Food preferences of hospital patients

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The food that patients receive in hospital forms a link with the familiar world of their own homes. The routine of a hospital is frequently monotonous and the regular appearance of meals can give some relief from the strangeness and tensions of hospital life. So, apart from the nutritional value of the food itself, well-cooked and pleasantly presented food in hospitals could to some degree relieve the tedium and it may even have therapeutic value.

Methods of hospital catering

Most hospitals in this country transport hot food from the kitchen to the wards where it is served. The method whereby the food is kept hot can vary but the most common method is to use a heated trolley. The trolley is connected to the electricity supply in the kitchen area and the containers within are preheated before the cooked food is placed inside. After transportation to the ward area, the trolley is reconnected to the electricity supply in order to keep the contents warm until service is completed. This system results in considerable wastage of food, loss of palatability and some loss of nutritional value. Variants on this system which reduce wastage have been developed around the idea of putting the food on the plate in the kitchen. A conveyor belt is an essential part of any 'plated meal system' and a number of methods of keeping the plates hot during transport and service are available. These transport and service methods generally apply to the food destined for patients requiring special dietary treatment as well as to food for patients on a normal diet.

The quality of hospital food

Platt, Eddy & Pellett (1963) have surveyed 152 hospitals in England and Wales and described defects in hospital catering which result in food of poor quality. They concluded that, as the size of hospital increased, the food quality decreased. Up to 45% of the cooked food sent to the wards was wasted owing to defects in communication between kitchen and ward. There was a tendency to overcook vegetables, and in half of the largest hospitals it took more than 1·5 h to cook and serve potatoes to patients, resulting in complete loss of ascorbic acid from potatoes. The loss of ascorbic acid from green vegetables was 75%. Quality–deterioration also occurred during hot-trolley transport between kitchen and ward which can be a considerable distance in a large hospital. There was a lack of variety and there were low food-quality standards in large, acute hospitals (average ascorbic acid content of meals was 18 mg/d) and the food quality in long-stay hospitals for the chronic sick was ex-

tremely poor (average ascorbic acid content 11–12 mg/d). These defects were considered to be due to (1) old-fashioned kitchens and equipment, (2) bad communications, (3) organizational faults and unnecessary division of catering responsibility, 'Too much depends upon administrative routine and too little on direct observation of the patients to discover what they need, what they eat and when they eat', (4) the attention of medical and nursing staff is concentrated on the special dietary requirements of particular diseases to the exclusion of the general requirements of patients. In this survey the patients were not asked about food quality, but the observations of the team involved in this work are sufficient to conclude that the food in large hospitals is frequently unpalatable, and is produced and distributed in such a way that losses of some nutrients are inevitable.

It is possible that there is some disparity between what the patient wants to eat (outside the constraints of special dietary treatment) and what the caterer or hospital administrator thinks he wants to eat. There is also the element of ease of production or cheapness which must also be considered in hospitals. A national survey of hotel and restaurant customers showed that the caterer is not necessarily a good judge of the market for certain dishes (Anonymous, 1966). A survey compiled from the hospital records of a group of hospitals in northern England showed large differences between the choice exercised by the patients in the two hospitals, though both were in the same region with a similar number of patients (E. Washington, personal communication, 1970). Sixty per cent of patients in one hospital chose cereal for breakfast, whereas only 7% in the other hospital made this choice. Breakfast cereal in the latter hospital may be less readily available for financial or other reasons. It is suggested that patients do not necessarily receive what they want to eat even when there is a theoretical choice of dish. It sometimes occurs that, because of the pressure of other duties, nurses are unable to ask patients to choose; the choice is made on behalf of the patients by the nursing staff. These two reports suggest that, both inside and outside hospital, the consumer does not always receive dishes that he prefers to eat even when he is theoretically being offered a choice.

In 1968, a survey was performed at a hospital in Harlow (Anonymous, 1968) where seventy-six patients were interviewed shortly before discharge. In this hospital, food is transported to the wards in bulk-heated trolleys and is served by Ward Hostesses under the control of the nursing staff. Table 1 shows some of the results of this survey. It can be seen that patients were generally satisfied with the quality and variety of the food and were less satisfied with its temperature. A quarter of the patients did not find the food hot enough when it reached them.

Brown, Carden, Stanton & Stock (1969) sent questionnaires to 287 patients in twenty-one hospitals in various parts of the United Kingdom. The object of this survey was to find out what foods were particularly liked. Fish in various forms was liked by more than 70% of the sample; eggs and cheese were liked by 90%. Peas, sprouts and cauliflower were the vegetables most liked. Sweet-corn, marrow and spinach were among the most unpopular vegetables. Fruit was popular, as were tea and coffee as beverages. Roasting of meat was the most popular cooking method. It is interesting that 88% of the sample said that hospital meals were served at

Table 1. *Some results of a survey of the attitudes of patients to food served in Princess Alexandra Hospital, Harlow*

(Seventy-six patients interviewed shortly before discharge)

Question	Answer (%)
1. Do you think the food was:	
(a) undercooked	9
(b) well cooked	83
(c) overcooked	8
2. Did the meal look appetizing:	
Yes	94
No	6
3. Was the food still hot when it reached you:	
Yes	72
No	28
4. Do you think that the menu varies enough from day to day	
Yes	85
No	15
5. At home do you normally have:	
(a) cooked breakfast	25
(b) light breakfast	44
(c) none	29
6. At home do you normally have:	
(a) a sandwich/snack lunch	55
(b) cooked lunch	40
(c) none	2
7. At home do you normally have the main meal of the day:	
(a) at midday	26
(b) in the evening	70

different times to meals at home, but 92% of these did not mind. These authors concluded that a varied menu with a choice was desirable.

Glew (1968) has studied the attitudes of patients to the food served in the General Infirmary, Leeds (800-bed teaching hospital). Patients requiring treatment for many medical and surgical conditions come from an area within about a 32 km radius of Leeds. Patients requiring special diets were excluded from this study. The food at this hospital is cooked, then transported to the forty-three wards in heated trolleys. All patients eat simultaneously and, in order to ensure that the trolleys reach the ward area in time for the meal, they must leave the kitchen up to half an hour before service. Service may also be delayed if a consultant is examining a patient in the ward. The meal-pattern in this hospital was that soup, main course and sweet (either hot or cold) were provided both at midday and in the evening. A cooked breakfast was always available and very light afternoon tea was served. This catering system, with no choice offered to patients, and the same menu throughout the hospital at any one meal, is the most common in hospitals in this country.

The survey method has been described in detail elsewhere, (Glew, 1968) and consisted of a questionnaire sent by post to all patients over 10 years of age within

2 d of discharge. During a period of 1 month (March–April 1967), 839 questionnaires were sent out, of which 84% were returned after one reminder letter. Patients were evenly distributed in terms of age and sex, two-thirds were married and one-quarter were unmarried. Answers to questions were coded as far as possible and transferred to punched cards before automatic processing.

The questionnaire was divided into two parts. Six questions requested opinions on food quality, temperature, appearance, variety, size of portion and whether the patient disliked any dish served. Two questions were concerned with the type of meal preferred by patients in hospital and further questions enquired about the patient's eating habits outside the hospital. In addition to closed-ended questions of the 'Yes/No' type, opportunity was also given for patients to write comments on likes and dislikes and on any other matter.

Table 2 shows the degree of satisfaction with the food and it can be seen that males are more satisfied with the food than females. Patients from the two treatment groups, medical or surgical, did not differ in their replies to the six questions on food quality, but analysis of variance indicated a statistically significant difference between the replies of males and females ($P<0{\cdot}005$). The age of patients had a marked effect on their responses to the questionnaire. The difference in response (between the age groups) was significant at the 0·01% level of probability and it was clear that, as age increased, degree of satisfaction with the food increased. Analysis of variance

Table 2. *Degree of satisfaction with the food served to patients in the General Infirmary, Leeds*

(Total number of answers considered are shown in parentheses)

Question	% satisfied with food		
	Male patients	Female patients	Both sexes
Quality 'good'	50·0	41·0	48·0 (668)
Temperature	68·0	50·0	61·3 (661)
Appearance	74·0	62·0	70·7 (658)
Variety	84·0	72·0	80·2 (648)
Portion size	70·1	74·0	72·9 (644)
Did not dislike any food	52·0	37·0	46·3 (663)

also showed that both the response and the effect of age differed between the sexes. The length of stay in hospital did not influence the answers to the quality questions. There was a significant difference ($P<0{\cdot}001$) between the response of married and single people to these food-quality questions with single females being most dissatisfied. Table 3 shows that the preference for two cooked meals each day in hospital differed between both age groups ($P<0{\cdot}005$) and sexes ($P<0{\cdot}001$). Many males disliked salad, whereas no female listed salad as a dislike. Sausage and fish were also frequently disliked. A very large variety of foods were listed as 'favourite foods' but the only pattern discernible was the frequent mention of high-protein foods.

Patients were asked when they normally ate a cooked meal at home. It was found that males and females normally have cooked meals at different times and that, in general, age does not influence the pattern of when cooked meals are eaten. But it is

Table 3. *Preference (%) by patients in the General Infirmary, Leeds for two cooked meals/d*

Age group (years)	<25	26–40	41–55	56–65	>65
Male patients	70·3	70·9	60·3	44·6	51·6
Female patients	51·9	41·6	42·5	14·0	28·9

interesting that for people aged over 65 years the main cooked meal is at midday and also that in this age-group only 19% of the women normally have a cooked breakfast.

The general conclusions from this survey were that hospital patients of different sex, age and marital status had different impressions of the food quality and also had different eating habits outside hospital. It was considered that the provision of a choice of dish could improve the degree of satisfaction with the food. As part of another experiment (an experiment in hospital catering using cook/freeze system) in the University of Leeds, a choice system was introduced into a part of the United Leeds Hospitals (The Hospital for Women) and surveys were conducted both before and after the introduction of a choice menu (choice between two hot and one cold dish at lunch and supper). The hot trolley distribution system was used during both surveys and a choice of dish was made by each patient during the afternoon of the day before the food was served. Table 4 shows some of the results of these

Table 4. *The effect of choice of menu on meal acceptability by patients in The Hospital for Women, Leeds*

(143 patients surveyed when no choice offered; 176 patients surveyed when choice was offered)

Question	% of patients saying 'Yes' No choice offered	Choice offered
Food quality 'good'	45	78
Food 'appetizing in appearance'	58	90
Food 'sufficient variety'	57	92
Some food offered 'disliked'	70	27

surveys and it is clear that the provision of a choice improved the patient's assessment of the food quality. This result could be due to patients themselves being able partly to avoid being presented with a dish that they do not like.

Conclusion

Hospital patients on normal diets differ in their choice of food. If it is considered desirable that hospital patients should be satisfied by the food they receive, then a limited choice of dish should be made available.

REFERENCES

Anonymous (1966). *The British Eating Out.* Thames Ditton, Surrey: Smethursts Foods Ltd.
Anonymous (1968). *Attitude Survey—Catering Services Princess Alexandra Hospital.* Harlow Group Hospital Management Committee. Rep. no. 137.
Brown, A. M., Carden, P. T., Stanton, B. R. & Stock, A. L. (1969). *Nutrition, Lond.* **23**, 217.
Glew, G. (1968). *Nutrition, Lond.* **22**, 195.
Platt, B. S., Eddy, T. P. & Pellett, P. L. (1963). *Food in Hospitals.* London: Oxford University Press.