Pump Transformation Program. Baseline measurements were taken prior to the program’s commencement, which included anthropometric data such as weight, height, and waist circumference, along with assessments of body composition and fitness levels. These initial measurements were crucial for establishing a reference point against which progress could be monitored.

Throughout the 16-week study, follow-up assessments were conducted at regular intervals to track participants’ progress. Each participant attended weekly Body Pump classes, which adhered to a standardized format lasting between 55 and 60 minutes. These classes included a warm-up, followed by a series of resistance training exercises using barbells and adjustable weights, concluding with a cool-down. Certified instructors led each session, ensuring that participants received proper demonstrations of exercises, corrections to their form, and ongoing encouragement to foster a supportive environment.

As participants progressed and their strength improved, they were encouraged to gradually increase the weights they used during exercises. Instructors played a vital role in helping participants select appropriate weights and monitoring their progress to ensure safe and effective training. The Body Pump program incorporated a diverse range of resistance exercises targeting all major muscle groups, including squats, lunges, presses, and rows. To maintain engagement and prevent plateaus, the choreography and music were periodically updated, keeping the classes fresh and motivating.

Participants were also asked to track their attendance and the weights they utilized during each class, which helped reinforce their commitment and accountability. Emphasizing the importance of safety, instructors highlighted proper form and technique to minimize the risk of injury, encouraging participants to listen to their bodies and modify exercises as necessary.

In addition to the physical components of the program, participants received nutritional guidance tailored to their individual needs and goals. This guidance was provided by a registered dietitian or qualified nutritionist, who considered factors such as age, activity level, and dietary preferences when making recommendations. Follow-up assessments throughout the study monitored any dietary changes participants made as a result of this guidance.

To further support overall well-being, participants completed questionnaires or sleep diaries to assess their baseline sleep patterns, which included metrics such as sleep duration, quality, and disturbances. Education on sleep hygiene practices was also provided, helping participants establish healthier sleep routines. This education included strategies for maintaining a regular sleep schedule, creating a relaxing bedtime routine, and optimizing their sleep environment, all aimed at enhancing their

overall health and fitness journey. The researcher measured baseline data prior to the experiment.

Baseline Data

1. Anthropometric measurements: Weight, height, BMI, waist circumference.
2. Sociodemographic information: Age, marital status, occupation, education, income.
3. Physical activity, dietary, and sleep practices: components of the Body Pump Transformation Program

Intervention

Participants underwent a four-month Body Pump Transformation Program, which included guided exercise routines, nutrition counselling, and sleep education. Weight tracking, nutritional guidance, and motivation were provided throughout the program.

Follow-up Data

Anthropometric measurements, were collected monthly and assessed. The participants' implementation of the Body Pump Transformation program was assessed at the end of the program. To supplement the data obtained from the questionnaire, a selected group of women was interviewed about their perceptions of the program.

Methods of Data Analysis

Descriptive statistics were used to summarize participant characteristics. The Spearman rank-order correlation coefficient was used to establish the relationship between the participants' Body Pump Transformation program implementation and their average weight loss. Paired samples t-test was used to compare the pre-test and post-test scores in the questionnaire measuring the Body Pump Transformation

program implementation. Repeated measures analysis of variance (ANOVA) was used to compare monthly differences (Fein et al., 2022) in BMI and waist circumference. Data from participant feedback was analysed content analyzed.

Ethical Considerations

After the approval of the thesis proposal, the researcher sought ethical clearance from the Adventist University of Africa Research Ethics Committee. Furthermore, the researcher sought approval from the Research Council of Zimbabwe to carry out the study.

According to Maholtra and Dash (2011), there are ethical issues relating to the researcher-respondent relationship and the researcher-client relationship that need to be addressed. The researcher requested the voluntary participation and consent of the respondents before asking research questions by clearly outlining why the information was being gathered, its purpose, and expectations of their participation, as well as how it would directly or indirectly affect them.

Thus, Wagle (2020) stated that research ethics is unambiguously concerned with the examination of ethical issues that arise when individuals are involved as participants in the study. Hence, the researcher paid particular attention to sensitive and confidential questions that might embarrass the respondents or be misconstrued as an invasion of their privacy. The researcher also respected confidentiality and anonymity by ensuring that questionnaires did not include personal details such as names and addresses of the respondents, as these sensitive questions had the potential to cause embarrassment or uncomfortable feelings among respondents.

CHAPTER 4

RESULTS AND DISCUSSION

In this chapter, the research results are presented, with a focus on participant demographics, the program's impact on weight loss, and the implementation of its components. The chapter details participant profiles and their average weight loss after completing the 16-week program. Additionally, the chapter explores the extent of participants' engagement in the Body Pump Transformation program, examining their involvement in physical activities, dietary habits, and sleep patterns. A concise analysis of the relationship between program implementation and average weight loss will follow. Finally, the effects of the program on Body Mass Index (BMI) and waist circumference were examined. Overall, this chapter synthesizes the quantitative results and supplementary data from interviews to provide insights into the program's impact and the various factors that influence participants' participation in the Body Pump Transformation Program.

Study Area Setting

The study was conducted in Harare, Zimbabwe, where the Body Pump Transformation Program was implemented at a local fitness centre. The physical setting featured a gym with structured classes and resistance training equipment, targeting urban women aged 25–50. Socially, participants—including professionals and mothers—faced time constraints but benefited from group support. Culturally, traditional norms and dietary habits (e.g., reliance on calorie-dense foods) influenced

participation, though urban fitness trends are growing. Challenges like cost and work-life balance were addressed through subsidized fees and community motivation. This environment shaped the program's effectiveness in addressing obesity and weight management among Harare's women.

Response Rate

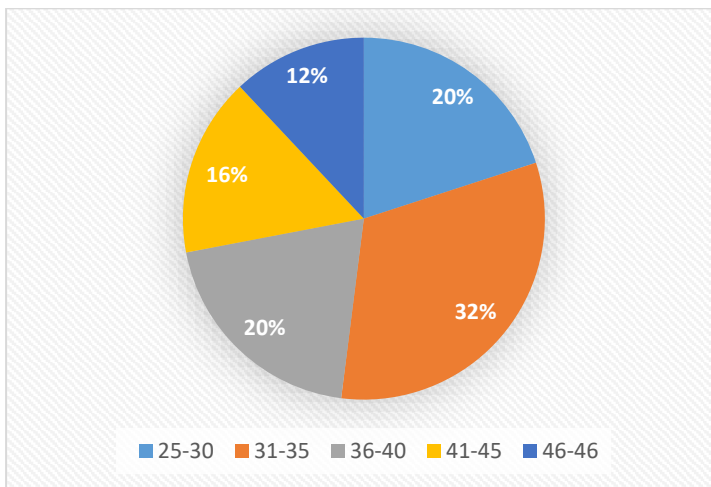
The study involved 25 adult female participants in Harare who enrolled in the 16-week Body Pump Transformation Program. The response rate was 100 %, as all the 25 participants responded to the questionnaire. These participants were interested in the program, and showed maximum participation for the program.

Demographic Characteristics

The age distribution among participants presented in Figure 3 is as follows: 20% were aged 25-30 years, 32% were 31-35 years, 20% were 36-40 years, 16% were 41-45 years, and 12% were 46-50 years. This distribution indicates a notable concentration of individuals within the 30 to 40-year age range, particularly at ages 30, 34, and 40, which together account for approximately 40% of the total participants. This demographic profile highlights the program's relevance for adult women in this age group, especially those likely to be facing weight management and health-related challenges. The variability in age representation, with participants spanning from 25 to 50 years suggests that the program appeals to a broad spectrum of women at different life stages.

Figure 3.

Age of Participants



Average Weight Loss

Research question 1. What is the average weight loss among adult women in Harare after participating in the Body Pump Transformation program for 16 weeks? The results from the project showed that there were some significant changes in weight among participants (see appendix D). The average weight of the 25 participants at the beginning of the program (November 2024) was 78.4 kg. At the end of the program in March 2025, the average weight was 75.5 kg.

The table below shows the average weight loss among participants during the 4-month experimentation period.

Table 2.

Average Weight Loss

	Minimum	Maximum	Mean	Std. Deviation
Average weight loss	-15.8	23.0	2.90	5.897

The mean value of 2.90 indicates that, on average, adult women who participated in the Body Pump Transformation program for 16 weeks lost 2.90 kilograms of weight. The maximum value of 23.0 shows that the most significant weight loss achieved was 23.0 kg, reflecting a highly successful outcome for at least one participant. This wide range (-15.8 to 23.0) highlights significant variability in individual results, suggesting that the program's impact differs greatly among participants.

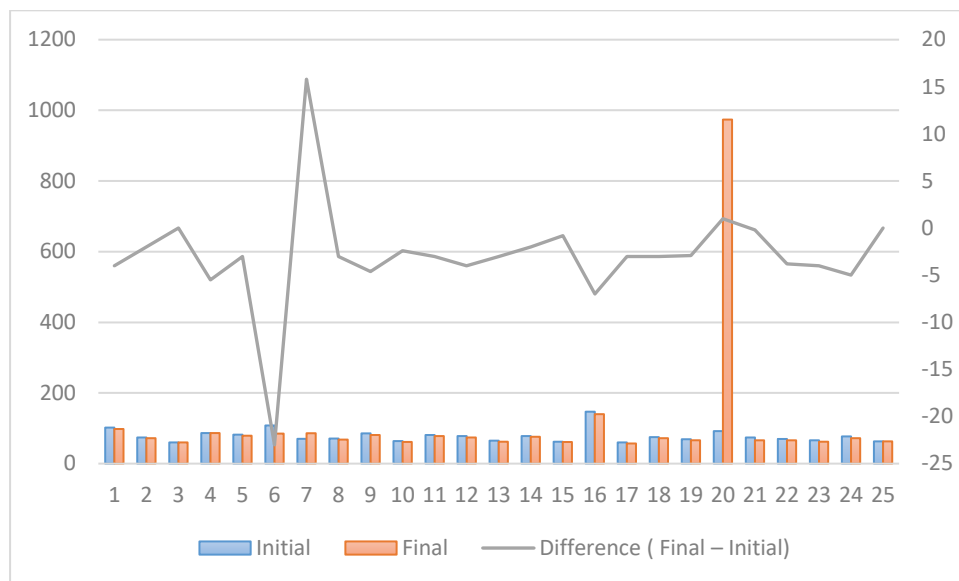
The standard deviation of 5.897 indicates a moderate to high degree of variability around the mean of 2.90. In a normal distribution, about 68% of the data falls within one standard deviation of the mean (2.90 ± 5.897), or roughly between -3.0 and 8.8 units. This means that while the average weight loss is positive, some participants likely experienced weight gain or minimal loss, while others lost substantially more. The variability could stem from differences in adherence, starting weight, fitness levels, or body composition changes (e.g., fat loss vs. muscle gain). This notion is supported by Gaesser and Angadi (2021) saying, other factors that influence body weight over which the individual has potential control include level of physical activity, diet, and some environmental and social factors.

The weight loss among the participants brought some sense of self-confidence in them as shown during the FGD conducted. Participants highlighted that the program had some social and emotional impact.

Figure 4 shows that the majority of the participants experienced some degree of weight loss during the entirety of the program, however there are some who gained weight probably due to some factors which were considered during the project lifecycle –which include hereditary genes, stress levels etc.

Figure 4.

Participants' Weight Loss Trends



The program fosters emotional well-being and social bonds among participants, enhancing motivation and accountability. Participants reported positive outcomes beyond physical transformation, including increased self-confidence and reduced guilt. The sense of community plays a crucial role in participant experiences, as reflected in statements like: “This program has really boosted my self-esteem. I feel like I’m part of a community that supports each other. We celebrate each other’s small victories.”

The social aspect of the program is seen as a significant motivator, contributing to participants’ overall emotional health. A meta-analysis published in the Beamish (2024) provides strong evidence for the benefits of exercise interventions for mental health conditions. Some of the neurobiological mechanisms underlying these effects, include the release of endorphins, changes in neurotransmitter levels, and increased neuroplasticity. It is believed that regular physical activity can improve

self-esteem and body image, particularly in women, whilst emphasizing the positive impact of group exercise on body image and social connectedness.

Implementation of the Body Pump Transformation Program

Research question 2. What is the extent of the participants' implementation of the Body Pump Transformation Program? The research participants filled out the questionnaire measuring the implementation of the different components of the Body Pump Transformation Program (BPTP) at the beginning (pretest) and at the end (posttest) of the study. The pretest and posttest scores were compared to determine the extent of implementation.

The following scale was used in the interpretation of the mean.

- | | |
|----------------|-----------|
| 1. 1.00 – 1.79 | Never |
| 2. 1.80 – 2.59 | Rarely |
| 3. 2.60 – 3.39 | Sometimes |
| 4. 3.40 – 4.19 | Often |
| 5. 4.20 – 5.00 | Always |

Physical Activity

The pre-test physical activity score was 1.71. At the end of the study, the implementation score significantly increased to 4.28. Table 3 shows the results.

Table 3.*Comparison of Physical Activity Implementation*

	Mean	N	Std. Deviation	Std. Error Mean				
Pretest Physical Activity	1.71	25	1.032	.206				
Posttest Physical Activity	4.28	25	.337	.067				
Pair	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	p-value
				Lower	Upper			
Pretest Physical Activity - Posttest Physical Activity	-2.57	1.151	.230	-3.045	-2.095	-11.161	24	<.001

The paired samples t-test showed that there was a significant difference between the pretest and post-test scores, $t(24) = -11.161$, $p < .001$. This implies that on average, participants implemented the physical activity component of BPTP to a high extent. At the beginning of the study, the frequency of doing physical activity was almost never. The overall post-test mean of 4.28 suggests that they ‘always’ engage in the program’s physical activity component. The low standard deviation reinforces that this high level of implementation is consistent across the group.

Table 4 presents the mean score for each statement in the questionnaire measuring the implementation of the physical activity component of BPTP.

Table 4.*Physical Activity*

	Min	Max	Mean	Std. Deviation
I attend body pump classes 5 times a week.	3	5	4.12	.526
On average, my physical activity sessions last 30-45 minutes.	4	5	4.56	.507
I perform squats repetitions while holding the dumbbells in my hands.	3	5	4.08	.640
While lying on the floor to do chest press, I press the barbell from the chest to engage the pectoral muscles, shoulders, and triceps.	2	5	4.20	.764
I follow the correct choreography and timing of the moves during a BODYATTACK class.	3	5	4.20	.645
I maintain proper form and technique during high intensity exercises in GRIT.	3	5	4.28	.737
I press the barbell overhead to promote upper body strength while standing or seated.	3	5	4.24	.663
I complete the required repetitions of each workout activity.	3	5	4.56	.583
Physical Activity	3.38	4.63	4.28	.337

Note. 1-Never, 2-Rarely, 3-Sometimes, 4-Often, 5- Always

The results indicated that participants attend Body Pump classes frequently, with a mean of 4.12 translating to roughly 4–4.5 days per week on average, falling in the ‘Often’ category. The moderate standard deviation (0.526) and range (3 to 5)

indicate consistent attendance across the group, with most participants near the 5-day target but a few dropping to 3 days/week occasionally. This reflects strong but not perfect adherence to the program’s 5-day schedule, likely influenced by practical constraints rather than a lack of commitment. Attendance is a key indicator of implementation, and this level suggests the program was well-integrated into

Participants’ routines, contributing to its overall success (for example the 2.90-unit average weight loss realized). This strong attendance reflects not only commitment but also the program’s successful integration into participants’ routines, which is crucial for achieving an average weight loss of 2.90 kg, as highlighted in earlier studies by Dahl et al. (2014).

Participants consistently meet the 30–45-minute session duration of the Body Pump programme, with a mean score of 4.56, placing this behaviour firmly in the ‘Always’ category. The low standard deviation of 0.507 and the narrow range of 4 to 5 indicate exceptional consistency, making this one of the strongest aspects of program implementation. This suggests that the session duration was either well-designed to fit participants’ lifestyles or effectively enforced by the program’s structure, ensuring near-universal adherence.

The results also showed that both the session duration and the completion of repetitions also share the highest mean score in the dataset at 4.56, categorized as ‘Always,’ while attendance scores a mean of 4.12, categorized as ‘Often.’ This indicates that programme activities are implemented more consistently than attendance, likely due to the structured guidance provided during sessions.

The high adherence to session duration likely contributes to the average weight loss of 2.90kgs realized, as maintaining consistent workout times ensures sufficient caloric burn and muscle engagement, which are crucial for achieving transformation goals.

The data results also show that participants perform squats with dumbbells in their hands frequently, but it’s not as ingrained as session duration (4.56) or repetitions (4.56), hinting at possible challenges or flexibility in execution. 68% of participants fall within 1 standard Deviation (SD): $4.08 \pm 0.640 = 3.44$ to 4.72. This spans ‘Often’ (3.44) to nearly ‘Always’ (4.72), meaning most participants perform squats with dumbbells frequently, with some approaching full consistency. A standard deviation of 0.640 is moderate—higher than session duration (0.507) or attendance (0.526) but lower than chest press (0.764). This suggests more variation in how often participants perform dumbbell squats compared to some other program elements.

However, some activities showed slightly more variability in implementation. For instance, while participants frequently performed squats with dumbbells (mean of 4.08), the higher standard deviation of 0.640 suggests that not all participants executed this exercise with the same frequency. This variability may point to challenges in technique or comfort level, aligning with findings from T. Haugen et al. (2023) and Androulakis et al. (2024), which highlighted the importance of proper execution in resistance training for optimal results.

The results reveal that participants perform the chest press with a barbell consistently on average, with a mean of 4.20 ('Always'), suggesting it's executed correctly in most sessions (80–90 %+). However, the higher standard deviation (0.764) and wide range (2 to 5) reveal significant inconsistency, with some participants rarely engaging (min of 2) while others excel (max of 5). This variability—higher than squats (0.640), attendance (0.526), or session duration (0.507)—points to challenges like technique, equipment, or comfort, making chest press less uniformly implemented than other program elements. It's a strong contributor to the program's goals (e.g., upper-body strength for weight loss), but its impact varies across participants.

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participants. This goes in line with the findings of Chertoff (2023), positing that, for weight loss, incorporating chest press (or bench press) into your routine can be beneficial for women as it builds muscle, which boosts metabolism and helps burn more calories, contributing to fat loss when combined with a healthy diet and other forms of exercise.

The result also revealed that participants typically follow BODYATTACK choreography and timing well, with a mean of 4.20 ('Always'), suggesting correct execution in most sessions (80–90 %+). However, the moderate standard deviation (0.645) and range (3 to 5) indicate not universal mastery, with some participants only 'sometimes' keeping up (min of 3). This reflects strong but variable adherence, possibly due to choreography complexity, instruction quality that the participants were exposed to, or individual differences. The findings suggest that choreography also contributed to weight loss -hence according to Berman (2024) the analysis found that people who regularly engaged in dance exhibited improvements in body mass index (BMI), waist circumference, percentage of body fat, and kilograms of fat lost compared to people who did not dance.

The responses from the participants was evident that participants consistently maintain proper form in GRIT, with a mean of 4.28 ('Always'), suggesting correct technique in most sessions (85–95 %+). The moderate standard deviation (0.737) and range (3 to 5) indicate some inconsistency, with a few participants only 'sometimes' keeping up (min of 3), likely due to GRIT's intensity or technical demands. While effective, GRIT's integration and execution reveal both strengths and potential weaknesses.

The data revealed that the mean of 4.24 exceeds squats (4.08) and attendance (4.12), ties GRIT form (4.28), and trails session duration and repetitions (both 4.56).

The SD (0.663) is mid-range, less variable than chest press (0.764) and GRIT (0.737) but more than session duration (0.507). Frequent overhead presses (4.24) likely enhance muscle tone and metabolism, supporting the 2.90-unit weight loss, though fat loss might rely more on cardio elements (e.g., BODYATTACK). Participants perform the overhead press with a barbell consistently, with a mean of 4.24 ('Always'), indicating it's executed in most sessions (85–95 %+). The moderate standard deviation (0.663) and range (3 to 5) show high frequency with some variability, as most participants cluster around 4–5, while a few dip to 3 ('Sometimes'). This reflects strong adherence to a key Body Pump exercise, likely boosting upper-body strength and program outcomes, though minor inconsistencies suggest challenges like technique or fatigue. Compared to other metrics, it's a solid performer, reinforcing the program's resistance focus, though its execution isn't as universal as session duration or repetitions.

Completing required repetitions is one of the strongest areas of implementation, with near-universal adherence among participants, and a mean of 4.56, near the top of the 'Always' range, implies that participants almost always complete the required repetitions for each workout during the programme. This high adherence reflects strong commitment and discipline, key to achieving the program's transformation outcomes. The SD of 0.583 is moderate—higher than session duration (0.507) but lower than chest press (0.764), GRIT form (0.737), and overhead press (0.663). This suggests a tighter clustering around the mean than most technical exercises, though not as uniform as session duration. Most participants score 4–5, with a small group at 3, indicating occasional incomplete sets rather than widespread failure.

Accessibility and Inclusion

Despite high extent of implementation, participants highlighted accessibility hurdles that prevent the program from fully meeting the diverse needs of individuals aged 25 to 50. While many joined the program seeking community support and personal improvement, logistical barriers such as scheduling conflicts, childcare, and location posed challenges. Participants noted that: “I faced some challenges with scheduling. Balancing my work and family commitments made it hard to attend every session. But the flexibility in class times helped a bit.”

Younger participants cited time and distance as obstacles, while older participants struggled to juggle family and work commitments. This suggests that the program's one-size-fits-all schedule does not accommodate the varied lifestyles of all participants, risking dropout despite initial motivation.

Nikolajsen et al. (2021), in their research “Barriers to, and facilitators of, exercising in fitness centres among adults with and without physical disabilities: A scoping review,” emphasize the importance of skilled instructors and welcoming environments to encourage participants’ attendance and inclusivity. Such studies on work-life balance consistently show that time constraints are a major barrier to physical activity. Flexible scheduling, including evening and weekend classes, as well as online options, can significantly improve participation rates. Whilst Body Pump had 2 sessions (morning and evening), some thought that online classes should be made an option.

Dietary Habits

Table 5 presents the comparison of the implementation of the dietary habits component of BPTP. The pretest score was 2.93 (sometimes) and the posttest score was 4.24 (always).

Table 5.*Comparison of Dietary Habits Implementation*

	Mean		N	Std. Deviation	Std. Error Mean			
Pretest Dietary Habits	2.93		25	.588	.118			
Posttest Dietary Habits	4.24		25	.500	.100			
Pair	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	p-value
				Lower	Upper			
Pretest Dietary Habits - Posttest Dietary Habits	-1.314	.851	.170	-1.666	-.963	-7.720	24	<.001

The paired samples t-test was conducted and resulted in a significant increase in implementation, $t(24) = -7.72$, $p < .001$. The post-test mean of 4.24 shows that participants exhibited strong dietary habits and the standard deviation of .500 reflects consistent adherence to healthy eating patterns.

Table 6 presents the individual habits ranging from ‘Often’ (lunch: 3.96) to ‘Always’ (water: 4.64), with water, supper timing, and processed food limits being the strongest (all ≥ 4.36). The moderate variability (SD: 0.500 overall) and range (3–5) suggest high but not perfect uniformity, with breakfast showing the most variation (min 1, SD 0.987).

Table 6.*Dietary Habits*

	Min	Max	Mean	Std. Deviation
I regularly eat heavy breakfast comprising whole grains (cereal/bread), low fat dairy, lean protein, and vegetables.	1	5	4.16	.987
I eat moderate lunch consisting of lean protein, vegetables, and whole grains.	2	5	3.96	.790
I eat lighter supper comprising easily digestible foods e.g. blended fruits, vegetables.	3	5	4.08	.702
I eat supper 3 to 4 hours before bedtime.	3	5	4.36	.700
I limit my intake of processed foods and sugary drinks (chips, processed meats, sugary cereals, fizzy drinks).	3	5	4.36	.700
I drink plenty of water throughout the day (at least 2 liters of water).	4	5	4.64	.490
I include fruits and vegetables in my daily diet.	3	5	4.12	.666
Dietary Habits	3.00	5.00	4.24	.500

Note. 1-Never, 2-Rarely, 3-Sometimes, 4-Often, 5- Always

These habits likely amplify the program’s physical efforts, driving the 2.90-unit weight loss through balanced nutrition, though lunch adherence could be a focus for improvement. The overall dietary habits score aggregates seven specific behaviour’s (e.g., heavy breakfast, water intake, limiting processed foods). A mean of 4.24 reflects a composite of these, aligning with nutrition principles that support Body Pump’s physical demands—fuelling workouts, aiding recovery, and promoting fat loss.

In a focused group discussion, participants expressed a desire for more educational components, particularly regarding nutrition. This suggests an opportunity for the program to enhance its offerings by addressing dietary habits alongside physical training. Many participants feel that understanding nutrition is essential for their success, as noted in the following reflection: “If I could change one thing, I’d suggest more nutrition workshops. Understanding what to eat has been a challenge for me.”

Though most of the cooking has been done by helpers, participants also attest to the need to be intentional about making their own food and also the possibility of practical cooking lessons to support what to eat. Participants consistently adhere to healthy dietary habits overall, with an average in the ‘Always’ range, suggesting these habits are a regular part of their lifestyle during the 16-week program. The moderate to low standard deviation (0.500) and range (3.00–5.00) indicate fairly uniform adherence, with most clustering

Around 4–5 and a few at 3 (‘Sometimes’). This strong dietary discipline likely bolsters the 2.90-unit weight loss by complementing physical activity (mean 4.28), providing nutritional support for exercise and recovery. This suggests that diet is also important in weight loss programming as supported by the Institute of Medicine (US) Subcommittee on Military Weight Management (2004) stating that, while exercise may be the most important element of a weight-maintenance program, it is clear that dietary restriction is the critical component of a weight-loss program that influences the rate of weight loss.

The findings reveal that with a mean of 4.16, participants typically fall into the ‘Often’ category for consuming a nutrient-dense breakfast. This score is close to the ‘Always’ threshold (4.20), indicating that while many participants frequently engage in this behaviour, it is not universally practiced every day. The standard deviation of 0.987 is the highest among the dietary behaviour’s measured, reflecting considerable variability in breakfast habits. This suggests that while some participants consistently enjoy a heavy breakfast, others do so infrequently or not at all. The range of responses spans from 1 to 5, representing a spectrum from ‘Never’ to ‘Always.’ This significant variation indicates that some participants skip breakfast entirely, while others adhere to a more consistent and nutrient-rich morning meal. The strong mean score suggests

a general inclination towards healthy breakfast habits, yet the high standard deviation and broad range point to inconsistencies among participants. Factors contributing to this variability may include time constraints, personal preferences, or lifestyle differences, with some individuals opting to skip breakfast altogether.

The data also reveal that while moderate lunch consumption is fairly common among participants, the moderate variability and the range of responses indicate potential barriers to more consistent dietary practices. With a mean of 3.96, participants generally fall into the 'Often' category for having a balanced lunch. This indicates that while moderate lunch consumption is common, it is not as consistently practiced as other dietary habits. The standard deviation of 0.790 indicates moderate variability among participants. This means that while many individuals frequently eat a balanced lunch, there is a notable range in behaviour's, with some participants experiencing inconsistency.

The range of 2 to 5 signifies that no participants reported 'never' having a moderate lunch, but some do so only rarely. This suggests a baseline level of lunch consumption among participants, although the frequency varies. The lower mean score suggests that lunch may be the weakest dietary habit among participants. Factors contributing to this inconsistency could include disruptions during the midday period, such as work commitments or limited food availability. Despite these challenges, the data indicates that most participants do manage to have lunch regularly.

The findings revealed that participants frequently eat lighter, digestible suppers, with a mean of 4.08 ('Often'), indicating this habit occurs in 75–85% of instances. The moderate standard deviation (0.702) and range (3–5) show consistent but not universal adherence, with most clustering around 4–5 and a few at 3

(‘Sometimes’). The SD of 0.702 is moderate—higher than water (0.490) and overall dietary habits (0.500), but lower than breakfast (0.987) or lunch (0.790). This suggests a decent spread, less uniform than top habits but more consistent than the most variable ones. A lighter supper (e.g., blended fruits, vegetables) aligns with weight management principles—lowering calorie intake late in the day and aiding digestion before sleep, which complements the program’s exercise focus (e.g., Body Pump, BODYATTACK, GRIT).

Participants consistently eat supper 3–4 hours before bedtime, with a mean of 4.36 (‘Always’), indicating adherence in 85–95%+ of instances. The moderate standard deviation (0.700) and range (3–5) show strong consistency with minor variation, as most cluster around 4–5, with a few at 3 (‘Sometimes’). This timing is a program strength, likely aiding metabolism, sleep quality, and recovery, contributing to the 2.90-unit weight loss alongside physical activity. Eating 3–4 hours before bed allows digestion to complete before sleep, reducing fat storage and aligning with the 2.90-unit weight loss.

This complements the physical activity mean of 4.28 by optimizing calorie use. However, some eating habits might be affected by location and lifestyle, e.g., in Harare, work or family schedules might disrupt timing for some (min of 3), but the range (3–5) indicates most adapt well. The mean of 4.36 ties with limiting processed foods (4.36), exceeds lighter supper (4.08), breakfast (4.16), and lunch (3.96), but trails water (4.64). The SD (0.700) is mid-range, tighter than breakfast (0.987) but looser than water (0.490).

The research findings revealed a positive habit by participants which aligns with the research objectives, that they consistently limit processed foods and sugary drinks, with a mean of 4.36 (‘Always’), indicating avoidance in 85–95%+ of

instances. The moderate standard deviation (0.700) and range (3–5) show strong discipline with slight variation, as most cluster around 4–5, with a few at 3 (‘Sometimes’). This habit is a program strength, matching supper timing (4.36) and supporting the 2.90-unit weight loss by reducing empty calories, enhancing diet quality for exercise performance.

The research findings reveal that participants consistently limit processed foods and sugary drinks, with a mean of 4.36 (‘Always’), reflecting avoidance in 85–95%+ of instances. The moderate standard deviation (0.700) and range (3–5) indicate strong discipline with slight variation, as most participants cluster around 4–5, with a few at 3 (‘Sometimes’). This habit matches supper timing (4.36) as a program strength, directly supporting the 2.90-unit weight loss by cutting empty calories and boosting diet quality for exercise (mean 4.28).

In Harare, processed foods might be accessible or culturally common (e.g., fizzy drinks), yet the min of 3 and tight SD (0.700) show most resist, suggesting program influence outweighs local factors. Avoiding these sugary foods/foods with added sugars assisted in realizing the research’s goals of reduced weight through dietary intake, as also noted by Kubala (2024) saying avoiding added sugars is crucial in a weight loss program because they are high in calories and low in nutrients, contributing to weight gain and associated health problems like diabetes and heart disease.

While participants frequently include fruits and vegetables in their diets, the moderate variability and range indicate that there is room for improvement in consistency. With a mean of 4.12, participants fall into the ‘Often’ category for including fruits and vegetables in their diets. This score is close to the ‘Always’ threshold, suggesting that the frequent inclusion of these nutrient-rich foods is a

common practice among participants, in Harare. The standard deviation of 0.666 indicates moderate variability in fruit and vegetable consumption. This means that while many participants consistently include these foods in their diets, there is still a range of behaviours, with some exhibiting less frequent consumption. The range of responses spans from 3 to 5, indicating that all participants consume fruits and vegetables at least 'sometimes.'

However, this range suggests that while most individuals include these foods regularly, there is variation in the frequency of their consumption. The relatively high mean score indicates that a nutrient-rich diet composed of fruits and vegetables is common among participants. However, the moderate variability suggests that this habit is not as consistently practiced as other healthy behaviours, such as drinking water or limiting processed foods. Factors such as availability, preference, or meal planning might influence this inconsistency.

Sleep Patterns

As presented in Table 7, the pretest and posttest mean scores of the implementation of the sleep patterns component of BPTP are 2.93 and 4.30, respectively, a change from a frequency of "sometimes" to "always." The result of the paired samples t-test analysis revealed that the sleep patterns of the research participants significantly improved, $t(24) = -7.898, p < .001$.

Table 7.*Comparison of Sleep Patterns Implementation*

	Mean		N	Std. Deviation	Std. Error Mean			
Pretest Sleep Patterns	2.93		25	.588	.118			
Posttest Sleep Patterns	4.24		25	.500	.100			
Pair	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	p-value
				Lower	Upper			
Pretest Sleep Patterns - Posttest Sleep Patterns	-1.314	.851	.170	-1.666	-.963	-7.720	24	<.001

As shown in Table 8 (means of individual statements), the participants exhibited generally healthy sleep patterns, with strong adherence to avoiding caffeine, alcohol, and large meals before bedtime, as well as avoiding late afternoon naps. Newsom (2024) has it that getting adequate, quality sleep is an important part of a healthy weight loss plan. Participants exhibit strong sleep patterns, with an overall mean of 4.30 ('Always'), reflecting consistent adherence in 85–90%+ of instances. Individual habits range from 'Often' (screen time: 3.96) to 'Always' (caffeine/alcohol: 4.60), with low overall variability (SD: 0.467) and a range (3.29–4.86) showing all engage at least 'sometimes.'

Table 8.*Sleep Patterns*

	Min	Max	Mean	Std. Deviation
On average, I sleep 6 to 8 hours per night.	3	5	4.32	.802
I am usually asleep between the period 10 pm to 2 am.	2	5	4.12	.881
I avoid caffeine and alcohol intake to an hour before bedtime	4	5	4.60	.500
I limit screen time (phone, television, tablet) to an hour before bedtime	3	5	3.96	.790
I avoid napping, especially late in the afternoon	4	5	4.44	.507
I go to bed and wake up at the same time every day, even on weekends	2	5	4.16	.898
I avoid consuming large meals before bedtime	3	5	4.52	.714
Sleep Patterns	3.29	4.86	4.30	.467

Note. 1-Never, 2-Rarely, 3-Sometimes, 4-Often, 5- Always

Sleep supports the 2.90-unit weight loss by enhancing recovery and metabolism, complementing physical activity and diet. The strong adherence to recommended sleep duration supports recovery and metabolism, which is key for weight loss and exercise performance. However, there is moderate variability in other areas, such as sleep duration and screen time limitations - weakest habit, likely due to modern lifestyle (e.g., phone use), potentially impacting sleep quality, indicating that while many individuals maintain good practices, there is room for improvement. Sleep duration (4.32) and timing habits align with exercise recovery needs, while avoiding stimulants and meals supports dietary timing (4.36), creating a cohesive strategy for weight loss and fitness.

**Relationship Between the Implementation
of the Body Pump Transformation
Program and Average
Weight Loss**

Research question 3. Is there a significant relationship between the implementation of the body pump transformation program and the average weight loss among adult women in the study group? A Spearman’s rank-order correlation coefficient (rho) was calculated to evaluate the relationship between average weight loss and the implementation of the body pump transformation program (physical activity, dietary habits, and sleep patterns). Table 9 presents the results.

Table 9.

Correlation Coefficients

		Physical Activity	Dietary Habits	Sleep Patterns
Spearman's rho	Average weight loss	-.050	.126	.028
	Sig. (2-tailed)	.814	.550	.895

There was no significant relationship between average weight loss and implementation of physical activity, $\rho(23) = -.050$ $p = .854$, dietary habits, $\rho(23) = .126$ $p = .550$, and sleep patterns, $\rho(23) = .028$, $p = .895$. Despite high implementation (means 4.24–4.30) and a 2.90-unit weight loss, the weak coefficients and high p-values suggest these factors don’t strongly predict weight loss magnitude.

This could stem from:

1. Uniform high adherence among participants reducing variability for correlation.
2. Small sample size ($n = 25$) limiting power to detect subtle effects.
3. Other unmeasured variables driving the loss.

The 2.90-kg loss (6.4 lbs.) is meaningful over 16 weeks (0.4 lbs. /week), yet uncorrelated with implementation intensity. This suggests a threshold effect—once a maximum implementation of physical activity, diet, and sleep is met (e.g., ‘Often’ to ‘Always’), additional adherence doesn’t proportionally increase loss.

The study reveals that all coefficients are close to zero, suggesting little to no monotonic relationship between weight loss and program implementation across these domains. The negative rho for physical activity is unexpected but too small to be meaningful.

For Physical Activity which had a Mean: 4.28, respondents indicated that they ‘Always’ participated in this domain. However, despite high implementation (4.28), the negative rho (-0.050) contradicts expectations—more activity should theoretically increase weight loss. The near-zero value and high p-value (0.814) suggest no real effect, possibly due to uniform high adherence (range 3.38–4.63) reducing variability for correlation analysis.

In this study, physical activity showed a near-zero correlation with weight loss (rho = -0.050, p = 0.814), despite high adherence levels (Mean: 4.28). This contradicts earlier studies that have consistently demonstrated a positive relationship between increased physical activity and weight loss. For example, a meta-analysis by WHO (2024) found that moderate to vigorous physical activity was significantly associated with greater weight loss in adults. The discrepancy in this study may be attributed to the uniformly high adherence levels among participants, which reduced variability and limited the ability to detect a correlation. Additionally, the small sample size (n = 25) may have constrained the statistical power to identify subtle effects.

Participants dietary habits show a strong adherence of Mean: 4.24, and a slight positive rho (0.126) hint at a potential link, but the p-value (0.550) dismisses

significance. Variability (SD: 0.500) exists, yet it's not enough to correlate strongly with weight loss.

The study found a slight positive correlation between dietary habits and weight loss ($\rho = 0.126$, $p = 0.550$). This aligns with some previous research that highlights the complexity of dietary interventions. For instance, a study by Institute of Medicine (US) Subcommittee on Military Weight Management (2004) found that while dietary quality is important, the relationship between specific dietary habits and weight loss is often moderated by factors such as individual metabolism and genetic predispositions. The high adherence levels in this study (Mean: 4.24) may have created a ceiling effect, where further improvements in dietary habits did not translate into additional weight loss.

The sleep patterns showed a high consistency of 4.30, who indicated that they always adhere to the sleeping patterns in this domain and a tiny positive ρ (0.028) suggest negligible impact, with $p = 0.895$ reinforcing no relationship. Low variability (SD: 0.467) may limit correlation strength.

Sleep patterns also showed no significant relationship with weight loss ($\rho = 0.028$, $p = 0.895$), despite high consistency among participants (Mean: 4.30). This finding diverges from previous research, such as that by (Newsom, 2024b), which found that adequate sleep duration and quality were associated with better weight management outcomes. The lack of variability in sleep patterns among participants in this study may explain the absence of a detectable relationship.

A key insight from this study is the potential threshold effect, where once a maximum level of adherence to physical activity, dietary habits, and sleep patterns is achieved, additional adherence does not proportionally increase weight loss. This finding is consistent with research by Rotunda et al. (2024), which suggested that

weight loss interventions often reach a point of diminishing returns once participants achieve a certain level of compliance.

The study's small sample size and high adherence levels may have limited the ability to detect significant correlations. Additionally, other unmeasured variables, such as stress levels, hormonal factors, or genetic predispositions, could have influenced weight loss outcomes. This aligns with findings from a review by Phoenix Liposuction (2024) and Falcon et al. (2021), which emphasized the multifactorial nature of weight loss and the importance of considering a wide range of variables in intervention studies.

Effect of the Body Pump Transformation Program

Research question 4. What is the effect of combining the Body Pump Transformation program with physiological behaviours (dietary habits and sleep patterns) on:

1. Body Mass Index, and
2. Waist Circumference?

Effect on Body Mass Index

The data in Table 10 demonstrates a consistent reduction in BMI throughout the intervention, highlighting the effectiveness of the Body Pump Transformation program in promoting weight loss and improving health outcomes.

The findings indicate that participants were able to make meaningful changes to their body composition, transitioning from an obese classification towards a healthier BMI range, which is associated with reduced health risks and improved overall well-being. The initial mean BMI recorded in November was 30.24, classified

within the ‘obese’ category. This baseline measurement reflects the starting point for participants, setting the stage for assessing the program’s impact.

Table 10.

Descriptive Statistics of Body Mass Index

	Mean	Std. Deviation
*November BMI	30.24	7.680
December BMI	30.07	7.714
January BMI	29.75	7.430
February BMI	29.39	7.128
March BMI	29.15	7.166

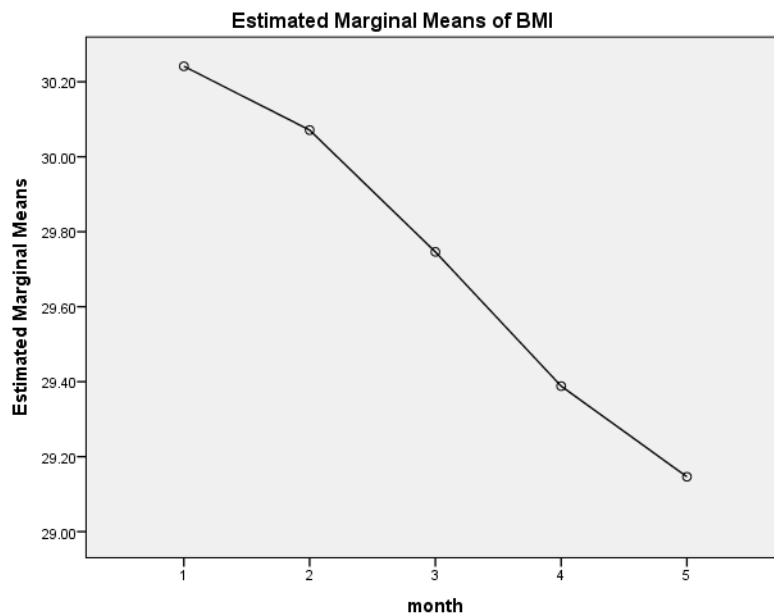
Note. *Pre-intervention

As the intervention progressed, a gradual decrease in mean BMI was observed (Figure 5). In December, the mean BMI dropped slightly to 30.07, indicating a positive initial response to the program. The standard deviation remained relatively stable at 7.714, suggesting consistent responses among participants during this early phase.

In January, the mean BMI further declined to 29.75, marking a significant shift as participants moved closer to the ‘overweight’ category. This reduction reflects the cumulative benefits of sustained engagement in physical activity, dietary adjustments, and lifestyle changes promoted by the program.

Figure 5.

Profile Plots of Body Mass Index



The trend continued in February, with the mean BMI decreasing to 29.39. This consistent downward trajectory indicates that participants were effectively integrating the program into their routines, likely leading to improvements in body composition and overall health. The standard deviation decreased to 7.128, suggesting a narrowing range of BMI values among participants, which may indicate more uniform success in weight management during this period.

By March, the mean BMI reached 29.15, further solidifying the positive impact of the program. Although the standard deviation increased slightly to 7.166, the overall trend remains indicative of effective weight management among participants. The gradual decrease in BMI over the course of the program suggests that participants not only engaged in regular physical activity but also benefited from the holistic approach of the Body Pump Transformation program, which likely included dietary modifications and increased awareness of healthy lifestyle choices.

A repeated measures ANOVA with a Greenhouse-Geisser correction, shown in Table 11, determined that the mean Body Mass Index differed statistically significantly between time points ($F(1.362, 32.685) = 6.077, p = .012$). The data indicates a downward trend in BMI from November to March, suggesting that the program was effective in promoting weight loss. The analysis indicates that participants in the Body Pump Transformation program experienced a statistically significant reduction in BMI from November through March.

Table 11.

Tests of Within-Subjects Effects (BMI)

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Month	Sphericity Assumed	20.872	4	5.218	6.077	.000	.202
	Greenhouse-Geisser	20.872	1.362	15.326	6.077	.012	.202
	Huynh-Feldt	20.872	1.416	14.744	6.077	.011	.202
	Lower-bound	20.872	1.000	20.872	6.077	.021	.202
Error (month)	Sphericity Assumed	82.437	96	.859			
	Greenhouse-Geisser	82.437	32.685	2.522			
	Huynh-Feldt	82.437	33.975	2.426			
	Lower-bound	82.437	24.000	3.435			

The findings of the research align well with existing literature on the effectiveness of structured exercise interventions in promoting weight loss and reducing BMI. The significant decrease in BMI from November to March highlights the program's effectiveness and reinforces the importance of sustained engagement in physical activity for achieving health and fitness goals.

Numerous studies have documented the positive impact of structured exercise programs on BMI and weight management. For instance, a study by Kumari, et al.

(2025) found that participants engaging in consistent aerobic and resistance training showed significant reductions in BMI over a 12-week period. Similar to the findings

In this Body Pump study, their results indicated that regular participation in structured exercise programs leads to meaningful improvements in body composition. Research by Kumari et al. (2025) indicated that longer-duration exercise programs (16 weeks or more) are more effective for achieving significant reductions in BMI. This aligns with the current study's 16-week duration, which appears to have provided sufficient time for participants to adapt to the program and realize weight loss benefits. The significant reduction in BMI observed in this study supports the idea that sustained engagement in physical activity is key for long-term weight management.

Post hoc analysis (Table 12) revealed that the Body Mass Index was statistically significantly decreased from pre-intervention (November) to December (0.17 (95% CI, .006 to .334), $p = .042$), to January (0.495 (95% CI, .236 to .754), $p = .001$), to February (0.853 (95% CI, .341 to 1.365), $p = .002$), and to March (1.095 (95% CI, .244 to 1.946), $p = .014$); and from December to January (0.325 (95% CI, .129 to .521), $p = .002$), to February (0.683 (95% CI, .197 to 1.169), $p = .008$), and to March (0.925 (95% CI, .121 to 1.729), $p = .026$); but not from January to February (0.358 (95% CI, -.024 to .740), $p = .064$), and to March (0.600 (95% CI, -.128 to 1.327), $p = .102$); and from February to March (0.242 (95% CI, -.259 to .742), $p = .329$).

Table 12.*Pairwise Comparisons of BMI by Month*

(I) Month	(J) Month	Mean Difference			95% Confidence Interval for Difference	
		(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Nov	Dec	.170*	.079	.042	.006	.334
	Jan	.495*	.125	.001	.236	.754
	Feb	.853*	.248	.002	.341	1.365
	Mar	1.095*	.412	.014	.244	1.946
Dec	Jan	.325*	.095	.002	.129	.521
	Feb	.683*	.235	.008	.197	1.169
	Mar	.925*	.390	.026	.121	1.729
Jan	Feb	.358	.185	.065	-.024	.740
	Mar	.600	.352	.102	-.128	1.327
Feb	Mar	.242	.243	.329	-.259	.742

Note. *The mean difference is significant at the .05 level.

The most substantial decreases occurred in the initial months of the program, particularly from November to January. Although there were reductions in BMI in later months (January to March), these changes were not statistically significant. The findings suggest that combining the Body Pump program with healthy physiological behaviours, such as improved dietary habits and better sleep patterns, can effectively lower BMI over time. However, the most pronounced effects appear to occur early in the intervention, indicating that initial engagement and adherence to the program may be critical for achieving optimal results. The Body Pump Transformation program, in conjunction with positive dietary and sleep behaviour's, has a significant impact on reducing BMI.

The findings indicate that the Body Pump Transformation Program, combined with attention to physiological behaviour's like dietary habits and sleep patterns, effectively reduced BMI among participants over the course of the intervention. The significant reductions in BMI across the months, supported by the ANOVA results

and pairwise comparisons, highlight the program’s potential as a viable weight management strategy for adult women aged between 25-50 years.

Effect on Waist Circumference

The data in Table 13 illustrates a consistent trend toward reduced waist circumference over the duration of the program, highlighting its effectiveness in promoting abdominal fat loss.

Table 13.

Descriptive Statistics of Waist Circumference

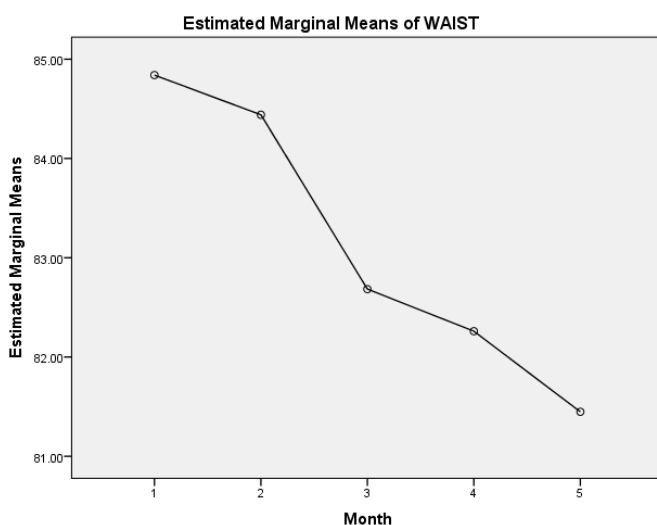
	Mean	Std. Deviation
*November Waist	84.84	8.245
December Waist	84.44	8.231
January Waist	82.68	8.104
February Waist	82.26	8.933
March Waist	81.45	9.896

Note. *Pre-intervention

These findings suggest that participants not only engaged in physical activity but also likely made dietary and lifestyle changes that contributed to these positive outcomes. The significant decrease in waist circumference over the intervention period indicates that the Body Pump Transformation program successfully addressed key aspects of weight management and body composition among the participants. Initially, in November, the mean waist Circumference was recorded at 84.84 cm, with a standard deviation of 8.245, indicating a diverse range of measurements among participants. This pre-intervention measurement serves as a baseline for assessing the effectiveness of the program. As the intervention progressed, there was a notable downward trend (Figure 6) in waist circumference.

Figure 6.

Profile Plots of Waist Circumference



By December, the mean waist circumference had decreased slightly to 84.44 cm, suggesting an early positive response to the program. The consistency in the standard deviation (8.231) indicates a stable group dynamic in terms of waist measurements during this initial phase.

Further reductions in waist circumference were observed in January, where the mean dropped to 82.68 cm, and continued to decrease to 82.26 cm in February. This progressive decline signifies the cumulative effect of the program's activities, which likely contributed to fat loss and improved body composition. The increase in standard deviation to 8.933 in February may suggest a wider variability in responses as participants adapted to the program differently.

By March, the mean waist circumference reached 81.45 cm, indicating a significant reduction from the initial measurement and demonstrating the program's effectiveness over time. The standard deviation increased further to 9.896, reflecting greater variability in waist measurements among participants. This may imply that

while some participants achieved substantial reductions in waist circumference, others experienced less dramatic changes, potentially due to individual differences in adherence, metabolism, or lifestyle factors.

A repeated measures ANOVA with a Greenhouse-Geisser correction, shown in Table 13, determined that the mean Body Mass Index differed statistically significantly between time points ($F(1.341, 32.175) = 9.754, p = .002$). This suggests that there are significant differences in waist circumference measurements across the months assessed. The Partial Eta Squared value of .289 indicates a medium to large effect size. This implies that approximately 29% of the variance in waist circumference can be attributed to the differences across the months, highlighting the practical significance of the findings. The tests for sphericity (Greenhouse-Geisser, Huynh-Feldt, and Lower-bound) provide adjusted degrees of freedom and F-values that confirm the robustness of the results despite potential violations of the sphericity assumption.

Table 14.

Tests of Within-Subjects Effects (Waist Circumference)

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Month	Sphericity Assumed	210.626	4	52.657	9.754	.000	.289
	Greenhouse-Geisser	210.626	1.341	157.110	9.754	.002	.289
	Huynh-Feldt	210.626	1.391	151.437	9.754	.002	.289
	Lower-bound	210.626	1.000	210.626	9.754	.005	.289
Error(month)	Sphericity Assumed	518.238	96	5.398			
	Greenhouse-Geisser	518.238	32.175	16.107			
	Huynh-Feldt	518.238	33.380	15.525			
	Lower-bound	518.238	24.000	21.593			

The fact that both Greenhouse-Geisser and Huynh-Feldt corrections yielded significant results (p-values of .002) reinforces the reliability of the findings.

The significant differences in waist circumference across different months suggest that there may be underlying factors influencing these measurements over time. This could relate to changes in lifestyle, dietary habits, or other health interventions that participants may have experienced during the study period.

Given that waist circumference is a critical indicator of health, particularly concerning obesity and metabolic syndrome, the findings underscore the importance of monitoring and addressing changes in this measurement over time for effective health management.

The significant impact of month on waist circumference opens avenues for further research to explore what specific interventions or lifestyle changes correlate with these measurements. It would be beneficial to investigate the nature of these changes—whether they are targeted health interventions, seasonal variations, or other external factors.

Table 15 presents the results of pairwise comparisons of waist circumference measurements across different months. The key focus is on the mean differences in waist circumference between each pair of months, their significance, and the associated confidence intervals.

Table 15.*Pairwise Comparisons of Waist Circumference by Month*

(I) Month	(J) Month	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Nov	Dec	.400*	.153	.015	.085	.715
	Jan	2.156*	.476	.000	1.173	3.139
	Feb	2.580*	.746	.002	1.041	4.119
	Mar	3.392*	.955	.002	1.421	5.363
Dec	Jan	1.756*	.479	.001	.768	2.744
	Feb	2.180*	.774	.010	.583	3.777
	Mar	2.992*	.982	.006	.966	5.018
Jan	Feb	.424	.416	.318	-.435	1.283
	Mar	1.236	.693	.087	-.195	2.667
Feb	Mar	.812*	.394	.050	-.001	1.625

Note. *The mean difference is significant at the .05 level.

Data Analysis

The detailed analysis of the data is as follows:

Significant Mean Differences

There was a statistically significant decrease in waist circumference from November to December, indicating that participants' waist measurements were smaller in December compared to November. November vs. December: Mean Difference: November measure minus December measure = 0.400; Significance: 0.015

This result shows a significant decrease in waist circumference from December to January, suggesting a substantial change in waist size during this period. December vs. January: Mean Difference: December measure minus January measure = 1.756; Significance: 0.001.

The difference is marginally significant, suggesting a potential decrease in waist circumference from February to March, warranting further investigation.

February vs. March: Mean Difference: February measure minus March measure = 0.812; Significance: 0.050.

Largest Mean Differences

The largest mean differences were observed between November and March (3.392) and December and March (2.992), both significant at the 0.002 and 0.006 levels, respectively. This indicates that the waist circumference decreased notably from both November and December to March.

Confidence Intervals

The month-to-month decrease suggests a trend of decreasing waist circumference over time, particularly notable from the end of the year into the start of the New Year. The confidence intervals for the significant mean differences do not include zero, reinforcing the reliability of these results. For example: The confidence interval for the November to December comparison ranges from 0.085 to 0.715, indicating that we can be confident that the true mean difference is positive.

Non-Significant Comparisons

The comparison between January and February yielded a non-significant result ($p = 0.318$), suggesting that waist circumference did not significantly change during this period. The comparison between January and March (mean difference of 1.236, $p = 0.087$) is close to significance, indicating that further research might be needed to clarify trends in waist circumference.

The overall trend suggests that waist circumference tends to decrease from November through March, with particularly significant decreases noted in January

(despite the possible effect of the holiday eating patterns) and February. This might reflect seasonal lifestyle changes, dietary habits, or other factors influencing weight and waist measurements.

Perceptions of Effectiveness

Participants perceive the Body Pump Transformation Program as an effective and empowering tool against weight gain. The program's holistic approach—integrating physical activity, diet, and sleep—resonates strongly with participants, addressing weight gain comprehensively. Many participants reported progress, with some losing significant weight (e.g., 5 kilos), while others noted improvements like fitting into clothes better. The effectiveness of the program is underscored by statements such as: “I joined the Body Pump Transformation Program because I was struggling with weight gain after having my second child. I wanted to regain my energy and confidence. I lost 5 kilos; my jeans can now fit better.”

Research published in Beamish (2024), has shown through pooled data analysis that exercise-only interventions reduce the severity of postpartum depression and anxiety. Importantly, the study shows that at least 80 weekly minutes of moderate-intensity exercise is needed to achieve positive effects. This reinforces the idea that exercise should be considered a vital component of postpartum mental health care. Additionally, Beamish (2024) did a systematic review and meta-analysis on the impact of postpartum exercise on pelvic floor disorders and diastasis recti abdominis. Pelvic floor muscle training effectively reduces the odds of urinary incontinence and pelvic organ prolapse during the first year postpartum, and abdominal muscle training can reduce inter-rectus distance at rest and during a head-lift task.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The chapter synthesizes the key findings of the study on the Body Pump Transformation Program, which has proven to be an effective intervention for promoting weight loss and fostering healthier lifestyle habits among adult women in Harare aged 25 to 53 years. The analysis reveals significant improvements in participants' weight and body composition, alongside enhanced dietary and sleep habits. The chapter draw conclusions and recommendations from the data collected.

Summary

Obesity among adult women in Harare, Zimbabwe, has reached alarming levels, with 27.9% of the population classified as obese. Contributing factors include sedentary lifestyles, poor dietary habits, and inadequate sleep. Conventional weight-loss approaches, which often focus solely on diet or exercise, have shown limited success in addressing this multifaceted issue.

To evaluate a more holistic intervention, this study examined the Body Pump Transformation Program, a 16-week program combining resistance training (Body Pump), nutrition counseling, and sleep education. The study aimed to measure average weight loss, assess participant adherence, examine the relationship between program implementation and weight loss, determine the program's effects on BMI and waist circumference, and explore participants' perceptions of the program.

The research employed a one-group pretest-posttest quasi-experimental design, targeting 25 women aged 25-53 in Harare with a BMI of 25 or greater, indicating overweight or obesity. The study employed a quantitative tool--the pre-post test tools to measure individual assessment of the progress made during the 16-weeks of intervention, a FGD was also used to gather perceptions of the program effectiveness. The intervention included Body Pump classes conducted 3–5 times per week, nutrition guidance focusing on a balanced diet, portion control, and hydration, and sleep education covering hygiene practices and stress management. Data collection involved monthly anthropometric measurements (weight, BMI, waist circumference), questionnaires assessing physical activity (IPAQ) –which is a standardized tool used to assess physical activity levels in individuals, often employed in research studies like the Body Pump Transformation Program to measure participants’ activity patterns.

To make sure that the research participants adhere to the program, the researcher conducted regular IPAQ check-ups, guided by questions that are incorporated into the research questionnaire. Diet (food frequency), Food frequency methodology was incorporated into the research through the use of a structured questionnaire designed to assess participants' dietary habits over a typical week. The questionnaire included seven targeted questions to capture the frequency of specific eating behaviors relevant to weight loss. Each question offered four response options—never, rarely, occasionally, and frequently—allowing the researcher to quantify how often participants engaged in certain dietary practices.

Sleep (PSQI), the sleep frequency methodology was implemented through a carefully designed questionnaire that captured the regularity of key sleep behaviors. This approach allowed the researcher to quantify sleep patterns, analyze their impact

on weight loss, and draw evidence-based conclusions about the role of sleep in the success of the weight loss program, and structured interviews for participants' feedback. The analysis included descriptive statistics, paired samples t-test, Spearman's correlation, repeated-measures ANOVA, and thematic analysis of responses from interviews.

Key findings revealed an average weight reduction of 2.90 kg, with a significant decrease in BMI from 30.24 (obese) to 29.15 (overweight). Participants demonstrated high adherence to the physical activity component, with a mean attendance of 4.28 out of 5 sessions per week, and strong compliance with dietary recommendations, particularly water intake and reduced processed food consumption. Sleep habits showed variability, with participants averaging 6–8 hours of sleep per night, though screen time before bed was a challenge. However, no significant relationship was found between adherence to the program components and the magnitude of weight loss. Participants provided positive feedback on the group motivation and structured workouts but cited time constraints and socio-economic factors as barriers.

The Body Pump Transformation Program effectively reduced weight and BMI, demonstrating its potential as a holistic intervention. High adherence to physical activity and diet components was achieved, though sleep habits showed variability. The lack of correlation between adherence and weight loss suggests that a consistent baseline effort may suffice for results. Limitations included a small sample size, lack of a control group, and self-reported dietary and sleep data. The study supports the implementation of integrated weight-loss programs combining exercise, nutrition, and sleep, and highlights the need for personalized approaches to address individual

barriers. It recommends the integration of similar programs into public health initiatives to combat obesity in Zimbabwe.

Conclusion

This study successfully demonstrated the efficacy of the 16-week Body Pump Transformation Program in facilitating significant weight loss and promoting healthier lifestyle changes among adult women in Harare, addressing a critical health issue within this demographic. The Body Pump Transformation Program has proven to be an effective intervention for weight loss and lifestyle improvement among adult women in Harare. The initial research question, concerning average weight loss, was answered with a finding of a 2.90 kg reduction, a clinically meaningful outcome accompanied by notable improvements in BMI and waist circumference. Participants transitioned from an obese to an overweight BMI classification, indicating a substantial positive shift in health status. In this regard, it is therefore imperative for women to constantly participate in weight loss activities to manage their weight, especially when they are between the ages of 25-53.

The program's impact was particularly pronounced in the initial months, highlighting the importance of early engagement and adherence. This addresses the second research question, regarding the extent of program implementation. Participants showed high adherence to physical activity components, with a mean engagement score of 4.28, and demonstrated strong dietary habits, scoring a mean of 4.24. Sleep patterns were also positively influenced, with a mean score of 4.30, though some variability was observed in breakfast habits and screen time before bed. From the findings it is now clear that individual sleep patterns are essential for weight management.

Contrary to expectations, and addressing the third research question, no significant correlation was found between adherence to the program's components and the magnitude of weight loss. This suggests that achieving a threshold level of adherence may be sufficient for positive outcomes, with other factors potentially influencing individual results. This finding underscores the complexity of weight loss and the need for individualized approaches. The lack of correlation between adherence and weight loss, along with identified challenges in accessibility and educational content, highlight the need for further refinement and personalization of the program to maximize its impact and ensure sustained positive outcomes. This therefore point to other factors which were not looked at during the research which include stress patterns and genes of individuals.

The research also found out that the combined intervention of the Body Pump program with dietary and sleep behavior modifications significantly improved BMI and waist circumference, particularly in the early stages. This emphasizes the holistic nature of the program and its effectiveness in driving physiological changes – leading to weight loss among participants.

The program led to a statistically significant decrease in BMI from a baseline mean of 30.24 (obese category) in November to 29.15 (approaching overweight category) by March ($F(1.362, 32.685) = 6.077, p = .012$). This indicates effective weight loss and improved body composition. The most substantial BMI reductions occurred early in the program, particularly from November to January (mean difference: 0.495, $p = .001$). Later reductions (January to March) were not statistically significant, suggesting that initial engagement and adherence are critical for optimal results. The consistent downward trend in BMI (from 30.24 to 29.15) reflects the combined impact of the structured exercise program and lifestyle changes, including

dietary modifications and better sleep patterns. The partial eta squared of 0.202 indicates a moderate effect size, with approximately 20% of BMI variance attributed to the intervention.

The combination of the Body Pump Transformation Program with improved dietary habits and sleep patterns effectively promotes weight loss and fat reduction. The structured exercise component, likely involving aerobic and resistance training, complements lifestyle changes to achieve meaningful health outcomes. Both BMI and waist circumference reductions were most significant in the initial months (November to January), emphasizing the importance of early adherence to the program for maximizing results. This may be due to heightened motivation or the establishment of new habits early in the intervention. The 16-week duration allowed participants sufficient time to adapt to the program and achieve sustained reductions in BMI and waist circumference, supporting the idea that longer interventions are more effective for weight management (Kumari et al., 2025). While the program was effective overall, the increasing standard deviation in waist circumference measurements suggests that some participants experienced greater reductions than others, possibly due to differences in adherence, metabolism, or external factors like seasonal lifestyle changes.

The research also found out that the Body Pump program was essential in addressing other psychological needs of participants. They reported enhanced self-confidence and a strong sense of community, which served as powerful motivators. However, they also identified challenges related to accessibility and expressed a desire for more comprehensive educational content, particularly in nutrition. It is therefore to factor in other factors when wanting to deal with weight loss among women.

Recommendations

Based on the findings of the study, the following recommendations are proposed to enhance the effectiveness of the Body Pump Transformation Program and address identified weaknesses:

1. To accommodate participants facing scheduling conflicts or childcare responsibilities, it is essential to introduce online classes or hybrid options that combine in-person and virtual elements. This flexibility allows individuals who may have difficulty attending traditional classes—due to work commitments, family obligations, or transportation issues—to still engage with the program. Leveraging technology can assist in reaching a broader audience, ensuring inclusivity and allowing more women to benefit from the program.
2. Providing flexible class timings, including additional evening and weekend sessions, is crucial for catering to diverse lifestyles. Many participants may have varying work hours or personal commitments, making it challenging to attend classes at fixed times. Offering a range of options encourages greater attendance and participation, thus enhancing the overall effectiveness of the program.
3. To empower participants to make informed dietary choices and sustain healthy eating habits, it is vital to incorporate nutrition workshops and practical cooking lessons into the program. These sessions can cover topics such as meal planning, label reading, and preparing balanced meals, equipping participants with the knowledge and skills necessary to maintain healthy diets beyond the program's duration.
4. Offering educational materials that emphasize the importance of proper exercise techniques, sleep hygiene, and stress management can significantly support participants' holistic well-being. These resources, which may include guides, videos, and handouts, help participants understand how these factors interconnect and influence their overall health, enabling them to make informed choices that extend beyond physical activity.
5. To address specific challenges participants may face when performing exercises such as chest presses or squats, offering small-group or one-on-one coaching can be highly beneficial. This personalized attention allows instructors to provide tailored feedback, ensuring that participants perform exercises safely and effectively while building confidence in their abilities.
6. Incorporating video demonstrations and real-time feedback during classes can enhance participants' understanding of proper form and technique. Visually illustrating exercises and providing immediate corrections helps participants avoid injuries and maximize the effectiveness of their workouts.
7. Emphasizing the significance of a nutrient-dense breakfast and providing practical meal prep ideas can help participants overcome time constraints that lead to meal skipping. Workshops focusing on quick and healthy breakfast options can

empower participants to start their day with nourishing foods, setting a positive tone for their dietary choices.

8. To gain a deeper understanding of weight loss outcomes and the various factors influencing them, it is important to investigate the role of unmeasured variables such as stress, hormonal influences, and genetic factors. Conducting further research in these areas can provide valuable insights that inform future program adaptations and participant support. Additionally, assessing the long-term sustainability of the program’s effects on weight management and overall health is crucial for understanding its lasting impact, guiding future iterations of the program.

RQ	Summary of findings	Recommendations
1	Participants experienced an average weight loss of 2.90 kg over the 16-week duration. This weight loss was accompanied by significant reductions in Body Mass Index (BMI) and waist circumference, with many transitioning from an obese to an overweight classification.	To accommodate participants facing scheduling conflicts or childcare responsibilities, it is essential to introduce online classes or hybrid options that combine in-person and virtual elements. This flexibility can help reach a broader audience and enhance program accessibility. Emphasize the importance of early engagement through motivational strategies that boost confidence from the start, potentially leading to greater weight loss results.
2	Participants demonstrated high adherence to physical activity components with a mean engagement score of 4.28. They also exhibited strong dietary habits with a mean score of 4.24, though variability in specific exercises and breakfast habits was noted.	To address challenges in exercise execution, provide small-group or one-on-one coaching that allows for tailored feedback, ensuring safe and effective performance. Implement nutrition workshops and practical cooking lessons to empower participants with knowledge about meal planning and healthy eating, addressing variability in dietary adherence.
3	No significant correlation was found between average weight loss and the implementation of physical activity, dietary habits, or sleep patterns, indicating that a threshold level of adherence is necessary but may not ensure proportional weight loss.	Conduct further research on factors like stress, hormonal influences, and genetics to understand their impact on weight loss outcomes. This could inform future adaptations of the program. Evaluate the long-term sustainability of the program’s effects on weight management and overall health to identify which components are most effective over time.
4	The most significant reductions in BMI and waist circumference occurred during the initial months of the program, suggesting that early adherence is crucial for optimal results. Participants perceived the program as effective and empowering, with reported improvements in self-confidence and community support. However, challenges related to accessibility and a desire for more educational content were noted.	Offer additional evening and weekend sessions to cater to varied lifestyles, encouraging greater attendance and participation during the critical early phase of the program. Develop educational resources that emphasize the importance of proper exercise techniques, sleep hygiene, and stress management, further supporting participants’ holistic well-being. Foster a sense of community by organizing group challenges and social events that enhance motivation and accountability among participants. Address participants’ requests for more educational content, particularly in nutrition, by providing guides,

RQ	Summary of findings	Recommendations
		videos, and interactive resources that help them make informed choices.

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APPENDICES

APPENDIX A

INFORMED CONSENT

You are invited to participate in a research study investigating the effectiveness of the Body Pump Transformation program for weight loss among adult women in Harare, Zimbabwe. This study aims to understand how the Body Pump program impacts weight loss in your age group. Your participation will contribute valuable information to improve future weight management strategies and exercise recommendations. In order to participate in the study, you will be asked to complete a brief questionnaire that has 29 items, that takes approximately 3 minutes. Your height and weight will be measured monthly to determine Body Mass Index (BMI) and track weight changes. You will complete questionnaires before and after the program, once each month. Additionally, photos will be taken during your sessions every month. Voluntary focus group discussions will be held every 3 months to gather your feedback on the program.

Participation:

Participation in this study is entirely voluntary.

Confidentiality:

- Your identity will be kept confidential. Questionnaires and this form are separate. You will not write your name on the questionnaire.
- Only the researchers and their advisors will have access to your data, which will be stored on a password-protected computer.

Withdrawal:

You have the right to withdraw from the study at any point without penalty.

Risks and Benefits:

- This study involves no known risks.
- Your participation will contribute to knowledge about the effectiveness of the Body Pump program for weight loss and overall health.

Questions and Concerns:

If you have any questions, please do not hesitate to ask the researcher.

Complaints:

- For any complaints about this research, please contact the Chair of the AUA Institutional Ethics Review Committee: **Email:** ethics@aua.ac.ke

Consent:

By signing below, you indicate your voluntary participation in this research study.

Signature

Date

APPENDIX B
QUESTIONNAIRE

Questionnaire for Body Pump Transformation Program

Date:

Instructions: Please answer the following questions honestly to the best of your ability. Your responses will be kept confidential and used for research purposes only.

Demographics:

Name:

Age:

Height:

Weight:

BMI $:(W/H^2) =$

BMI Category (For official use only)

Below 18.5 Underweight

18.5 to 24.9 Healthy weight

25 to 29.9 Overweight

30 or above Obese

Instruction:

Circle the number corresponding to the frequency with which you do the indicated activity.

1 – Never 2 – Rarely 3 – Sometimes 4 – Often 5 - Always

Physical Activity

This is any body movement that works your muscles and requires more energy than resting.

1	I attend body pump classes 5 times a week.	1	2	3	4	5
2	On average, my physical activity sessions last 30-45 minutes.	1	2	3	4	5
3	I perform squats repetitions while holding the dumbbells in my hands.	1	2	3	4	5
4	While lying on the floor to do chest press, I press the barbell from the chest to engage the pectoral muscles, shoulders, and triceps.	1	2	3	4	5
5	I follow the correct choreography and timing of the moves during a BODYATTACK class.	1	2	3	4	5
6	I maintain proper form and technique during high intensity exercises in GRIT.	1	2	3	4	5
7	I press the barbell overhead to promote upper body strength while standing or seated.	1	2	3	4	5
8	I complete the required repetitions of each workout activity.	1	2	3	4	5

Dietary Habits

1	I regularly eat heavy breakfast comprising whole grains (cereal/bread), low fat dairy, lean protein, and vegetables.	1	2	3	4	5
2	I eat moderate lunch consisting of lean protein, vegetables, and whole grains.	1	2	3	4	5
3	I eat lighter supper comprising easily digestible foods e.g. blended fruits, vegetables.	1	2	3	4	5
4	I eat supper 3 to 4 hours before bedtime.	1	2	3	4	5
5	I limit my intake of processed foods and sugary drinks (chips, processed meats, sugary cereals, fizzy drinks).	1	2	3	4	5
6	I drink plenty of water throughout the day (at least 2 litres of water).	1	2	3	4	5
7	I include fruits and vegetables in my daily diet.	1	2	3	4	5

Sleep Patterns

1	On average, I sleep 6 to 8 hours per night.	1	2	3	4	5
2	I am usually asleep between the period 10 pm to 2 am.	1	2	3	4	5
3	I avoid caffeine and alcohol intake to an hour before bedtime	1	2	3	4	5
4	I limit screen time (phone, television, tablet) to an hour before bedtime	1	2	3	4	5
5	I avoid napping, especially late in the afternoon	1	2	3	4	5
6	I go to bed and wake up at the same time every day, even on weekends	1	2	3	4	5
7	I avoid consuming large meals before bedtime	1	2	3	4	5

APPENDIX C

RELIABILITY ANALYSIS

Reliability (Physical Activity)

Reliability Statistics

Cronbach's Alpha	N of Items
.964	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I attend body pump classes 5 times a week.	12.24	57.773	.838	.963
On average, my physical activity sessions last 30-45 minutes.	11.60	52.583	.701	.971
I perform squats repetitions while holding the dumbbells in my hands.	11.92	51.243	.900	.957
While lying on the floor to do chest press, I press the barbell from the chest to engage the pectoral muscles, shoulders, and triceps.	12.00	52.583	.930	.956
I follow the correct choreography and timing of the moves during a BODYATTACK class.	12.00	50.333	.947	.954
I maintain proper form and technique during high intensity exercises in GRIT.	11.96	49.790	.959	.953
I press the barbell overhead to promote upper body strength while standing or seated.	12.04	51.623	.955	.954
I complete the required repetitions of each workout activity.	12.00	53.583	.762	.965

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.68	68.143	8.255	8

Reliability (Dietary Habits)**Reliability Statistics**

Cronbach's Alpha	N of Items
.622	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I regularly eat heavy breakfast comprising whole grains (cereal/bread), low fat dairy, lean protein, and vegetables.	17.76	12.523	.532	.527
I eat moderate lunch consisting of lean protein, vegetables, and whole grains.	17.72	15.627	.035	.672
I eat lighter supper comprising easily digestible foods e.g. blended fruits, vegetables.	18.08	12.660	.430	.554
I eat supper 3 to 4 hours before bedtime.	17.68	13.310	.253	.615
I limit my intake of processed foods and sugary drinks (chips, processed meats, sugary cereals, fizzy drinks).	17.68	11.727	.613	.494
I drink plenty of water throughout the day (at least 2 litres of water).	16.48	14.510	.152	.643
I include fruits and vegetables in my daily diet.	17.48	12.177	.424	.553

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
20.48	16.927	4.114	7

Reliability (Sleep Patterns)**Reliability Statistics**

Cronbach's Alpha	N of Items
.742	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
On average, I sleep 6 to 8 hours per night.	18.64	22.157	.454	.714
I am usually asleep between the period 10 pm to 2 am.	18.76	17.607	.767	.632
I avoid caffeine and alcohol intake to an hour before bedtime	18.16	20.973	.292	.758
I limit screen time (phone, television, tablet) to an hour before bedtime	19.84	22.557	.287	.746
I avoid napping, especially late in the afternoon	19.04	21.290	.393	.725
I go to bed and wake up at the same time every day, even on weekends	18.80	18.333	.592	.675
I avoid consuming large meals before bedtime	19.24	21.440	.492	.706

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.08	26.910	5.187	7

APPENDIX D

DATA

Registration Date	Height	Nov Weight	Nov BMI	Nov Waist	Dec Weigh	Dec BMI	Dec waist	Jan Weight	Jan BMI	Jan waist (cm)	Feb weight	Feb BMI	Feb waist	Mar Weight	Mar BMI	Mar Waist
28/11/2024 15:38	1.72	102	34.4781	96	102	34.4781	96	100	33.8021	95	94	31.7739	94	98	33.126	95
28/11/2024 00:16	1.5	74	32.8889	89	75	33.3333	88	73	32.4444	87	72	32	87	72	32	86
28/11/2024 17:00	1.56	60	24.6548	80	61	25.0657	80	60.7	24.9425	80	60	24.6548	79.4	60	24.6548	60
28/11/2024 17:00	1.62	86.5	32.9599	91	85	32.3884	90	84	32.0073	90	83.7	31.893	89	81	30.8642	89
29/11/2024 07:00	1.64	82	30.4878	90	82	30.4878	90	82	30.4878	89	81	30.116	88	79	29.3724	88.7
29/11/2024 07:30	1.75	108	35.2653	89	106	34.6122	88	103	33.6327	87	99	32.3265	87	85	27.7551	86.5
29/11/2024 08:22	1.65	70.2	25.7851	88	70	25.7117	88	70	25.7117	88	79	29.0174	86	86	31.5886	87
29/11/2024 09:24	1.68	71	25.1559	87	70	24.8016	87	69	24.4473	70	69	24.4473	85	68	24.093	69.7
29/11/2024 09:29	1.65	85.6	31.4417	88	83	30.4867	86	82	30.1194	83	81.8	30.0459	83	81	29.7521	83
29/11/2024 09:30	1.58	63.8	25.5568	82	63	25.2363	82	62	24.8358	63	60	24.0346	82	61.4	24.5954	62
29/11/2024 09:32	1.65	81	29.7521	81	80.8	29.6786	81	79	29.0174	80.8	76	27.9155	80	78	28.6501	78
29/11/2024 09:34	1.58	78	31.245	84	78	31.245	83	78	31.245	78	77	30.8444	77	74	29.6427	78
29/11/2024 09:37	1.53	65	27.7671	80	64	27.3399	80	64	27.3399	64	64	27.3399	64	62	26.4855	63
29/11/2024 09:40	1.81	78	23.8088	78	77.8	23.7477	79	77.1	23.5341	77.8	77	23.5036	77.1	76	23.1983	77.3
29/11/2024 09:41	1.7	62	21.4533	65	62	21.4533	64	62	21.4533	62	61	21.1073	61	61.2	21.1765	61
29/11/2024 09:42	1.67	147	52.709	99	147	52.709	98	144	51.6333	147	140	50.199	98	140	50.199	145
29/11/2024 09:42	1.08	60	51.4403	98	59.8	51.2689	98	58.1	49.8114	59.8	57	48.8683	60	57	48.8683	59
29/11/2024 09:47	1.65	75	27.5482	89	74	27.1809	87	72	26.4463	74	72	26.4463	74	72	26.4463	73
29/11/2024 09:48	1.65	69	25.3444	86	68.9	25.3076	85	67	24.6097	68.9	67	24.6097	67	66.1	24.2792	68
29/11/2024 09:54	1.61	92	35.4925	87	93	35.8782	88	94	36.264	93	93	35.8782	87	93	35.8782	92
29/11/2024 09:57	1.56	74	30.4076	90	74.2	30.4898	90	75	30.8185	74.2	74	30.4076	74	73.8	30.3254	74
29/11/2024 09:57	1.68	69.8	24.7307	80	67	23.7387	80	67	23.7387	67	66.3	23.4906	70	66	23.3844	66
29/11/2024 11:29	1.61	66	25.462	78	64	24.6904	68	65	25.0762	64	63	24.3046	63	62	23.9188	62
29/11/2024 11:38	1.67	77	27.6095	80	76.7	27.5019	80	76.1	27.2867	76.7	76	27.2509	76	72	25.8166	76
30/11/2024 08:00	1.67	63	22.5896	66	64	22.9481	65	64	22.9481	68	62	22.231	68	63	22.5896	66

APPENDIX E

VITA

Talent Melody Marange
Drivers licence class 4 (31949DK)
Mobile Number: +263775526624
Email:mupindat@gmail.com

Summary

Highly motivated and results-oriented professional with a Bachelor of Science in Food Science and Nutrition and extensive experience in project management, monitoring and evaluation, nutrition education, and community development. Proven ability to lead teams, manage projects, and deliver impactful results in diverse settings. Skilled in data analysis, report writing, and stakeholder engagement. Currently serving as Director at Glytime Foods PVT LTD, driving growth and operational excellence in retail and catering.

Education

- Solusi University, Zimbabwe
 - Bachelor of Science in Food Science and Nutrition (Upper Second Class Honours) | 2015

Professional Experience

- Glytime Foods PVT LTD, Harare, Zimbabwe
 - Director | January 2022 – Present
 - Lead the retail and catering department (“Glytime on the Go”), overseeing all aspects of operations.
 - Responsible for driving nutrition initiatives at production and retail side
 - Manages healthy event catering services, ensuring the provision of high-quality, ready-to-eat products from Glytime manufacturing
 - Direct the production of vegan products (vegetarian sausages, balls, and burgers), focusing on efficiency and quality control.
 - Oversee retail operations, strategic planning, financial management, and logistics.
 - Cultivate and maintain strong client and supplier relationships.
 - Lead a dedicated team and ensure the successful execution of numerous catering events.
 - Focus on optimizing departmental performance, enhancing customer satisfaction, and driving revenue growth.
- Adventist Development and Relief Agency (ADRA) Zimbabwe
 - Monitoring and Evaluation Officer | September 2019 – August 2021
 - Assisted with food distribution, community mobilization, and nutrition education.

- Conducted screenings, anthropometric measurements, and beneficiary registration.
- Managed e-voucher and in-kind food distribution logistics.
- Maintained clinic records, wrote reports, and analyzed data.
- Contributed to strategic planning for food and nutrition policy implementation.
- Project Officer | June 2018 – June 2019
- DEAF EDUCATION AND ECONOMIC PARTNERSHIP Program
- Mobilized, recruited, screened, and organized training for deaf participants.
- Facilitated access to education and O-level examinations.
- Organized financial literacy training for deaf entrepreneurs.
- Coordinated psychosocial support groups for families with deaf members.
- Arranged training in cooking nutritious meals with local ingredients.
- Project Assistant | January 2018 – March 2018
- Community Based Treatment For Malnutrition (CBTAM) Program
- Provided nutrition education at clinics.
- Screened children, pregnant/lactating mothers, and people on ART for malnutrition.
- Managed beneficiary database and produced daily reports.
- Coordinated with stakeholders at the district level.
- Attended nutrition-related trainings at clinic level.
- Project Team Leader | June 2016 – May 2017
- Emergency Recovery and Resilience for EL-NINO induced Drought Program
- Screened children under 5 for malnutrition and provided complementary feeding.
- Supervised borehole drilling and community training on sanitation and hygiene.
- Facilitated distribution of agricultural inputs and training in conservation agriculture.
- Assisted in forming Early Warning System Committees for drought preparedness.
- Project Assistant | January 2015 – March 2015
- Seasonal Targeted Assistance (STA) Program
- Implemented programs through community organization and mobilization.
- Facilitated beneficiary registration, selection, and training for distributions.
- Monitored program progress through field visits and ensured activity implementation.
- Produced weekly reports and networked with government/NGO officials.
- Assisted with monitoring and evaluation, conducting surveys, and data analysis.
- Coordinated meetings with local administration and partners.

- Oversaw food item distribution and monitored Food for Work activities.
- Compiled end-of-project reports.
- Assistant Field Officer (Volunteer) | September 2014 – November 2014
 - Health and Nutrition Programme
 - Assisted with food distribution, community mobilization, and nutrition education.
 - Conducted screenings, anthropometric measurements, and beneficiary registration.
 - Managed e-voucher and in-kind food distribution logistics.
 - Maintained clinic records, wrote reports, and analyzed data.
 - Contributed to strategic planning for food and nutrition policy implementation.
- Avenues Clinic, Harare, Zimbabwe
 - Special Diet Food Handler | January 2013 – August 2013
 - Planned and prepared special diets, including tube feeds for enteral nutrition.
 - Assisted with procurement orders and requisitions.

Skills

- Project Management
- Monitoring and Evaluation
- Data Analysis (SPSS)
- Nutrition Education
- Community Mobilization
- Team Leadership
- Negotiation
- Report Writing
- Microsoft Office Suite
- Internet Proficiency

Certificates

- Executive Certificate in Programme and Project Monitoring and Evaluation | April 2015
- Certificate in Sign Language | Sunrise Sign Language Academy | 2017

References

- Available upon request.