Components and Costs of Commercial Weight Loss Programs in Ghana

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ABSTRACT

Globally, commercial weight loss programs have played a significant role in helping obese/overweight individuals lose weight successfully. There is currently a dearth in knowledge about the types of commercial weight loss programs present in Ghana if any, and their various components. This study sought to identify existing commercial weight loss programs in Ghana and describe the components, and costs of these commercial weight loss programs. A qualitative cross-sectional study design was used to elicit information from key opinion formers of the identified commercial weight loss programs on program components and costs. Six commercial weight loss programs were found to be in active business. The possibility of increased numbers in the near future looks plausible. Programs had varying cost structure and a mix of lifestyle strategies (physical activity, reduced calorie diet and behavioural modification) giving consumers a wide range of program options to choose from based on financial strength and preferred weight loss approach. Weekly charges of these programs ranged from GHS 67.50 ($15) to GHS 396 ($90). At least one component each of behavioural and social support strategies which are important predictors of weight loss success were present in each of the programs. However, the success rates, efficacy, long term outcomes and safety of these programs remain to be investigated.

Key words: Commerce, weight loss, Ghana, lifestyle, behaviour strategies

Introduction

Obesity prevalence in Ghana has been increasing steadily over the years. The Ghana Demographic Health Survey reported a prevalence of 25% in 2003, 30% in 2008 and 40% in 2014 in women 15-49 years of age and that of men of the same age group was reported to be at 16% in 2014 (Ghana Statistical Service *et al.,* 2009, 2015; Ghana Statistical Service, Noguchi Memorial Institute for Medical Research, & ORC Macro, 2004). Obesity has been known to be associated with chronic conditions such as type 2 Diabetes, Hypertension, High Blood Cholesterol, various Cancers, Gout and others. In Ghana, the rising prevalence of obesity is associated with a rising trend in the prevalence of chronic conditions such as Hypertension, type 2 Diabetes, Hyperlipidemia (Bosu, 2013).

Awareness of the health consequences of obesity has led to an increase in weight loss services in Ghana. A study by Ayisi Addo *et al.* (2016) on weight loss practices of newly enrolling clients in a commercial weight loss program revealed that about 66% of enrolees had participated in some kind of weight loss program prior to enrolment.

Globally, commercial weight loss programs have played a significant role in helping obese/overweight individuals lose weight successfully. Several studies have confirmed the efficacy/effectiveness of such programs and how several components within these programs make them effective in the fight against obesity (Finley *et al.*, 2007; Lloyd & Khan, 2011; Martin *et al.*, 2010; Meffert & Gerdes, 2010). These programs also partner the hospital/clinic based weight loss programs in the fight against obesity and offer the opportunity for large

scale delivery of weight loss services while providing a more comfortable environment for obese individuals who choose to lose weight on their own volition solely for cosmetic reasons and not because of the presence of obesity co-morbidities (Calderon-Larranaga *et al.,* 2015; Jebb *et al.,* 2011).

There is currently a dearth in knowledge of the types of commercial weight loss programs present in Ghana if any, and their various components. The objectives of this study were to identify the types of commercial weight loss program in Ghana and to describe the components, and costs of these commercial weight loss programs.

Knowledge of the types and components of commercial weight loss program will provide a solid foundation that will inform the kind of research and collaboration that can emerge from these weight loss institutions in the future. Weight loss research in both commercial and hospital/clinic based weight loss programs is needed to advance Ghana's progress in understanding the factors (cultural and non-cultural) associated with effective weight management. Further, knowledge about the components and costs of these programs will provide some baseline information that will help consumers and health professionals make informed decisions about these programs.

Methods

Weight loss program search strategy and identification

A list of 13 commercial weight loss programs was generated through internet search (Google, Facebook, and Science-direct), and interviews with dieticians and nutritionists, weight loss experts, as well as previous participants of weight loss programs. Selection of dieticians, nutritionists, weight loss experts, as well as previous participants of weight loss programs were done purposively based on their perceived knowledge of available weight loss programs in Ghana.

Key opinion formers of the identified programs were contacted via telephone for an appointment to administer the study questionnaire. Four of the thirteen identified commercial weight loss programs were not available for interview and three no longer existed. The remaining six commercial weight loss programs out of the list of thirteen were examined in this study.

Study design and instrumentation

This was a qualitative cross-sectional study. A pre-tested semi-structured rapid survey interview guide with a mix of open and closed ended questions was used to elicit information from key opinion formers (various heads and/or product distributors of the identified weight loss institutions) on program components and costs. Consent forms were administered by the research official at the various weight loss institutions prior to interview.

Exclusion criteria

Hospital/clinic based weight loss programs, fitness centre based weight loss programs, wellness and medication/herbal type programs were excluded in the search.

Ethics

The procedures followed were in accordance with the Helsinki Declaration of 1975 as revised in 1983. To confirm voluntary participation in the rapid survey, informed consent was sought from each key opinion former of the identified weight loss institution through the endorsement of a consent document that explained the study procedure and intent.

Analysis of data

The small sample size did not allow for statistical analysis. The responses of participants were summarised and categorised through an inductive content analysis process to answer the objectives of the study. Data triangulation was performed to integrate the various responses received on each question in the case of institutions that provided more than one key opinion former.

Results

Table 1 reveals two main categories (product based versus service based) of weight loss programs. Programs A-D belonged to the product based category and programs E and F were service based. Product based programs required that participants buy a prescribed set of pre-packed products with guidelines on usage in order to achieve weight loss goals. Service based programs specialised in providing service either solely in dietary advice and meal planning or fitness and work out sessions with dietary advice and complemented these with optional meal replacement products. Generally, all the programs recommended reduced calorie dietary plans but these varied in macro nutrient contribution and the extent of calorie reduction (Table 1).

Table 2 describes the duration of operation of the various commercial weight loss programs identified and the types and content of data available to these programs. The data common to the product based programs were name, contact information, type of product purchased, the amount of product purchased and the date of purchase. That common to the service based programs were name, contact information, demographic data, baseline anthropometric data, health history, medication used, and weight goal. All six programs surveyed had some form of electronic data. Of these, two backed up participant electronic data with hard copy versions as well (Table 2). The weight loss program that had been in operation for the least number of years was program D (3 years old) and the longest in operation was Program C (> 20 years) (Table 2).

Table 3 describes the components and costs of the various commercial weight loss programs identified. Only 2 out of the six surveyed programs required participants to attend sessions. Four out of the six programs recommended the use of meal replacement products (pre-packed or self-made). Physical activity was at least encouraged at some point in all the six programs. At least one component each of behavioural and social support strategies were endorsed by each of the programs. The programs had different cost structure namely 10-day, three week, one month, and two month charge formats. Weekly charges of these programs ranged from GHS 67.50 ($15) to GHS 396 ($90) (Table 3).

Discussion

The objectives of the study were to identify the types of commercial weight loss programs in Ghana and describe the components, and costs of these programs.

Types of Commercial Weight Loss Programs in Ghana

Commercial weight loss programs have significantly contributed to the global fight against obesity and partner primary care setting type of weight loss programs (Wee, 2015). Systematic reviews of randomised control trials of these programs have confirmed their efficacy and effectiveness (Jebb *et al.*, 2011; Lloyd & Khan, 2011; Martin *et al.*, 2010; Meffert & Gerdes, 2010). Commercial weight loss programs are therefore important tools for weight management. Effective weight management can contribute to reduced obesity related morbidities, health care costs and improved economic and overall national development. There is limited literature in Ghana that investigates the types of weight loss programs available. In this study six commercial weight loss programs were found to be in active business, helping to fight the obesity menace, aside work done by clinic/hospital based weight loss programs towards the same objective. The size of each commercial weight loss program was not ascertained in this study. Assessment of the size of each program would have helped in making an objective analysis of the total proportion of overweight/obese individuals being served by these institutions. This was a limitation of the study, however, judging from the mere numbers of programs identified and the fact that the obesity prevalence for Ghana keeps going up with each successive national survey (Ghana Statistical Service *et al.*, 2009, 2015; Ghana Statistical Service, Noguchi Memorial Institute for Medical Research, & ORC Macro, 2004), it goes without saying that more commercial weight loss programs will be needed to help effectively manage the rising obesity prevalence in the country.

Components and Costs of Commercial Weight Loss Programs in Ghana

The differences in program description and costs provide the consumer with a wide range of options to choose from based on financial strength as well as preferred program style. In-spite of the differences in program description, a reduced calorie diet was a major component of all the programs. All the identified programs recognised the role of a reduced calorie dietary intake in weight loss. Reduced calorie diets are generally accepted and recommended world-wide for weight loss (Expert Panel on the Identification, Evaluation, and Treatment of Overweight in Adults, 1998; Position of the American Dietetic Association: weight management, 1997; Wing & Jeffery, 2001). The extent of reduction in calories per day per person however needs to be managed professionally to allow for adequate nourishment and reduction in possible health risks while on a weight loss program.

Meal replacement products were endorsed by four out of six programs. Meal replacement products improve compliance with diet plan when on a weight loss program (Wing & Jeffery, 2001). Three of the programs offered high fibre or high protein snack bars which are considered useful products for weight loss due to the added benefit of improved satiety derived from diets high in fibre or protein (Layman *et. al.,* 2003; Te Morenga *et al.*, 2011). Physical activity was at least encouraged at some point in all the programs while behavioural strategies were dominant in all the programs. Health professionals recommend diet, physical activity and behaviour modification as the first line of treatment in obesity programs (National Institutes of Health, 1998).

Studies on success rate, efficacy, effectiveness, long-term outcomes and safety of the different programs however need to be carried out to enable the public and health professionals make informed and objective decisions on which programs to patronise or recommend. Health insurers and employers may also benefit from such studies by selectively offering benefits coverage or reduced program fees for commercial programs with proven efficacy, effectiveness, long-term outcomes and safety. A systematic review of the efficacy of commercial weight loss programs in the United States of America showed that Weight Watchers, Jenny Craig and Nutrisystem dominated the weight loss market and were the most efficacious programs compared to either control or behavioural counselling or both. Two of these programs (Jenny Craig and Weight Watchers) used low calorie diets (LCDs) in executing their programs while the other (Nutrisystem) used a very low calorie diets (VLCDs). Although program harms could not be evaluated due to limited evidence, the authors of this review article reported that VLCDs had the potential of increasing health risks such as gallstones and need to be medically supervised for safety to be ensured (Gudzune *et al.*, 2015). Johansson and colleagues (Johansson *et al.,* 2014) investigated the risk of gall stones in participants using either VLCD or LCD in the first three months of a one year commercial weight loss program. Results of this study showed that participants using the VLCDS had approximately three times higher risk for gallstones compared to those using LCDs.

Most of the programs studied (except for two programs) had been in operation for less than 10 years. This suggests that the rise in commercial weight loss services in Ghana is a recent happening and may be a herald of many more of such programs in the near future. All programs had electronic data however the common information available was participant name, contact information and product sales data. Two of the programs had information on participant baseline anthropometric and demographic data while only one had data on follow-up as well as end-line anthropometric data. Baseline and end-line participant data are important for the weight loss business as these allow for internal research as well as collaborative research among the different weight loss institutions. Research is the way forward for program improvement, strategic actions, and success in the national fight against obesity. Elsewhere, research on commercial weight loss programs has helped in identifying some predictors of attrition and weight loss success, effects of weight loss on certain health parameters and other useful weight management learnings (Ayisi-Addo *et al.*, 2016; Dixon *et al.*, 2012; Finley *et al.*, 2007; Martin *et al.*, 2010; Meffert & Gerdes, 2010).

To the best of our knowledge, this is the first reported study in Ghana investigating the components and costs of commercial weight loss programs. Future studies could investigate the success rate, efficacy, effectiveness, safety and long term outcomes of commercial weight loss programs in Ghana.

Conclusions

Commercial weight loss programs constitute a major partner in the fight against obesity. There are however very few of these programs currently in active business in Ghana, with a very high likelihood of increased numbers in the near future. Programs endorsed reduced calorie diets, had varying cost structure and used a mix of lifestyle strategies (physical activity, reduced calorie diet and behavioural modification). The use of meal replacement products and high fibre snacks by these programs were supported by literature as a means of improving dietary compliance and satiety, respectively. Weekly charges of these programs ranged from GHS 67.50 ($15) to GHS 396 ($90). At least one component each of behavioural and social support strategies which are important predictors of weight loss success were present in each of the programs. However the success rate, efficacy, effectiveness, safety and long term outcomes of these programs remain to be investigated.

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Conflict of Interest

None declared.

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Table 1: Commercial weight loss program description

Program	Category	Description
A	Product based	Prescribes 220 kcal meal replacement shake to be taken two times per day with two 100 kcal protein snack bars. Participant is required to add one additional self- made healthy meal (low in sugars and oils) to complement shake and snack bars. Program aims at achieving 3 to 5 kg loss per month. During maintenance of lost weight, meal replacement shake is taken once per day and complemented with self-made healthy meals.
B	Product based	Program prescribes a reset phase to help kick start healthy habits. This kick start phase is a 9-day cleansing program that helps the body eliminate water soluble toxins. Program prescribes different combinations of protein powder shake, garcinia plus soft gels, forever therm tablet, aloe vera gel, low calorie self-made meals, water, together with appropriate exercises, during the kick start phase as well as the Fit weight loss phase (F15) of the program.
C	Product based	Recommends that its participants take maple syrup, cayenne pepper and lemon juice mix for an average period of 10 days. The diet provides a reduced amount of calories per day that allows weight loss. The program providers also promote this diet as one that helps the body get rid of toxins. Exercise is prohibited during the weight loss phase. Exercise and low fat diet are recommended during maintenance phase.
D	Product based	Program prescribes the use of a dietary supplement to aid in the weight loss process and high fibre snacks to help manage hunger pangs. Active water drinking is encouraged throughout the day. Self-weighing is recommended once fortnightly.

Table 2: Years of operation and available participant data for the various commercial weight loss programs

Program	Category	Description
E	Service based	A diet based program that uses low calorie structured and personalised meal plans to assist overweight/obese individuals lose weight. Meal replacement products (shake) are recommended although not a requirement. Emphasis is on compliance to meal plans that allow a daily calorie intake usually ranging between 1200 to 1700 calories based on participant's energy needs. Participants review weekly at the centre. An average loss of 0.5 kg to 1 kg per week is achieved with this program. A personalised maintenance program which ensures that the right portions and mix of foods that would allow for maintenance of lost weight is available to interested parties.
F	Service based	An 8 week long boot camp weight loss session available five times in a year. It comprises of a 5 km walk/jog as warm up and mat exercise session done 4 times per week. A session lasts one and a half hours. Each week has its unique nutrition challenge and successive weeks add on previous week's nutrition challenge, thus the 8th week will have a cumulative nutrition challenge comprising of nutrition challenges from week 1 to week 8. An example of a nutrition challenge practiced is the water challenge where each participant learns to drink water actively throughout the day, making water a substitute snack. Green smoothies for breakfast are a major part of the program. Participants are given a generic meal plan that recommends healthy eating (whole grain, fruits, vegetables, less oil) with recommended portion sizes.

Program	Years of operation	Participant data type available	Content of participant data
A	6	Electronic sales data Hard copy of anthropometric data	Name, contact information, product purchased, amount and date of purchase, baseline anthropometric data
B	13	Electronic sales data	Name, contact information, product purchased, amount and date of purchase
C	>20	Electronic sales data	Product purchased, amount and date of purchase
D	3	Electronic sales data	Name, contact information product purchased, amount and date of purchase
E	9	Hard and electronic participant data	Name, contact information, demographic data, baseline anthropometric data, health history, medications used, weight goal, pre-program diet recall, follow-up and end program anthropometric data
F	4	Hard and electronic versions of completed participant application form	Name, contact information, demographic data, baseline anthropometric data, injuries, health history, medications used, weight goal

Table 3: Components and costs of commercial weight loss programs in Ghana

Program	*Attend sessions	Nutrition offered	Physical activity	Behaviour strategies	Support	Costs (GHS-Cedis)
A	No	▪ Meal replacement ▪ Fibre supplement ▪ cell activator ▪ Tea ▪ Low calorie conventional meals	Encouraged	▪ Self monitoring ▪ Goal setting ▪ Problem solving	▪ Nutrition clubs ▪ Shake and tea parties	584 per month (Translates to 146 per week)
B	No	▪ Meal replacement ▪ Fibre supplement ▪ Therm tablet, Garcinia plus ▪ Aloe vera gel ▪ low calorie conventional meal	Required	▪ Self monitoring ▪ Goal setting ▪ Problem solving	▪ Telephone support ▪ An app for social support and exercises	525 .04 for 9 day program plus 661.67 for 2 week program. Translates to 396 per week

*Participants required to attend a defined number of sessions