

# Impact of Integrative Nutrition Health Coaching in Weight Management Programs: A Case Report

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## Abstract

**Background:** Integrative nutrition has been defined as providing a combination of medical nutrition therapy including a personalized investigation on the root cause of chronic diseases due to poor lifestyle. It has been evident that integrative nutrition has a strong impact in weight management. **Case Report:** 5 case reports were investigated in the current study where we reported 5 cases of participants that have completed a 6-month duration of a telenutrition weight loss program, supported with weekly telemonitoring and monthly telehealth coaching following an integrative nutrition approach. All participants have significantly lost weight through a 6-month period. Additionally, each participant has worked on specific aspect in their lifestyle following the circle of life components to overcome struggles in following their diets and support weight management. All 5 participants had a significant negative correlation between weight and having fun, home cooking, spirituality, sports, and their jobs, which means that being satisfied with the mentioned (CoL) measures, lower values of the weight and increase steps. Thus, future research must carry similar interventions with long term durations and evaluate the most common aspect of life associated with obesity.

## Keywords

Integrative Nutrition, Telehealth Coaching, Telemonitoring, Telenutrition, Weight Management

## 1. Introduction

Obesity is considered one of the major global burdens affecting both developing

and developed countries [1]. Several risk factors were identified in the literature which includes, poor dietary habits, physical inactivity, and poor lifestyle. Despite the efficacy of dietary interventions for weight loss, still patients struggle to follow a specific diet for a long-term duration, where it is required for patients to follow a minimum of 6 months period of interventions to lose weight and improve eating habits and lifestyles [2]. Patients are more likely to dropout from interventions due to loss of motivation and other life related risk factors [3]. Therefore, it is essential to explore different strategies to support the population in weight loss programs. One of the evident strategies that may be applied with dietetic consultation is motivational interviewing, to support patients in changing their unhealthy behaviors [4]. Yet, motivation alone is not sufficient to cause a sustainable change in habits and lifestyles, where there are several aspects in life that must be considered. A new approach has been introduced to health care services, called “Integrative Nutrition” or so called “Integrative and Functional Medicine Nutrition Therapy (IFMNT)”. Integrative nutrition has been defined as providing a combination of medical nutrition therapy including a personalized investigation on the root cause of weight gain and poor lifestyle. It includes psychological, physiological, and environmental factors that may influence health and wellbeing [5]. Targeting the circle of life (CoL) components has been described by Joshua Rosenthal [6] and evident to play a major role in improving quality of life and support weight loss. The literature has also demonstrated that telehealth and telehealth coaching is effective for weight loss and found significant reductions in body weight, alongside improvements in metabolic markers such as cholesterol and glucose levels [7]. Additionally, obese patients who participated in weekly telemedicine sessions with video-conference health coaching achieved significant reductions in body weight and maintained those reductions over time, echoing the weight loss observed in this study [8]. Another study has reported that telemedical coaching for weight loss resulted in significant weight reduction among employees [9]. This indicates that telehealth coaching, can be used as a mode of intervention to support employees and/or individuals with obesity. These studies, suggest that telehealth coaching when implemented in an integrative nutrition approach or so called “holistic” approach may be particularly effective in promoting behavioral changes that supports weight management. According to The Weight Care Project that surveyed 382 primary care and community health professionals in Northern Ireland and the Republic of Ireland to explore obesity-related communication challenges, results have revealed that 86% recognized their role in providing obesity advice, while 81% found communication complex and challenging. Including 27% that struggled to address obesity sensitively. Professionals primarily used verbal communication and written materials, noting that building trust with patients was a major benefit and main barriers included is the limited consultation time and insufficient resources [10].

The current manuscript has analyzed successful weight loss cases and explored the role of an integrative nutrition model via telehealth for overweight and obese

patients that completed a 6months Integrative Telenutrition Weight Loss Program. Data collected will firstly demonstrate the general characteristics of each case, which includes health measures such as Wt (kg), Ht (cm), BMI (kg/m<sup>2</sup>), Fat (%), Muscle (%), Visceral fat (g) indicating class of obesity. In addition, we will present how weight and circle of life satisfaction rates have changed before and after the weight loss intervention. Thus, Correlation between health measures and CoL satisfaction rates will be analyzed to prove how our “Integrative Nutrition Model” was effective in improving the quality of life to support weight loss among the 5 participants.

## 2. Materials and Methods

### 2.1. Integrative Nutrition Health Coaching

*Integrative Nutrition Health Coaching* is a strategy that was implemented in a Telenutrition Weight Loss Program. The protocol has been published previously with detailed information on the study design [11]. Inclusion criteria were obese and/or overweight female and male adults, who aged between 20 - 50 years with no chronic illness. Exclusion criteria included those that have been admitted to weight loss programs in the past 6 months and those that are not familiar with using online applications, where the whole intervention was carried remotely. In addition to those that Participants who joined the program received a hypocaloric tailored dietary intervention provided by a registered dietitian RD at the beginning of the program. Followed by 6 integrative nutrition telehealth coaching sessions tackling the Circle of Life (CoL) components, following the Institute for Integrative Nutrition, which focusses on 12 circle of life components, which include spirituality, creativity, finances, career, education, health, physical activity, home cooking, home environment, relationships, social life, and joy [6]. Integrative Nutrition Health Coaching always starts with a health history to identify factors associated with each case. Then each participant was provided with a session to set their goals accordingly and then follow up sessions takes place in each month for a total 6-month duration. Noting that all participants in this study have followed to comprehensive health guidance by assigned health coaches. Sessions took 45 min and was delivered via zoom platform. For health coaches to actively follow up with patients, we also integrated a weekly telemonitoring strategy to check on weight and (CoL) satisfaction rates for the whole 6 months. Satisfaction rates were expressed in three different levels (not satisfied, slightly satisfied, satisfied) via text messages. The program was approved by the Research Ethics Committee (REC) at the Unit of Biomedical Ethics, Faculty of Medicine at King Abdul-Aziz University (approval number HA-02-j-008). Primary outcomes of weight loss on all participants have been presented and published previously in the Clinical Nutrition ESPEN congress in Milan, 2024 [12].

### 2.2. Statistical Analysis

Statistical Analysis was done using IBM SPSS v26, applying the following tests.

Descriptive statistics were used to give an overall descriptive summary for the whole sample or a segment of it, using mean, SD and frequency distribution. Correlation analysis Pearson's  $r$  was used to assess the linear relationship between any two variables. Noting that all tests were conducted under 0.05 level of significance.

### 3. Results

#### 3.1. General Characteristics of the Cases

**Table 1** shows that the 5 cases included 3 males and 2 females, with ages being in the range 23 - 49. The range of other body measurements for them was: 87.7 - 129.7 kg for Wt; 158 - 182 cm for Ht; 33.4 - 40 kg/m<sup>2</sup> for BMI; 36.9 - 56.5 for fat %; 18.6 - 30.2 for muscle %; 8 - 21 g for visceral fat.

**Table 1.** General characteristics of the cases.

Variable	Participant#				
	1	2	3	4	5
Age	49	23	27	36	34
Gender	Female	Male	Female	Male	Male
Wt (kg)	98.5	112.4	87.7	111.5	129.7
Ht (cm)	158	182	162	175	177
BMI (kg/m <sup>2</sup> )	39.5	34.5	33.4	36.4	40
Fat (%)	56.5	36.9	50.7	41.1	40.4
Muscle (%)	18.6	30.2	21.2	27	27.5
Visceral fat (g)	13	15	8	19	21

#### 3.2. Circle of Life Satisfaction Rates

According to the information provided in **Table 2**, we may give the following summary:

- Participant #1: had a constant satisfaction rate in most of the CoL variables. However, in 2 variables (creativity and education) it can be noticed that satisfaction is relatively less in the middle weeks.
- Participant #2: had constant satisfaction rates in most of the CoL variables, while probably relative improvement seen in health. Noting that this participant has no data in the last period, and this could make our decision regarding his/her satisfaction change not solid.
- Participant #3: had Enhancement for most of the variables, while a constant satisfaction was seen can be seen in social life and spirituality.
- Participant #4: had enhancement in satisfaction rates for most of the CoL variables, while we may notice constant satisfaction rates in health but less satisfaction rates in no sport and home cooking.
- Participant #5: had a constant satisfaction rate in most of the CoL variables,

while relative enhancement in satisfaction can be seen in health and sport. Note that this participant has no data in the last period, and this could make our decision regarding his/her satisfaction change not solid.

**Table 2.** Circle of life satisfaction rates pre and post the intervention.

#	CoL	Pre intervention			Post intervention		
		Not satisfied	Slightly satisfied	Satisfied	Not satisfied	Slightly satisfied	Satisfied
1	Health			x			x
2				x			x
3				x			x
4				x			x
5				x			x
1	Sport		x				x
2				x			x
3				x			x
4				x		x	
5				x		x	
1	Cooking	x					x
2				x			x
3				x			x
4				x		x	
5				x			x
1	Home			x			x
2				x			x
3				x			x
4				x			x
5				x			x
1	Relationship			x			x
2				x			x
3				x			x
4				x			x
5				x			x
1	Social life			x			x
2				x			x
3				x			x

**Continued**

4			x	x
5			x	x
1			x	x
2			x	x
3	Fun		x	x
4		x		x
5			x	x
1			x	x
2			x	x
3	Spirit		x	x
4		x		x
5			x	x
1			x	x
2			x	x
3	Creativity		x	x
4		x		x
5			x	x
1			x	x
2			x	x
4	Money		x	x
5			x	x
1			x	x
2			x	x
3	Job		x	x
4		x		x
5			x	x
1			x	x
2			x	x
3	Education		x	x
4		x		x
5			x	x

**3.3. Health Measurements**

According to **Table 3**, weight shows decreasing trends for all the five participants. A range of 87.7 - 129.7 kg for Wt before intervention and decreased to a range of 77 - 117.35 kg for Wt post intervention.

**Table 3.** Health measurements pre and post intervention.

Participant	Weight (kg)		Difference in weight
	Pre intervention	Post intervention	
1	94.8	91.00	3.8
2	112.4	104.00	8.4
3	87.7	77.00	10.7
4	111.5	102.00	9.5
5	129.7	117.35	12.35
M (SD)	107.22 (16.4)	98.27 (15.13)	8.95 (3.23)

M: mean; SD: standard deviation.

### 3.4. The Association between Body Measurements and CoL-Variables in Each Case

According to **Table 4**, all participants had a significant negative correlation can be seen between weight vs. fun/home cooking/spirit/sports/job: this means that being satisfied with the mentioned CoL variables is associated with lower values of the weight and increase steps.

**Table 4.** The correlation between health measures and CoL-variables.

Participant	CoL satisfaction rate	Its Correlation with: Weight
Overall	Cooking	-0.165
	Creativity	-0.113
	Education	0.007
	Fun	-0.296*
	Health	-0.061
	Home	0.015
	Job	-0.329
	Money	-0.358*
	Relationships	-0.392*
	Social Life	-0.497
	Spirit	-0.677**
Sports	-0.308*	

\*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001.

## 4. Discussion

Through the coaching journey with participant 1, the main areas of life that needed improvement were spirituality [13] [14] and joy [15]. Participant was under a lot of stress when it came to work and home as well, which affected overall

motivation and led to emotional consumption and craving of simple sugar snacks. To support participant weight loss journey, the coaching strategy focused on providing participant with the tools and tactics to deal with stress, and to introduce joy to participant's life. To cope with stress, participant was introduced to breathing techniques and mindset shifting tools such as journaling and exploring simple new experiences that suit the participant. It was challenging, but through the health coaching sessions and recommendations, participant succeeded gradually in transforming the mindset, which resulted in less cravings over time. This, together with introducing daily cardio segments supported losing weight while improving the quality of life and wellbeing.

Through coaching participant 2, it was evident that the main aspect that contributed to his weight gain is his eating customs [16] and habits [17] as an active member of his society. The participant comes from a tribal background, where feasts of rice & meat rich with trans fats were more than just a meal. They were societal conventions where the whole tribe gathered, and the head of tribe considers it offensive when a plate is not full. While this tradition affects health negatively when it comes to food, it also has societal benefits. To tackle factors associated with the participants and reach his health goals, the strategy was to minimize participation in these key events to once a week, and control quantity of intake. This was achieved by introducing mindful slow eating on occasion to decrease quantity and to keep his plate with food for the tribe head. In addition, it was advised to learn cooking, which is not a typical behavior for tribal men. He has succeeded and has enjoyed introducing home cooking [18] to his life and has also introduced strength training to his walking routine. Through this tailored strategy of retaining societal value, controlling food intake, introducing home cooking and strength training, participants have succeeded in losing weight of gradually in a healthy way without deteriorating his quality of life.

Participant 3 was unsatisfied with the area of social life [19] & relationships [20] in her life. This dissatisfaction resulted in obsession and was linked to her complaints of intestinal bloating in theory. As observed from the participant, this discomfort has been chronic. Simple remedies of physical activity, apple cider vinegar, and light massage were recommended to ease the discomfort, with a tailored strategy to address the root cause. As a coaching strategy, instead of seeking validation from external parties, participant was encouraged to start with internal awareness. The participant has explored different methods to reach satisfaction independently before building her own tribe through shifting mindset and learning acceptance and value of solitary seasons. These methods together with clean eating, and establishing a workout routine that works for her, supported her in weight, reducing her gastric discomfort and in improving the overall quality of her life.

Through the journey of coaching participant 4, the area of life that required focus was Work [21] [22], and has led through the sessions to tackle the area of creativity [23]. Participant 4 is successful at his job, but his perfectionism caused

him frustration with his colleagues and affected his work-life balance. To tackle his dissatisfaction, the coaching strategy was for the participant to re-kindle one of his old passions as a creative release, which is writing. Through the coaching sessions, it was discovered that writing was a hobby for the participant that he hasn't explored for a long time due to his home and work responsibilities. Through exploring with this recommendation, the participant was able to reach informed discoveries regarding both his home absence and his work obsession. He started to accept imperfection at work and have embraced it as a room for improvement. He also succeeded in learning and practicing the art of delegation, which helped him in giving his home more time, and improved his capabilities as leader in his job. The changes that Participant 4 has made, supported in his weight loss journey. Through work modifications, physical activity, and enriching the area of creativity, he was able to lose weight while improving his work-life balance.

The case of participant 5 is a common and challenging case. He has a tough and inflexible working schedule. His shifts are 8 am to 3 pm then 9 pm to 2 am, which does not allow him to get the ideal night sleep. It also created a challenge in scheduling a full working out session without compromising his sleep. In addition to how his working schedule affected his sleep [24] and physical activity [25], it has affected his morale and sense of purpose negatively. As a coaching strategy, the primary focus was to find a solution to inject physical activity as an integral part of his lifestyle. Like his schedule, his workout plan was also based on shifts through 20 mins intervals that he was doing as part of his work breaks. Once that was established, the focus shifted to improve the area of Spirituality and Joy. The participant was introduced to tools that can help his gain perspective and improve his satisfaction with his current circumstances. Through his diet plan, physical activity, and new mindset, he has succeeded in losing weight and has created a new vision and plan to improve his overall quality of life.

To sum up, supporting dietetic practice with integrative nutrition approach, through health coaching to achieve behavior changes is considered effective to weight loss. Still diet compliance and regular exercise are both essential components in weight management programs, but more attention has been given on factors associated with individuals' psychological and behavior state as it plays major role in weight management and maintaining a healthy lifestyle, which is evident in the cases described in the current study.

## 5. Conclusion

In conclusion, the health coaching journeys of the five participants highlight the complex interplay between psychological, behavioral, and lifestyle factors in achieving weight loss and overall well-being. Each participant faced unique challenges, whether related to stress, cultural eating habits, social relationships, perfectionism, or demanding work schedules. The tailored coaching strategies employed—ranging from stress management techniques and mindfulness practices to incorporating physical activity and fostering creativity—demonstrate that

addressing underlying emotional and behavioral issues is crucial for effective weight management. Thus, participants' successes in weight loss were not solely due to diet and exercise but were significantly influenced by shifts in mindset and the development of healthier coping mechanisms. This integrative approach underscores the importance of holistic health coaching that acknowledges the individual's circumstances, beliefs, and social environments. By fostering a supportive framework that emphasizes personal growth and self-awareness, participants were able to enhance their quality of life while making sustainable lifestyle changes. Ultimately, this study demonstrates new and holistic approaches for successful weight management programs, which were related to understanding and addressing the multifaceted aspects of human behavior, lifestyles and psychology.

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### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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