

# Discussing Weight with Obese Primary Care Patients: Physician and Patient Perceptions

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**OBJECTIVE:** To evaluate patient–provider agreement on whether weight and related behaviors were discussed during routine visits.

**DESIGN:** Post-visit survey assessments of patients and providers.

**PARTICIPANTS:** Obese patients make up the majority of all patients seen in primary care (PC). The patients and physicians were recruited at the time of PC visits.

**MEASUREMENTS AND MAIN RESULTS:** Percent patient–physician agreement and patient, provider and practice characteristics associated with agreement. Patients (456) and physicians (30) agreed about whether or not they discussed weight, physical activity (PA), and diet for 61% of office visits. There was disagreement on one of the items (weight, PA, or diet) for 23% of office visits, and for 2 or more of the items for 16% of the visits. Agreement was relatively greater for discussing weight than for discussing diet or physical activity. Physicians reported discussing weight issues more often than did patients. Overall patient–physician agreement was 0.51–0.59 (weighted Kappa statistic). In a multivariate analyses of factors associated with patient–physician agreement, health insurance (odds ratio [OR]=3.67, *p* value=0.002), physician description of patient weight status (OR=2.27, *p* value=0.002), patient report of how weight relates to health (OR=1.70, *p* value=0.04), and female patient gender (OR=1.62, *p*=value=0.02) were significantly related to agreement.

**CONCLUSIONS:** Patients and providers disagreed about whether or not weight issues were discussed in a large number of primary care encounters in this study. Physicians may be able to improve care for their obese patients by focusing discussions on specific details of diet and physical activity behaviors, and by clarifying that patients perceive weight-related information has been shared.

**KEY WORDS:** weight-related behaviors; patient–provider discussion; total primary care; Obesity.

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## INTRODUCTION

According to the studies such as the National Health and Nutrition Examination Survey and the Behavioral Risk Factor Surveillance System (BRFSS), over two thirds of adults are now either overweight or obese.<sup>1</sup> Obesity and overweight in midlife (31–64 years of age) are associated with decreased life expectancy even in the absence of concomitant chronic diseases such as diabetes, hypertension, and coronary artery disease.<sup>2–4</sup>

Recent recommendations issued by the U.S. Preventive Services Task Force (USPSTF) advise that physicians should routinely screen for obesity among their patients and offer intensive behavioral interventions to promote dietary changes and increased physical activity.<sup>5,6</sup> Eleven percent of the U.S. population saw a primary care provider during the average month in 1995,<sup>7</sup> and studies have repeatedly shown that the percentage of overweight and obese individuals seen in primary care exceeds the percentage found in the general population.<sup>8–11</sup> Since primary care physicians are the most likely provider to see U.S. adults on a repeated and routine basis for health care visits,<sup>7</sup> they are uniquely positioned to interact frequently with obese patients, and to begin coordinating approaches for the management of this condition.

Limited evidence from observation studies has shown great variation in the frequency with which physicians discuss weight or provide direct counseling on weight related behaviors.<sup>10,12–14</sup> Overall rates range from 17 to 25% of total primary care visits, with counseling occurring more frequently for new patients or those seeing the physician for health maintenance.<sup>10,12,13</sup> Studies also suggest that the presence of medical comorbidities such as diabetes and heart disease leads to increased attention to weight and weight-related behaviors in health care settings.<sup>10,14,15</sup> In addition, because of the brief nature of typical physician encounters, providers may report conducting behavioral counseling with patients when patients perceive that no counseling has occurred.<sup>16</sup>

Little is known about whether providers and patients agree about weight-related discussions in outpatient clinical encounters. Although guidelines suggest immediate interven-

tion for behaviors to facilitate weight loss, behavioral change may be difficult unless patients are primed or ready for change. Patient movement along behavioral stages such as those described in the Transtheoretical Model<sup>17,18</sup> or the Precaution Adoption Process Model (PAPM)<sup>19,20</sup> may be a necessity. For stage progression to occur, especially in a model such as the PAPM where “unaware” and “unengaged” stages exist, patients may first need to “perceive” that weight is a relevant medical issue. This realization could be prompted by communication from physicians. Recent work, suggests that obese patients who do not perceive that weight is addressed in their medical visits, may feel the issue is unimportant, possibly preventing subsequent behavior change and resource seeking.<sup>21</sup> The current study describes the degree to which patients and physicians report agreement on this during primary care office visits. Utilizing post-visit patient and provider assessments analysis of concordance in physician and patient reporting about weight, physical activity, and dietary discussions was conducted in a sample of obese individuals.

## METHODS

Data were collected as part of a study examining patient and physician communication about weight and obesity. Data collection was carried out in a convenience sample of 29 separate primary care practices located in a predominately rural Midwestern state. While full methods have been reported elsewhere,<sup>22</sup> no prior reports have described information on perceptions of the weight-related discussions in the office encounters under study. All of the practices were family medicine or general internal medicine and none were specialty practices in weight management. All practices were members of the Kansas Physicians Engaged in Prevention Research (KPEPR), a practice-based research network, and each was familiar with patient recruitment, survey administration, and involvement of medical student research assistants (RAs) in research activities.

### Participants and Study Setting

All 456 participating patients had previously scheduled visits for care in the offices of participating physicians (Table 1). Physicians ( $N=30$ ) were deemed eligible if they were active

members of the KPEPR network and had agreed to allow RAs to conduct both patient and physician surveys in their practice. Eligibility criteria for patients to be included in this study were body mass index (BMI)  $\geq 30$  kg/m<sup>2</sup> (based on visit day height and weight measurement; using screening nomograms, rounding up from 29.5), at least 18 and less than 79 years of age (to prevent confounding from elderly patients likely to have multiple medical comorbidities), and English-speaking. RAs were instructed not to interview patients who were pregnant or early post-partum, acutely ill, distressed (as judged by RAs) or cognitively impaired. RAs were present during 91% of the patient's office visits (9% not present for visits due to involvement with other patients as part of their role as medical students in the practice).

Clinic staff recorded the weight and height of all patients. RAs calculated BMIs with a handheld height and weight chart, and approached the first patient seen in each morning and afternoon clinic session who met BMI  $\geq 30$  (on nomograms) criterion. We have previously used this “first patient” recruitment scheme to systematically recruit in primary care.<sup>23</sup> Eligible patients were informed of the nature of the study and asked to consent to participate. The University of Kansas Medical Center Human Subjects Committee (HSC) approved all study protocols. Physicians were informed of all study details through an HSC-approved consent form and process prior to any data collection by RAs. Upon consent, patients were enrolled and surveyed following their appointments. Of the 480 patients surveyed, 24 participants were excluded later from analysis, leaving 456 participants. Reasons for exclusion included: no corresponding physician debriefing survey ( $n=1$ ), miscalculated BMIs ( $n=20$ ), and no BMI recorded ( $n=3$ ). We did not collect statistics on the number of patients approached, patients declining participation, or how participating patients differed from non-participants due to our previous studies with very high response rates in the same practices.<sup>23-25</sup>

### Survey Administration

After office visits were completed, RAs asked participants to take part in a 10- to 15-minute survey of weight and health. RAs read each survey question aloud and recorded responses directly onto survey data collection forms. Study physicians were surveyed in reference to the participating patient during breaks between office visits or at the end of the same day on

Table 1. Office Visit Discussion about Weight, Diet, and Physical Activity ( $N=456$  total patients/office visits)

	Percent Office Visits by Physician Report	Percent by Patient Report	Percent of Office Visits with Physician-Patient Agreement	Kappa statistic for Physician-Patient Agreement	Percent of Office Visits with Report Discrepancy between Physician and Patient	Percent of office visits where patient report affirmative and physician report negative	Percent of office visits where patient report negative and physician report affirmative
Discussions about Weight Occurred	59.5	51.6	82.9*	0.59	16.9	4.4	12.5
Discussions about Nutrition/Diet Occurred	52.2	38.4	78.4*	0.51	21.3	3.7	17.5
Discussions about Physical Activity Occurred	56.0	43.9	78.5*	0.55	20.8	4.4	16.5

\* $p$  value less than 0.001

which the patient survey was completed. The same RA who interviewed the patient also interviewed the physician.

## Survey Measures

The majority of the items on the patient survey and the physician survey were written specifically for this study.

**Patient Survey.** Patient survey items (44) covered participant self-report of demographics, beliefs and preferences regarding weight, diet, exercise, nutrition, body image, realistic weight loss, and body image goals, recent attempts to lose weight, motivation and confidence related to weight loss, and whether or not their physician discussed issues related to weight, physical activity, and dietary behavior during the immediately preceding office visit. (Did you discuss weight with your doctor today? Yes/No. Did you discuss nutrition or diet with your doctor today? Yes/No. Did you discuss exercise or physical activity with your doctor today? Yes/No.) We defined “discussions” as any mention of weight-related issues by the physician (even brief recommendations, advice, suggestions). We asked patients how comfortable they were discussing weight with their doctor, how helpful the doctor had been, and how often (over all the appointments they had had with their doctor) they discussed weight issues. Behavioral questions were taken from the 2001 Behavioral Risk Factor Surveillance System survey or developed based on prior studies documenting and describing key barriers to patient–physician weight-related communications.<sup>12,15,16</sup> RAs recorded patient weight and height on each completed patient survey, but did not include other personal identifiers. Prior studies within the KPEPR practices demonstrated a more than 90% non-Hispanic white population<sup>23–26</sup>; to ensure respondent anonymity, we did not record race or ethnicity.

**Physician Survey.** The 19-item physician survey asked the provider to answer in reference to the obese patient surveyed. Questions included how often the patient had been counseled on weight in the past and what barriers, if any, precluded additional weight discussions. Physicians were asked if they had discussed weight, physical activity, or diet/nutrition with the patient during the visit just completed. (Did you discuss weight with this patient today? Yes/No. Did you discuss nutrition or diet with this patient today? Yes/No. Did you discuss exercise or physical activity with this patient today? Yes/No.) RAs recorded whether they had observed the encounter and whether they were present for some or the entire clinical visit.

## Analysis

Data were double-entered by different individuals and cross-checked for data entry accuracy. We calculated descriptive statistics for each variable. We conducted bivariate analyses between independent variables and the primary outcome variable—agreement between patient and physician in self-report of discussion of weight and/or weight-related behaviors during the office visit. We calculated Kappa statistics to evaluate the consistency of weight discussion reporting for each doctor. We also calculated a Kappa statistic to examine patient–doctor agreement on each of the discussion items. As

each physician reported on multiple patient participants in the study, a weighted Kappa was used to account for the number of patient participants for each physician. A Kappa of over 0.7 was considered an indicator of substantial agreement.

Independent variables chosen for analyses were selected based on prior studies showing certain patient and/or physician characteristics or perceptions related to weight loss counseling in primary care.<sup>12,13,16,27–30</sup> For independent variables with multiple responses (How often do you and \_\_\_ discuss weight—never, 1/4 appts., 1/2 appts., 3/4 appts., always; how comfortable are you talking about weight—0–10, not at all to completely comfortable), we determined cut points based on combining adjacent cells to maintain adequate data counts in each category (how often do you and \_\_\_ discuss weight) or based on an attempt to maintain analysis categories along the full range of a continuum to keep the ordinal nature of the response (all 0–10 response questions). We considered whether gender concordance or age concordance between patient–physician dyads might influence agreement. Bivariate analyses suggested that gender concordance between physicians and patients had a less significant effect than patient gender alone. For this reason, gender of the patient was entered into the multivariable analysis. We also considered the relationship between patient motivation and confidence to lose weight and report of weight discussions during visits using the Wilcoxon rank sum test.

We used a generalized linear model to conduct multivariable analyses of all variables associated with the main outcome at a  $p$  value  $\leq 0.10$ . Due to the ordinal nature of the dependent variable as well as the fact that patients' responses were nested within their physician group, generalized estimating equations were used. This modeling technique allows for nested responses as well as allows for an ordinal dependent variable. All statistical analyses were conducted in SAS<sup>TM</sup> version 8.2 (SAS Institute Inc, Cary, NC).

## RESULTS

Patients were predominately female (62%), had a mean age of  $55.7 \pm 15.3$  years (mean  $\pm$  SD), and mean BMI of  $37.6 \pm 7.5$  (mean  $\pm$  SD). Most (95%) reported having health insurance. The majority (89%) identified their regular doctor as the physician that they were seeing during the clinical visit, and most (77%) stated that they had seen that doctor on at least 5 occasions. Most reported excellent, very good, or good self-reported health status (66%), and had <6 year-relationship with their doctor (55%; Table 2). Although 73% reported that they were currently trying to lose weight, most had never or rarely (1–2 times) tried to lose weight by dieting (71%) and a slight majority had never tried to lose weight by exercising (52%). Their average BMI was  $37.6 \pm 7.5$ , but 36% described themselves as “a little overweight” and 70% reported that their weight was “only sometimes” or “never” detrimental to their health. When asked how often they would “prefer to discuss these weight-related issues with your doctor”, most patients (64%) reported a preference for no or minimal (1/4 of appointments) weight discussions (Table 3). Eighty-eight percent reported being comfortable ( $\geq 7$  on the 10-point scale of comfort) talking to their doctor about weight issues. Patients who reported discussions on weight, diet, or exercise reported higher motivation ( $P < 0.001$ ) and confidence ( $P = 0.002$ ) than

**Table 2. Patient and Physician/Practice Characteristics and Perceptions**

Sample Demographics	N=456	Percent of Total Sample*
Age		
<35	45	9.9
35-49	119	26.1
50-64	148	32.5
65-78	108	23.7
79+	36	7.9
Gender (Patient)		
Female	302	66.2
Male	154	33.8
General Health Status		
Excellent	16	3.5
Very Good	68	14.9
Good	216	47.4
Fair	122	26.8
Poor	34	7.5
Patient Descriptors about Weight		
Times Tried to Lose Wt.-Diet		
0-2	320	71.9
≥3	125	28.1
Realistic Wt. Loss Goal		
0-30 lbs.	226	50.9
≥ 60 lbs.	218	49.1
How often Do You and Doc Discuss Wt.		
Never	152	33.3
1/4-1/2 appointments	134	29.4
3/4-always	164	36.0
Comfortable Talking to Doc about Wt.		
"Not at all comfortable":		
0-3	12	2.6
4-6	40	8.8
"Completely comfortable": 7-10	403	88.4
How Helpful has Doc Been		
"Not at all helpful":		
0-3	78	17.1
4-6	111	24.3
"Extremely helpful": 7-10	246	54.0
Physician/Practice Descriptors		
Gender		
Male	23	76.7
Female	7	23.3
BMI	29	26.1 <sup>†</sup> (4.49) <sup>‡</sup>
Age	29	42.7 <sup>†</sup> (10.5) <sup>‡</sup>
Years of Practice	30	11.4 <sup>†</sup> (9.9) <sup>‡</sup>
How often Do You and Pt. Discuss Wt.		
Never	82	18.0
1/4-1/2 appointments	244	53.5
3/4-always	128	28.1
Realistic Wt. Loss Goal		
0-30 lb	323	51.2
>30 lb	130	48.8

\*Total category percentages not always equal to 100% due to rounding and missing responses

<sup>†</sup>Mean

<sup>‡</sup>Standard deviation

those who did not report discussions. Also, patients having a physician who reported discussions on weight, diet, or exercise were more motivated ( $P<0.001$ ) and confident ( $P=0.04$ ) than patients whose provider did not report discussions.

Physician participants were primary care physicians aged 29-61 years and predominately male (80%). Most physicians (72%) reported that they routinely discussed weight with obese patients at half or less of all office visits and 18% reported never discussing weight with their obese patients. Eighty-four percent of physicians reported that they were comfortable ( $\geq 7$  on the 10 point scale of comfort) discussing weight with obese patients.

Patients and physicians agreed that weight, physical activity (PA), and diet had been discussed during 61% of the studied office visits. There was disagreement on the discussion of one topic (weight, or PA, or diet) for 23% of office visits, and for 2 or more topics for 16% of the visits (Table 1). As Table 1 shows, physicians routinely reported discussing weight-related behaviors more often than did patients (columns 1 and 2). The Kappa statistic differed greatly from doctor to doctor, ranging

**Table 3. Multivariable Analysis of Patient and Physician Variables Associated with Discussion Report Agreement**

Independent Variable	N	Odds Ratios	95%CI	P value
Health Care Coverage				
Private	226	3.89	1.75, 8.68	<0.001
Government Provided	128	3.29	1.42, 7.65	0.006
None	27	Reference		
Times Tried to Lose Weight using P.A.				
≥3	107	0.95	0.65, 1.71	0.827
0-2	274	Reference		
How Weight Relates to Health				
Always or Some positive Influence	27	1.22	0.52, 2.89	0.649
No effect or Some negative Influence	245	1.70	1.03, 2.80	0.036
Always Influences Health	109	Reference		
Realistic Weight Loss Goal				
0-30 lbs.	193	1.24	0.77, 1.97	0.373
>30 lbs.	188	Reference		
How often Do You and Doc Discuss Weight				
Never	71	1.53	0.73, 3.23	0.261
1/4-1/2 appointments	201	0.90	0.54, 1.51	0.698
5/4- always	109	Reference		
Best Way for Docs to Handle Talking About Weight				
Pt. bring up	16	1.83	0.48, 6.97	0.378
When it affects health	156	1.13	0.72, 1.77	0.595
Before Affects Health	209	Reference		
Comfortable Talking to Doc about Weight				
1-3	8	0.25	0.05, 1.19	0.082
4-6	35	0.65	0.31, 1.36	0.255
7-10	338	Reference		
How Helpful has Doc Been				
1-3	65	1.04	0.54, 1.98	0.916
4-6	102	0.73	0.44, 1.21	0.224
7-10	214	Reference		
Physician/Practice				
Average number of visits per year	381	0.99	0.83, 1.18	0.907
How You Describe Patient Weight				
Underweight				
Just Right				
Little Overweight	114	Reference		
Very Overweight Or Obese	267	2.27	1.38, 3.77	0.001
How Comfortable are you Discussing Weight with Patient				
1-3	11	0.85	0.23, 3.16	0.815
4-6	46	2.17	0.98, 4.78	0.055
7-10	324	Reference		
Contact w/ Pt. Outside Office				
Yes	349	1.08	0.49, 2.42	0.839
No	32	Reference		
Student in Exam Room				
Little or None of Visit	16	1.06	0.35, 3.22	0.907
Some or All of Visit	365	Reference		
Patient Gender				
Female	250	1.67	1.04, 2.65	0.032
Male	131	Reference		

\*381 observations were used due to missing data.

from complete agreement to nearly complete disagreement. Agreement between physician and patient was greater for report of discussions about weight than for discussions about diet and physical activity as indicated by a weighted Kappa of 0.59, 0.55, and 0.51, respectively.

Bivariate analyses showed no significant relationships between patient-physician agreement on reports of discussions and patient age, health insurance type, years seeing the physician, self-reported health status, current weight loss goal, preference for frequency of weight discussions, comfort with weight discussions, and presence of the RA during the visit. There was a significant relationship between patient-physician agreement and the number of times the patient reported trying to lose weight using PA, with patients reporting having tried to lose weight through PA  $\geq 3$  times having more agreement with physicians (reference—"I have tried to lose weight 0–2 times using PA",  $p < 0.05$ ). There was a significant relationship between agreement and physician description of patient weight status ("underweight", "just right", "little overweight", or "very overweight/obese") with agreement being more common when physicians categorized patients as very overweight/obese (reference—just right or little overweight,  $p < 0.05$ ).

In multivariable analyses, both health insurance and physician description of patient weight status were significantly related to agreement. Private insurance predicted a higher odds of agreement (reference—no insurance, OR=3.89,  $p$  value < 0.001) and physician description of weight status as very overweight/obese predicted higher odds of agreement (reference—just right or little overweight, OR=2.27,  $p$  value=0.001). Female patients and their doctors had higher odds of agreement (reference—male OR=1.67,  $p$  value=0.03). Patient report of "weight having no effect or some negative influence on health" predicted higher odds of agreement (reference—"weight always influences health", OR=1.70,  $p$  value=0.04).

## DISCUSSION

This study used matched patient and physician assessments with an independent observer's validation of discussions regarding weight, physical activity, and diet in rural, primary care practices. Findings augment prior literature that suggests that patients and physicians do not always agree as to when discussions about weight and weight-related behavior occur in routine encounters.<sup>10,13,16</sup> Patients and physicians in this study did not agree about whether weight or weight-related behaviors were discussed for 39% of the office visits. This is particularly interesting in light of prior investigations suggesting that health care providers can positively impact patient behaviors by briefly addressing health issues with their patients.<sup>31,32</sup> In addition, agreement was lower around discussions of diet and physical activity than it was around weight issues generally. As in prior studies, physicians in the current study routinely reported that more discussions took place during visits than patients reported.<sup>13,16</sup>

In the multivariate analyses, private insurance and physician description of patient weight status were both significantly associated with higher concordance (higher odds of agreement). The insurance findings are consistent with other studies suggesting that physicians provide more weight loss counseling to the socioeconomically advantaged,<sup>[33]</sup> and this

may have consequences for addressing obesity among the uninsured and poor. Also, physicians who view the patient's weight problem as serious may be communicating in a more effective manner with patients who are obese. Patient female gender was also found to be related to higher odds of discussion agreement in multivariate analysis. Consideration of same-sex patient/physician dyads revealed that patient and physician gender concordance was less related to discussion agreement than gender of the patient alone. If providers believe that patient gender interferes with how the patient will be able to objectively take in and operationalize their advice, then they may be less inclined to bring up the topics of weight management, physical activity, or nutrition in the context of their office visit discussions.

There are studies to suggest that effective communication between patients and providers leads to beneficial health outcomes.<sup>34–37</sup> A clinician engaging in patient-centered, shared decision making may be most likely to tailor specific behavioral recommendations for patients to consider, adjust the amount of information conveyed, and arrange referrals to appropriate external resources.

Provider perceptions of low personal efficacy to influence weight loss, a lack of treatment efficacy and/or futility, and patient resistance to interventions all play potential roles in reducing provider involvement in obesity treatment.<sup>38–41</sup> Many providers feel they cannot devote clinical time to weight management when faced with acute and chronic demands to manage disease states and illnesses stemming from diabetes, heart disease, hypertension, and dyslipidemias.<sup>30,42</sup> Meanwhile, primary care patients may have a limited understanding of disease-focused care goals, and therefore may not always feel that their weight concerns are being thoroughly addressed.<sup>43</sup>

Prior research has suggested that patients prefer providers give direct and specific information on nutrition and diet, setting weight-loss goals, and exercise plans and recommendations.<sup>43</sup> Since the current project found that patient-provider perceptual agreement was lower on specific discussion topics (i.e., diet and physical activity), it may be that providers are failing to provide enough specific information to obese patients during encounters. Likewise, physicians may not spend time assessing their patients' preferences for weight loss information or assessing their patients with regard to behavioral change staging for readiness to change.<sup>10,12</sup> Such brief assessments might be analyzed in future projects as a means for improving the communication fidelity between providers and patients during their relatively brief encounters.

This study is limited by its convenience sampling of an ethnically homogeneous and predominately non-metropolitan population. Further work is needed to extend the results to larger and more diverse patient and physician populations. Similarly, data were not collected on patients who were approached but refused participation in this study, and as such, the possibility of both selection and patient or physician recall bias must be considered. In addition, survey data from patients and physicians were collected using different methodologies, with physicians being asked to complete the survey often hours after the office visit and the time that patients were surveyed. This could create recall bias for physicians and obscure the clarity of their recall. The physician consent process, and study information conveyed during that process, might also have produced a bias toward increased patient-physician weight-related discussions, and physicians may

have responded to the presence of the RA and study observation by increasing obesity discussions. We did not specifically have RAs record whether they felt weight-related discussions had occurred in the 91% of office visits in which they were present. In additional analysis, we found no relationship between presence of the RA in the encounter and patient-physician agreement.

As with all health behavior change initiatives in health care, general statements from a physician may be less effective than stage assessment, specific advice or assistance, tailored counseling, and resource coordination. The Chronic Care Model and linked behavioral theory supports at least some degree of provider involvement in these activities.<sup>44</sup> Because obesity is now a widely acknowledged public health problem, patients may increasingly be aware of their need to lose weight, and their health care providers may need to support them with thorough, repeated, non-judgmental discussions that cover specific action items and goal setting. Future research might test theory-driven counseling strategies or patient-provider shared-decision making approaches that produce behavioral contracting or documents to capture the patient's implementation "intentions" for diet and physical activity change.<sup>45,46</sup> Such approaches hold promise for enhancing involvement of health care professionals in robust public health efforts to reverse the consequences of obesity in this country.

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