Weight loss strategies used by African American women: possible implications for tailored messages

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Introduction

Being overweight and obesity are increasing in both sexes and among all population groups, although it is especially high among African American women, 78% of whom are either overweight or obese (Centers for Disease Control and Prevention, 2009; Flegal et al., 2010). As a result, obese African American women suffer from higher morbidity and mortality from chronic diseases such as coronary heart disease, hypertension, stroke and adult onset diabetes than their non-obese counterparts [National Heart Lung and Blood Institute (NHLBI), 1998; Department of Health and Human Services (DHHS), 2010a]. They also experience lower health-related quality of life than their non-obese counterparts (Fontaine & Barofsky, 2001).

Dieting to lose weight is a common practice in the USA. It is estimated that approximately 50% of obese men and 58% of obese women are attempting to lose weight at any given time (Kruger et al., 2004). The number of weight loss attempts increases with body mass index (BMI) and obese individuals are more likely to be attempting to lose weight at any given time compared to their normal weight counterparts (Kruger et al., 2004; Blixen et al., 2006; West et al., 2008). One study reported that 70% of African American women and 45% of African American men reported that they tried to lose weight in the preceding 12 months of the study (James, 2007).

Keywords
body mass index, ethnicity, obesity, women.

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Abstract

Background: African American women have the highest rates of obesity in the USA. They are less likely to participate in weight loss programmes and are less successful in their weight loss attempts. The present study aimed to identify weight loss strategies used by African American women and to determine whether those strategies varied by weight status. The study also examined the emotional issues that lead to compulsive overeating and identified the types of information that African American women need to help manage their weight.

Methods: A self-administered survey was completed by 413 adult African American women in 2009. Participants were weighed and measured by a member of the research team.

Results: Based on body mass index classification, 43% of women were obese, 25% were overweight, 30% were normal weight and 2% were underweight. Sixty percent had tried to lose weight in the past 12 months. Weight loss practices included: cutting back on fried foods (53%), cutting back on sweets (51%) and increasing physical activity, skipping meals (22%), fasting (17%), and using diet pills (7%). Obese women were significantly more likely to fast and use diet pills than overweight women ($P < 0.001$). Obese women also were significantly more likely to say they wanted information on how to choose a weight loss programme ($P < 0.001$), manage stress ($P < 0.001$) and increase self-esteem ($P < 0.001$).

Conclusions: Our findings suggest that weight loss messages and programmes may need to be specifically developed for obese women compared to overweight and normal weight women who just need to ‘lose a few pounds’.
However, weight management has been a major challenge for African American women. African American women are as likely as Caucasian women to report they are dieting, although they are less likely to participate in structured weight loss programmes, have higher attrition rates, and lose less weight when they do participate (Kumanyika et al., 1991; Blixen et al., 2006; West et al., 2008). Furthermore, those who lose weight are more likely to regain the weight (Kumanyika et al., 1991; West et al., 2008). The most effective nonsurgical weight loss programmes are those that use intensive lifestyle interventions combining diet, exercise and behavioural strategies (National Task Force on the Prevention and Treatment of Obesity, 2000). However, these programmes are expensive to administer, are time consuming, and are accessible to only a small minority of the overweight and obese population (Wing et al., 2010). These issues present significant challenges for the women themselves, as well as the health professionals who work with them. However, encouraging African American women to achieve and maintain a healthy weight is an important public health goal because modest intentional weight loss may lead to clinical improvement of hypertension and type 2 diabetes [American Dietetic Association (ADA), 2009; DHHS, 2010a,b].

The present study fills an important gap in the literature by examining the weight loss strategies used by African American women and determining whether those strategies varied by weight status. The study also asked participants to identify specific emotional issues that lead to compulsive overeating and the types of information that African American women need to help manage their weight. A better understanding of these issues is necessary for the development of effective interventions that will lead to long-term weight loss and weight loss maintenance among African American women.

Materials and methods

Participants

The study sample consisted of a convenient sample of 413 nonpregnant adult women who self-identified as African American/Black. Participants lived in North Central Florida, USA, and were recruited primarily from beauty shops, churches and the four traditional Greek African American sororities.

Procedures

The study utilised a cross-sectional, self-administered survey. Data collection took place over a 6-month period in 2009. The study was funded by a seed grant and approved by the Institutional Review Board at the University of Florida. Participants provided their written informed consent before participating in the study. All data were collected on site at the participating organisations. Participants were weighed and measured by a member of the team. They were weighed barefoot with indoor clothing on a digital professional scale. Height was measured with a portable stadiometer. A $5 gift card from a local store was provided as an incentive to get weighed and measured. The survey took approximately 15 min to complete.

Instrument and measures

The survey was developed based on a review of the literature, a previously validated instrument (used with both African American males and females) and several focus groups. The development, use and validation of the original instrument has been discussed elsewhere (James, 2003, 2007). The instrument was modified to target only women. The instrument was evaluated for content and face validity by two professionals with expertise in weight management and cultural competence research. It was pilot-tested with 50 women who came from the target group. These pilot surveys were not included in the present study. Minor revisions were made in the wording and ordering of some of the questions.

Participants self-reported their age, marital status, employment status and highest educational level achieved, as well as history of diabetes, heart disease, hypertension and elevated cholesterol levels. Body mass index (BMI) was calculated based on the measures taken from participants. To calculate BMI, weight in kilograms (kg) was divided by height in squared meters (m²) [World Health Organization (WHO), 2012]. Participants were asked if they tried to lose weight in the last 6 months and to indicate the weight loss methods that they commonly used. They were asked to choose all that applied from eight commonly used weight loss methods. Information needed to manage their weight was selected from seven variables. They were also asked to choose all that applied from seven common emotional issues that influence them to overeat (Masheb & Grilo, 2006). Participants were asked to indicate how many days in the past week they exercised hard enough to break a sweat. They also indicated how many minutes they usually exercised on those days.

Statistical analysis

The surveys were scanned into a computerised database in a way that prompted mechanical editing to ensure that coded values were within the valid range. Frequency tables were produced from the error-free data file and checked for completeness, range and consistency. Data
were analysed using **JMP**, version 8 (SAS Institute, Cary, NC, USA). Conventional cross tabulations and analyses were used to summarise the data. Differences in mean BMI were examined with Student’s *t*-test. Chi-squared was used to examine differences in BMI classifications and weight loss strategies, emotional eating, physical activity and information needed to lose weight. An odds ratio (OR) was used to measure the strength of association for significant chi-squared variables. *P* < 0.05 was considered statistically significant.

### Results

#### Participant characteristics

The mean (SD) age for the participants was 35.63 (14.72 years) (range 18–71 years). Most were single/never married (54%), worked full-time (60%) and owned their own homes (54%). A wide range of educational level was represented. Table 1 presents a summary of the demographic profile of the participants.

#### Body mass index and health status

The participants’ mean (SD) BMI was 29.60 (7.57) kg m⁻². Based on standard BMI classification (WHO, 2012), 41% were classified as obese (BMI ≥30 kg m⁻²), 25% as overweight (BMI 25–29.9 kg m⁻²), 32% as normal weight (BMI 18.5–24.9 kg m⁻²) and 2% as underweight (BMI <18.5 kg m⁻²). Among obese women, 45% were obese class I (BMI 30–34.99 kg m⁻²), 31% were obese class II (BMI 35–39.99 kg m⁻²) and 23% were obese class III (BMI ≥40 kg m⁻²).

Thirty-seven percent reported they had been told to lose weight by a physician within the past 6 months. Women with higher BMIs were more likely to be told to lose weight than those with lower BMIs [mean (SD) BMI = 34.48 (6.66) kg m⁻² versus 26.12 (5.29) kg m⁻², *t* = 173.79, *P* < 0.001]. However, only 10% of all women in the obese category reported that they had been diagnosed as ‘obese’ by a physician. Several participants reported that they had been diagnosed with hypertension (22%), elevated cholesterol (15%), diabetes (9%) and heart disease (2%). Those diagnosed with elevated cholesterol had higher BMIs than those who were not [mean (SD) BMI = 32.21 (7.04) kg m⁻² versus 29.31 (7.38) kg m⁻², *t* = 2.89, *P* < 0.001]. Similarly, those diagnosed with hypertension had higher BMIs [mean (SD) BMI = 33.31 (6.90) kg m⁻² versus 29.83 (7.21) kg m⁻², *t* = 5.13, *P* < 0.001] than those who were not. There were no significant differences in BMIs with those who were diagnosed with diabetes or heart disease.

#### Weight loss strategies

Fifty-nine percent of the women reported attempted to lose weight in the past 6 months. Weight loss attempts varied significantly by BMI classification, with women in the obese category attempting to lose weight more often than women in other weight categories (*χ²* = 57.48, *P* < 0.001). The relative odds of attempting to lose weight by obese women in the past 6 months were slightly higher than overweight women [OR = 1.23, 95% confidence interval (CI) = 0.70–2.12]. There was a six-fold greater odds of obese women attempting to lose weight than normal weight women (OR = 5.88, 95% CI = 3.56–11.13).

Both healthy and unhealthy weight loss practices were used. Healthy practices included: cutting back on fried foods (53%), cutting back on sweets (51%) and increasing physical activity (47%). Unhealthy practices included: skipping meals (22%), fasting (17%) and using over-the-counter ‘diet pills’ (7%). Additional weight loss strategies included using meal replacement drinks/bars (12%) and joining a weight loss programme (10%). Women who said they reduced fried foods, reduced sweets, skipped meals, fasted, used diet pills, used meal replacement shakes/bars and joined a weight loss programme had significantly higher BMI than women who said they did not (*P* < 0.05) (Table 2). Analysis of the obese categories found that women in obese class III were significantly more likely to report than those in classes I and II to use meal replacement bars (*χ²* = 11.8, *P* < 0.001).
Sixteen percent of respondents would consider surgical methods to lose weight. Women with a higher BMI were more willing to do so [mean (SD) BMI = 34.53 (8.58) kg m$^{-2}$ versus 29.0 (6.82) kg m$^{-2}$, $P < 0.001$]. Women who were in obesity class III were more likely than other obese women in classes I and II to say they would consider surgery ($\chi^2 = 23.40$, $P < 0.001$).

### Emotional eating

Sixty-five percent of respondents reported that they overate on a regularly. Women overate as a result of stress (45%), depression (22%), feeling overwhelmed (20%), loneliness (18%), tiredness (16%), sadness (14%) and anger (10%). Obese women were significantly more likely to overate as a result of stress compared to the women in the other BMI categories ($\chi^2 = 17.281$, $P < 0.001$). Obese women were significantly more likely than overweight women (OR = 1.5, 95% CI = 1.08–2.4) and there was almost a three-fold greater odds compared to normal weight women (OR = 2.53, 95% CI = 0.65–4.10). There were no significant differences in BMI categories for the other variables ($P > 0.05$).

### Physical activity

The women reported low levels of physical activity. When asked how often in the past week they exercised hard enough to break a sweat, 46% said zero days, 28% said 1–2 days, 18% said 3–4 days and 8% said 5–7 days. There were no significant differences in activity levels between any of the weight classifications ($P > 0.05$). On the days they exercised, it was done for <30 min (35%), 30–44 min (35%), 45–60 min (17%) and >60 min (13%). There were no significant differences in minutes exercised between any of the weight classifications ($P > 0.05$). Most (81%) did not do any weight lifting activities.

### Information needed to manage weight

Respondents said they needed the following information to help manage their weight: healthy recipes (52%), portion control/serving sizes (40%), calorie recommendations (31%), stress management techniques (28%), information on choosing a weight loss programme (27%), information on how to increase self-esteem (17%) and Bible texts to use as affirmation (13%). Women who said they wanted information on the following information had significantly higher BMI than those who said they did not: portion control ($P = 0.02$), stress management ($P < 0.001$), choosing a weight loss programme ($P < 0.001$), how to increase their self esteem ($P < 0.001$) and Bible texts ($P = 0.049$) (Table 3). Additionally, women in obese class III were more likely than other women in obese classes I and II to say they needed information on increasing self-esteem ($\chi^2 = 6.06$, $P = 0.049$).

### Discussion

There was a high prevalence of overweight and obesity among study participants. Sixty-eight percent of the participants in the present study were overweight or obese, which is similar to the national prevalence of 66% in the USA (Flegal et al., 2010). The overweight and obese women in the present study were concerned about their weight and most reported that they were currently trying to lose weight. The large number of women attempting to lose weight is most likely a result of the large number of obese women in the study and the high level of dissatisfaction with their current weight. Studies show that weight loss attempts increase with higher BMI (DHHS, 2004). Overall, the women used sensible weight loss strategies such as decreasing fat and sugar intake and increasing activity levels (James, 2003, 2007; West et al., 2008; ADA, 2009; Burroughs et al., 2010; DHHS, 2010b). However, obese women were more likely to use unhealthy weight loss methods than overweight women. This may

### Table 2: Weight loss strategies based on mean body mass index (BMI) and SDs ($n = 395$)

<table>
<thead>
<tr>
<th>Weight loss strategies</th>
<th>n</th>
<th>% BMI (SD)</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce fried foods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>209</td>
<td>53</td>
<td>31.09 (6.90)</td>
<td>3.14 &lt;0.001*</td>
</tr>
<tr>
<td>No</td>
<td>186</td>
<td>47</td>
<td>28.77 (7.68)</td>
<td></td>
</tr>
<tr>
<td>Reduce sweets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>201</td>
<td>51</td>
<td>31.54 (6.67)</td>
<td>4.40 &lt;0.001*</td>
</tr>
<tr>
<td>No</td>
<td>194</td>
<td>49</td>
<td>28.34 (7.16)</td>
<td></td>
</tr>
<tr>
<td>Exercise more</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>184</td>
<td>47</td>
<td>30.36 (7.13)</td>
<td>1.06 0.30</td>
</tr>
<tr>
<td>No</td>
<td>211</td>
<td>53</td>
<td>29.59 (7.57)</td>
<td></td>
</tr>
<tr>
<td>Skip meals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>87</td>
<td>22</td>
<td>31.02 (8.01)</td>
<td>1.78 0.049*</td>
</tr>
<tr>
<td>No</td>
<td>308</td>
<td>78</td>
<td>29.59 (7.11)</td>
<td></td>
</tr>
<tr>
<td>Fast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>69</td>
<td>17</td>
<td>32.47 (7.81)</td>
<td>2.96 &lt;0.001*</td>
</tr>
<tr>
<td>No</td>
<td>326</td>
<td>83</td>
<td>29.41 (7.19)</td>
<td></td>
</tr>
<tr>
<td>Use diet pills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28</td>
<td>7</td>
<td>35.03 (9.96)</td>
<td>2.61 &lt;0.001*</td>
</tr>
<tr>
<td>No</td>
<td>367</td>
<td>93</td>
<td>29.62 (7.10)</td>
<td></td>
</tr>
<tr>
<td>Use shakes/bars</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47</td>
<td>12</td>
<td>33.76 (8.02)</td>
<td>3.43 &lt;0.001*</td>
</tr>
<tr>
<td>No</td>
<td>348</td>
<td>88</td>
<td>29.57 (7.15)</td>
<td></td>
</tr>
<tr>
<td>Join programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>40</td>
<td>10</td>
<td>33.07 (6.92)</td>
<td>2.99 &lt;0.01*</td>
</tr>
<tr>
<td>No</td>
<td>355</td>
<td>90</td>
<td>29.60 (7.35)</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant ($P < 0.05$).
be a result of higher rates of body dissatisfaction, more weight loss attempts, longer struggles of trying to lose weight, several failed dieting attempts and desperation (West et al., 2008; ADA, 2009). Although most overweight and obese women were trying to lose weight, 23% of the sample said they were not doing anything about their weight. This is of special concern because these women were in the high end of the overweight category.

Some obese women in the present study reported they would consider surgical methods to lose weight. Bariatric surgery has an advantage for long-term weight maintenance and often produces dramatic results in improving blood pressure, insulin sensitivity and glucose tolerance. However, it should only be used with severely obese women when lifestyle, medication and other less-invasive interventions have failed (DHHS, 1991; ADA, 2009).

Physical activity is an important requirement for successful weight management. Adults should carry out at least 1 h of moderate physical activity daily (DHHS, 2008, 2010b). Most women in the present study did not exercise regularly. As with similar studies (James, 2004), most women in the present study did not meet the physical activity recommendations. Health professionals will need to place emphasis on the benefits of regular physical activity, the need to participate in fun recreational activities and the benefits of an exercise buddy (James, 2007). For obese women and those just starting a programme, emphasis needs to be placed on frequent, 10-min intervals of activity (DHHS, 2008).

Table 3 Information needed to manage weight based on mean body mass index (BMI) and SDs (n = 400)

<table>
<thead>
<tr>
<th>Information needed</th>
<th>n</th>
<th>%</th>
<th>BMI (SD)</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recipes</td>
<td>Yes</td>
<td>207</td>
<td>52</td>
<td>30.08 (7.18)</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>193</td>
<td>48</td>
<td>29.76 (7.58)</td>
<td></td>
</tr>
<tr>
<td>Portion</td>
<td>Yes</td>
<td>159</td>
<td>40</td>
<td>30.97 (7.09)</td>
<td>2.32</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>241</td>
<td>60</td>
<td>29.24 (7.49)</td>
<td></td>
</tr>
<tr>
<td>Calories</td>
<td>Yes</td>
<td>123</td>
<td>31</td>
<td>30.81 (7.79)</td>
<td>1.55</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>277</td>
<td>69</td>
<td>29.53 (7.16)</td>
<td></td>
</tr>
<tr>
<td>Stress management</td>
<td>Yes</td>
<td>113</td>
<td>28</td>
<td>32.79 (7.71)</td>
<td>3.43</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>287</td>
<td>72</td>
<td>29.32 (7.17)</td>
<td></td>
</tr>
<tr>
<td>Choosing programme</td>
<td>Yes</td>
<td>106</td>
<td>27</td>
<td>32.42 (7.19)</td>
<td>4.14</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>294</td>
<td>73</td>
<td>29.03 (7.24)</td>
<td></td>
</tr>
<tr>
<td>Increase self-esteem</td>
<td>Yes</td>
<td>69</td>
<td>17</td>
<td>32.79 (7.71)</td>
<td>3.43</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>331</td>
<td>83</td>
<td>29.32 (7.17)</td>
<td></td>
</tr>
<tr>
<td>Bible texts</td>
<td>Yes</td>
<td>51</td>
<td>13</td>
<td>31.79 (6.82)</td>
<td>2.06</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>349</td>
<td>87</td>
<td>29.65 (7.42)</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant (P < 0.05).

An often overlooked education and counselling strategy is to develop tailored messages and programmes that aim to prevent overweight African American women from becoming obese. Overweight women who are ready and motivated to lose weight should be encouraged to make modest, sustainable weight loss goals that can be realistically achieved and maintained (Kopelman, 1997). Weight reduction can be beneficial even to those who are mildly overweight because it can decrease their risk for conditions such as diabetes, hypertension and hypercholesterolaemia or improve their outcomes (Kopelman, 1997; NHLBI, 1998, n.d.; ADA, 2009).

The present study aligns well with other studies suggesting there should not be a one-size-fits-all weight loss programme for African American women (Kumanyika et al., 1991; James, 2003, 2007). One approach may be to tailor the persuasiveness of weight loss messages to unique characteristics of individual recipients, such as their degree of excessive weight. The effectiveness of tailored messages is considered to be partly a result of the increased scrutiny that recipients give these messages, thereby increasing the likelihood of subsequent changes in attitudes, self-efficacy, expectations and behaviour change (Updegraff et al., 2007).

The present study also suggests that weight management programmes and protocols may need to be specifically developed for obese women because they experience high levels of frustration, body dissatisfaction, weight ideation and stress-related eating, as well as societal stigma, prejudice and discrimination because of their weight (Puhl & Heuer, 2009). These programmes should also address emotional issues because a large number of the women reported overeating as a result of stress and emotional triggers. Obese women often express feelings of constant hunger and deprivation, humiliation, body hatred, shame about being fat and shame when weight is regained (Ikeda et al., 2004). Health professionals should help women to define ‘success’ in ways other than losing weight (Kumanyika et al., 1991). For example, significant emphasis needs to be placed on achieving a healthy lifestyle and improving blood pressure, serum glucose and lipid levels (Kumanyika et al., 1991; Ikeda et al., 2004). Furthermore, the messages should be targeted to individuals who are motivated, able to participate in long-term follow-up and able to accept the operative risks (Lynch et al., 2007). Health professionals should also consider the complex social, ethnic and cultural beliefs that these women have about weight, size and body image (James, 2003, 2004, 2007; James & Bonds, 2006).

It is interesting to note that, although 43% of the participants were classified as obese, only 10% reported that they had been diagnosed as ‘obese’ by a physician in the past 6 months. There is evidence to suggest that many
primary care physicians are ill-prepared to manage obese clients and reluctant to diagnose and document their patients as ‘obese’ (DHHS, 2004; Bardia et al., 2007; Terre et al., 2007; Tsai & Wadden, 2009). As a result, obesity is more likely to be under-diagnosed and under treated by physicians (Surgeon General, 2001). Thus, primary care physicians should be encouraged to refer their obese clients to registered dietitians, counsellors, psychologists, fitness professionals and community support groups for additional services (DHHS, 2010b).

**Implications for practice**

Weight loss counselling programmes for African American women need to address issues such as choosing the right weight loss programme, dieting myths, unsafe weight loss practices, the role of meal replacement shakes-bars in a sensible diet, and finding credible nutrition and dieting information online. Opportunities exist to educate obese individuals on the benefits and risks of surgical procedures. A one-size-fits all programme should be avoided (James & Bonds, 2006; James, 2007) and weight loss programmes and messages need to be specifically tailored for African American obese women, compared to overweight women and normal weight women who just need to 'lose a few pounds'. Physicians also should initiate more weight loss counselling sessions with overweight and obese African American women. They also need to refer them to registered dietitians and other health professionals who specialise in weight management.

**Limitations**

The present study relied on a convenient sample of participants who were sufficiently healthy and motivated to complete the questionnaire. Thus, this sample cannot be assumed to be representative of all African Americans women in the local geographical area or the general population. The utilisation of a convenience sample also limits the generalisability of the findings to all African American women. However, the results may have some practical applications to the general population of healthy, ambulatory African American women.

**Conclusions**

The present study suggests that the needs and weight concerns of obese African American women are different from their overweight counterparts. Thus, weight management counselling programmes and protocols may need to be specifically tailored to African American women based on the degree of weight they need to lose. Most of the overweight and obese African American women in the present study were aware of their need to lose weight and many were attempting to do so. However, some women are using ineffective, unhealthy weight loss practices. Increased efforts are needed to promote effective weight-loss strategies for both overweight and obese women.

**Conflict of interest, source of funding and authorship**

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**References**


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