

ASSOCIATION BETWEEN SOCIAL EATING AND DIET QUALITY AMONG ADULT

Widi Siti Rodhiah^{1*}, Dian Novita Chandra², Helda Khusun³

Department of Nutrition, Faculty of Medicine, Universitas Indonesia, Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia^{1,2}

Southeast Asian Ministers of Education Organization - Regional Center for Food and Nutrition (SEAMEO RECFON), Universitas Indonesia, Jakarta, Indonesia³

*Corresponding Author : hcwidi@gmail.com

ABSTRAK

Masyarakat modern memiliki kualitas diet rendah dengan diet tinggi lemak jenuh, gula, produk olahan dan makanan sumber serat yang rendah. Studi pada orang dewasa Indonesia di Jawa Timur melaporkan di daerah perkotaan, 96,9% memiliki kualitas makanan yang buruk, dan dari pedesaan, 92,1% memiliki kualitas makanan yang buruk. Kualitas diet yang buruk dapat menyebabkan peningkatan berat badan dan obesitas. Obesitas di seluruh dunia sedang meningkat, menjadikannya masalah kesehatan dengan prioritas tinggi. "Social eating" dianggap sebagai salah satu faktor yang mempengaruhi kualitas diet, hal ini mempengaruhi apa, dimana, dan seberapa banyak orang makan. Perubahan tersebut disebabkan kebiasaan diet modern seperti asupan tinggi gula, lemak, fast food, dan soda. Bila jumlah asupan makanan melebihi jumlah yang dianjurkan melalui makanan berkalori tinggi dan pola makan yang tidak seimbang akan menyebabkan kualitas pola makan yang buruk atau peningkatan risiko kenaikan berat badan dan obesitas. *Literatur review* ini menggunakan database online pada Scopus, PubMed, dan Science direct dengan keywords "social eating AND diet quality" "meal OR food preparation AND diet quality". Wanita yang makan bersama, makan yang disiapkan diluar rumah, dan makanan yang dikonsumsi diluar rumah memiliki kualitas diet yang lebih rendah, sedangkan pada pria yang makan dengan orang lain, mengonsumsi makanan yang disiapkan di rumah memiliki kualitas diet yang lebih tinggi. Temuan menunjukkan bahwa program intervensi gizi untuk orang dewasa harus mendorong pemahaman tentang makanan sehat, metode memasak, dan pemilihan bahan yang sesuai dengan kebutuhan nutrisi individu, baik saat makan di luar maupun di rumah.

Kata kunci : konsumsi makanan, kualitas diet, sendiri, persiapan

ABSTRACT

Modern societies converging on a low diet quality with a diet that is high in saturated fat, sugar, refined products, and food that are low in fiber. A study in Indonesian adults in east java reported from urban and rural areas, 96.9% and 92,1% had a poor diet quality. Poor diet quality may lead to an increase in body weight and obesity. Obesity worldwide is rising, making it a high-priority health issue. Social eating is considered one of the factors that affect diet quality, influencing what, where, and how much people eat. It caused modern diet habits such as high intake of fast food, sugar, fat, and soda. When the amount of food intake exceeds the recommended amount through high-calorie foods and an imbalanced diet will lead to poor diet quality or an increased risk of obesity. This literature review uses an online Scopus database, PubMed, and Science direct with the keywords "social eating AND diet quality" "meal OR food preparation AND diet quality". Women eating with others, consuming meals prepared away from home, and meals consumed away from home had a lower diet quality. Men that were eating with other, consuming meal prepared at home had a higher diet quality. This research is expected to be the basis of further study in assessing the relationship between social eating and diet quality, especially in Indonesia. Findings suggest that nutrition intervention programs for adults should encourage understanding healthy food, cooking method, and ingredient selection that fits nutrition recommendations, both in eating out and at home.

Keywords : alone, diet quality, meal consumption, meal preparation

INTRODUCTION

Food intake has a significant impact on health status (Zaki et al, 2015). To survive, people must eat enough nutrients through their diet. A healthy diet, balanced diet, nutritious foods, functional foods, and a nutrient-rich diet are used in the nutritional epidemiology literature to characterize diet quality (Alkerwi, 2014). Modern societies are converging on a low diet quality with high saturated fat, sugar, refined products, and low-fiber food. A recent study reported that Indonesian adults in rural and urban areas from east java had poor diet quality. 96.9% had poor diet quality from urban areas, and 92.1% had poor diet quality from rural areas (Sartika, 2018). Another study conducted among pregnant women in Sumenep Regency found that none of the subjects had good diet quality, 50.3% of subjects included in a diet quality that needed improvement, and 49.7% of subjects included in poor diet quality (Dewi, 2017).

Studies showed that healthy eating could improve diet quality and health outcomes, which can help reduce risk or protect against many chronic non-communicable diseases, including heart disease, type 2 diabetes, cancer, and maintaining the body in a healthy state without excess (Hiza et al, 2018). Unfortunately, many women who have an intake that did not even reach the recommendations and poor diet quality may increase body weight and obesity. Several factors can determine diet quality. Eating environments are one of them. Food is now readily available and accessible throughout the day in a variety of contexts. Foods that are more processed and convenient are available in larger portion sizes and at lower prices. These environmental changes have affected what, where, and how much people eat, that considered as social eating. Social eating is the setting in which eating occurs (Tauqeer et al, 2018). Meals are viewed as a social activity in which humans engage. Social situations may also influence the acceptability of particular meals. Therefore, the environment in which food is consumed, like eating companion and eating practice, are associated with the diet quality (Sommer et al, 2013).

These changes affect social eating factors and caused modern diet habits such as high intake of fast food, sugar, fat, and soda. When the amount of food intake exceeds the recommended amount through high-calorie foods and an imbalanced diet will lead to poor diet quality or an increased risk of weight gain and obesity (Chae et al, 2018). Previous studies about eating companions showed that women's daily diet quality was found to be lower when they shared dinners rather than eating dinners alone. Also, when dinner was consumed in the company of the other, daily diet quality was lower than when dinner was consumed with family (Van lee et al, 2016). In contrast, another study showed that mealtime would not take long when people decide to eat alone. They usually prefer a quick and simple meal (Kimura et al, 2012). People who eat alone are less likely to eat a well-balanced meal. Another study showed eating out of home (OH) could be associated with higher energy intake and poor diet quality (Lachat et al, 2012).

Most studies have identified an association between eating alone and eating out of home with poor diet quality, though not consistently. Also, the effect of eating out and diet quality can differ, depending on how eating out is categorized based on the meal preparation location or the meal consumption location (Powell and Nguyen, 2013; Drewbowski and Rehm, 2013). This literature review aims to examine the influence of social eating on the diet quality in adults. A better understanding of the differential impact of social eating on diet quality could help develop health and nutrition intervention programs for adults in Indonesia.

METHODS

This literature review uses an online Scopus database search with the keywords "social eating AND diet quality" "meal OR food preparation AND diet quality," PubMed with the

keywords "social eating AND diet quality" "meal preparation AND diet quality," Science direct with the keyword "social eating AND diet quality," and google scholar by using the keyword "social eating AND diet quality" "meal OR food preparation AND diet quality." The search results found six relevant articles and published in the last 10 years

RESULT

Table 1. Association Between Social Eating and Diet Quality

First (Year)	Author	Sample	Aspect of Social Eating	Diet Quality Indicator	Selected Key Findings
Gorgulho (2013)		232 adolescents (12-19 y.o), 304 adults (20-59 y.o), 298 elderly (\geq 60 y.o). Brazil	Meals consumption location	Brazilian Healthy Eating Index, Meal Quality Index (MQI)	Lunch eaten away from home had a lower MQI score than lunch eaten at home, with greater total and saturated fats.
Van Lee (2016)		895 men and 845 women aged between 20 and 70 years. Dutch	Type of company dinner	Dutch Healthy Diet index	Among men, when dinners were consumed in a company or alone, the daily diet quality was similar, but it was higher when family accompanied dinner than when others accompanied dinner. Among women, when dinner was consumed in a company, the daily diet quality was lower than when it was consumed alone. Dinners consumed in the other company were associated with lower daily diet quality than dinners consumed with family.
Lee (2016)		4.915 adults aged between 20 and 64 years old. Korea.	Meal preparation location	Energi intake, nutrient intake, dietary variety score (DVS), diet diversity score (DDS)	The non-home meal group (NHMG) showed higher energy intakes with higher protein and fat percentages and lower dietary fiber, phosphorus, potassium, niacin, and vitamin C intakes than the home meal group (HMG), with some differences between age groups. The NHMG consumes more fried and grilled foods and prefers one-dish meals like bibimbap, noodles, and dumplings. And it showed higher dietary diversity.
Chae (2018)		8523 adults. Korea	Eating alone	Mean adequacy ratio (MAR)	In both male and female participants, diet quality of those who eat alone was lower than those who eat together.

Mark (2018)	770 subjects with type 2 diabetes. US.	Eating with others, meal preparation location.	Healthy eating index (HEI), dietary approaches to stop hypertension (DASH) diet	There was no consistently significant relationship between eating meals with others and the 5 nutrient intake measurements for both men and women. The relationship between eating with others and diet quality in opposite directions (HEI and DASH scores), for men (positive) and women (mostly negative). Also, for men, eating more meals at home was associated with significantly higher diet quality indicators (but not women). And for women, eating frequency outside the home was associated with lower diet quality (but not men).
Mai (2021)	1300 women and 921 men (18–64 y.o). Japan	Meal preparation location	Comparing estimated average requirement (EAR), dietary goal (DG)	Inadequate dietary fiber intake, vitamin C, minerals (iron, magnesium, and potassium), lower intake of vegetables, and higher consumption of fat and oils were all associated with eating meals prepared away from home.

DISCUSSION

Diet Quality

A healthy diet, balanced diet, nutritious foods, functional foods, and a nutrient-rich diet are used in the nutritional epidemiology literature to characterize diet quality. Diet quality is an umbrella term that describes how well an individual's diet complies with dietary recommendations (Alkerwi, 2014). Most guidelines recommend that a healthy and high diet quality should consist of limited amounts of saturated fat, sodium, and refined sugar, but more fruits, vegetables, and whole-grain products. A healthy diet is about a healthy lifestyle of eating nutritious foods and beverages to improve diet quality and health outcomes, which can help reduce risk or protect against many chronic non-communicable diseases, such as heart disease, type 2 diabetes, and cancer, and maintain the body in a healthy state without excess, which can lead to weight gain or toxicity symptoms from some nutrients (Hiza et al, 2018).

Diet quality could be a quick screening for the nutritional indicator. Studying diet quality in relation to compliance to dietary guidelines is a practical way to evaluate population health and determine whether various groups consume healthy or unhealthy meals, therefore benefiting in developing effective and focused prevention strategies. Furthermore, when these dietary scores are repeated over time, it can monitor eating habits and compare overall diet quality across different groups and populations, which can help decision-makers and health professionals plan nutrition interventions (Alkerwi, 2014).

The concept should encapsulate to capture the multidimensional nature of diet quality, further distinct characteristics, including food safety, sensory organoleptic quality, and the social dimension of food. Food safety refers to handling, preparing, and storing food to prevent foodborne illnesses and hazards. Food must be both nutritious and safe to consume to be healthy. For example, Traditional and modern food cooking and processing procedures such as milling, toasting, fermentation, and others may influence diet quality by affecting or interfering with digestive enzymes or vitamin activities. Therefore, chemical and microbiologic food security are critical aspects of food safety that require further research in diet quality. The sensory organoleptic quality of consumed foods is determined by evaluating cognitive

perceptions such as look and flavor. It could provide important information for evaluating quality factors (Elmadfa and Meyer, 2012). The social dimension of food analyzes a pattern of food preparation, presentation, and consumption, as well as the habit of eating alone or eating companion, religious views concerning food selection, and specific eating habits that may indicate individuals belonging to specific cultural communities. Future food research needs to examine the complexities which mainly occur in this socio-cultural aspect of diet quality (Alkerwi, 2014).

Women had a healthier diet than men, with higher consumption of healthy foods (e.g., fruits and vegetables, legumes, nuts and seeds, whole grains, polyunsaturated fatty acids, etc.) and lower consumption of unhealthy foods (e.g. (saturated fats, trans fats, processed meats, sugar-sweetened beverages, etc.) (Imamura et al, 2015). However, Abassi et al. found that diet quality among women is poor due to low variety and adequacy, regardless they ate more fruits and vegetables. Women were also found to consume more sweet snacks than males in this study (Abassi et al, 2019). Particularly in Indonesia, a recent study found that healthy Indonesian adult women (Stefani et al, 2018) and pregnant women (Dewi, 2017) had poor diet quality. Furthermore, obesity among WRA was connected with excessive fat and carbohydrate consumption, but inadequate protein intake in a slum urban area (Yulia and Fahmida, 2016).

Meal Structure

Three constructs have been used to characterize meals. The first is patterning, which includes frequency, spacing, regularity, skipping, and timing. The second is a format, such as food combinations, food sequencing, nutrient profiles, or content. The third is t context or social eating, which includes eating with others or family, eating in front of the television, or eating outside of the home (Leech et al, 2015).

Social Eating

The majority of young adults stated that they like social eating, that it is important to have social eating experiences. Females were more likely than men to strongly agree that social eating is enjoyable (62.1% vs. 42.3%; $P < 0.001$) and that having social eating experiences is important (41.1% vs. 29.8%; $P < 0.001$). Social eating is associated with lower total fat intake in females ($P < 0.009$). Eating away from home was significantly associated ($P < 0.01$) with higher intakes of soft beverages, fast food, total fat, and saturated fat among both gender after controlling for responsiveness to social eating and sociodemographic characteristics (Larson et al, 2009).

Meal Preparation to Diet Quality (Cooked Food VS Buyed Food)

Several studies had shown that the source of food or the place where food is purchased impacts daily energy and nutrient intake. The previous study in the United States found that cooking frequency was significantly related to diet quality as measured by HEI components throughout day and dinner time. More frequent cooking is shown to be related to a lower intake of empty calories, which are foods that do not require any preparation or cooking. The association between lower consumption of empty calories and cooking suggests a healthier behavioral pattern of those adults who cook more. Cooking frequency is associated with a lower intake of fast food (Farmer, 2019). Another study on adolescents aged 13-18 years found that consumption of foods obtained from outside the home, such as fast-food outlets or restaurants, was associated with higher energy intake and lower diet quality (Mancino et al, 2009).

An observational study of 217 fast-food and sit-down restaurants in Atlanta showed that selecting a healthful main dish based on readily available information was impossible at most restaurants (Saelens et al, 2007). Large portion sizes in restaurants encourage overeating since

people eat more food and consume more calories when they are served in large portions (Wansink, 2004). Consuming more takeaways food was associated with lower socioeconomic status (measured by educational attainment and household income). Eating out was associated with a higher socioeconomic status (measured by greater educational attainment and household income) and working overtime. Also, older females with a higher SES (measured by higher educational attainment and household income), and not working overtime were associated with eating home-cooked meals more frequently (Mills et al, 2018).

In another study by Lee et al, (2016) of Korean adults examine the diet quality of meals prepared at home and away from home. The HMG and NHMG diets were compared in terms of dietary diversity. In each age or sex group, the NHMG had a significantly higher score than the HMG on the DVS. There were no statistically significant differences in DDS between the HMG and the NHMG, although the NHMG had a higher score than the HMG. When comparing the DVS and DDS, it was found that the NHMG consumes a greater variety of foods than the HMG. The NHMG had higher energy intakes (1,776 vs. 2,116 kcal/day) than the HMG, with higher percentages of energy from protein (15 vs. 23%) and fat (14 vs. 16%) and lower intakes of dietary fiber, phosphorus, potassium, niacin, and vitamin C (all, P 0.01) than the HMG. The NHMG consume more one-dish meals such as bibimbap, noodles, and dumplings, as well as foods prepared by frying and grilling (Lee et al, 2016).

Meal Consumption to Diet Quality (Eating at Home VS Eating Out of Home)

The effect on diet quality varies, depending on how eating out is categorized based on the meal preparation location or the meal consumption location. The different definitions of eating out can lead to inconclusive findings regarding the relationship between eating out and diet quality (Powell and Nguyen, 2013; Drewnowski and Rehm, 2013). Away from home eating was defined as foods that were consumed away from home, regardless of where they were prepared. For example, a snack made at home and consumed at work was classified as away from home eating. The low fruit consumption was also observed in the diet quality of meals consumed at home and away from home, with mean component scores of less than four points. Also, high saturated fat consumption, which appears to occur at breakfast with scores below nine points (Gorgulho et al, 2013).

Breakfast consumed away from home was more varied in terms of food groups. When compared to breakfast consumed at home, there was no difference in diet quality. Lunch consumed away from home, there was a statistically significant difference in diet quality. The lunch consumed away from home had a lower diet quality than the lunch consumed at home, with the highest total and saturated fat consumption. There was no difference in diet quality at dinner consumed away from home and home (Gorgulho et al, 2013).

Eating Companion to Diet Quality (Eating Alone VS Eating Together)

The new way of life introduced the concept of eating alone (solitary eating), and it became a new trend in some generations. The social environment has a significant influence on food choices for the day, and whether you eat with others or alone plays a big part in that decision (Dewi, 2017; Hiza et al, 2017). People who eat alone, it is challenging to consume adequate nutrients, particularly micronutrients, due to the limited consumption of fruits and vegetables.

A previous study by Chae (2018) of Korean adults to examine the relationship between eating alone and diet quality showed that when Korean adults eating alone, their diet quality was significantly lower than when they ate with others regularly. Poor diet quality in Korean adults may result in "modern malnutrition," in which the body does not receive adequate nutrients to meet the recommendations. Another study showed that company dinners were associated with a lower daily diet quality than dinners consumed alone in women. Also, the

daily diet quality was higher when dinner was consumed in the company of family members than when dinner was consumed with others (Van Lee, 2016).

There are no studies on diet quality and social eating among the Indonesian population. The advantages of this literature review can be used to conduct further research in the Indonesian population by better understanding the relationship between social eating and diet quality. The disadvantage of this literature review does not look at the type of food consumed, so there is no information regarding what type of foods are not consumed according to the nutritional needs recommendation that can help make intervention programs.

CONCLUSION

Eating companion and diet quality in women showed that eating with others had a lower diet quality; otherwise, eating with others had a higher diet quality in men. People who eat alone are less likely to have a well-balanced meal because the mealtime will be shorter. Usually, they choose a quick and simple meal. The relationship between meal consumption location showed that meal consumed away from home was lower when compared with consumed at home. Also, the relationship between meal preparation and diet quality showed that women who consumed meals prepared away from home had a lower diet quality. Men who consumed meals prepared at home had a higher diet quality. When consumed food prepared away from home, people are more likely to prefer convenience foods such as ready meals, takeaways, fast food, and restaurant meals that contain high calories and an imbalanced diet. This research suggests further research related to social eating and quality diet in Indonesian adults.

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