Food hygiene on the wards

Lebensmittelhygiene auf den Stationen

Abstract

A problem that is often overlooked or simply not given enough attention: the food served to patients from the kitchen is not sterile. If food is allowed to stand at room temperature for a long time, both in the case of food cooked for lunch and of food intended for supper which has been previously chilled, there is the possibility of massive spore germination or of dangerous toxin formation. Therefore regulations on how to handle food and beverages (e.g. tea) must be set out in the infection control policy, and checks carried out to monitor compliance with the rules relating to temperature checks, duration and type of storage, need for reheating, etc. Making staff aware of the issues involved is of paramount importance. These include monitoring hygiene standards in the ward kitchen, formulation of a cleaning policy, periodic bacteriological checks (not only of workstations but also of the dishwasher results), whenever possible the use of disposable cloths for working surfaces and equipment, changing cleaning cloths at least once daily and hygienic hand disinfection before and after handing out food.

Foodstuffs brought in by visitors represent a special hygienic and organizational problem because in many cases they already have a high baseline microbial count. Visitors must be made aware that, for example, slices of cake left in the patient’s room and often eaten only hours later can pose a risk of infection.

In summary, the following principles of food hygiene must be observed on the wards:

- Maintenance of the cold-hot chain
- Not only reheat food, but ensure it is well heated throughout
- Avoid situations giving rise to spore germination in foodstuffs brought in by visitors
- Cleanliness and minimal contamination of kitchen worktops
- Cleanliness of crockery and kitchen towels
- Do not allow food to stand at room temperature for a long time, in particular desserts and confectionery
- A standard policy must be enforced to define the hygienic status and organization for food distribution for ward kitchens too.

Zusammenfassung

Ein oft übersehenes oder vielleicht einfach nicht ausreichend ernst genommenes Problem: Die Patienten - Mahlzeiten aus der Küche sind nicht steril. Wird das Essen länger stehen gelassen, ist sowohl bei gekochtem Mittagessen als auch bei vorher gekühltem Abendessen bei Zimmertemperatur eine massive Aufkeimung oder eine gefährliche Toxinbildung möglich. Essen und Trinken (z.B. Tees) müssen daher in Hygieneplan aufgenommen werden, die Durchführung der Festlegungen in Bezug auf die Temperaturkontrollen, Dauer und Art der Lagerung, Notwendigkeit neuer Erhitzung etc. kontrolliert werden. Die Aufklärung des Personals ist von besonderer Bedeutung. In dem Zusammenhang wird zudem auf die Hygienekontrolle in der Stationsküche hingewiesen. Die Aufstellung eines Reinigungsplans, fallweise bakteriologische Kontrolle (nicht nur der Arbeitsplätze, sondern auch des Effekts der Geschirrreinigung), wenn irgend möglich Einmalputztücher für Arbeitsflächen
und Geräte oder der mindestens tägliche Wechsel der Reinigungstexti-
lien bzw. der hygienische Händedesinfektion vor und nach der Essens-
verteilung.
Von Besuchern mitgebrachte Lebensmittel stellen dabei ein besonderes
hygienisches und organisatorisches Problem dar, da in vielen Fällen
mit schon erhöhten Ausgangswerten zu rechnen ist. Besucher sind
darüber aufzuklären, dass z.B. im Patientenzimmer abgestellte und oft
erst nach Stunden verzehrte Tortenstücke zum Hygieneproblem werden
cönnen. Zusammenfassend werden auf den Stationen folgende Lebens-
mittelehygienische Grundsätze empfohlen:

- Einhaltung der Kühl- und Wärmekette
- Nicht nur Nacherwärzung, sondern Durcherhitzung der Speisen
- Vermeidung der Aufkeimung bei von Besuchern mitgebrachten Le-
bensmitteln
- Sauberkeit und minimale Belastung der Arbeitsfläche in der Küche
- Reinheit des Geschirrs und der Küchentextilien
- Keine längere Lagerung von Speisen, insbesondere vom Nachtisch
  und Patisseriewaren bei Zimmertemperatur
- Hygienischer Status und Organisation der Speisenabgabe muss
  auch bei Stationsküchen standardisiert werden.

Text

In view of the fact that in the kitchens used for communal
catering, microorganisms are often introduced through
raw foodstuffs and personnel, several legal measures
aimed at infection prevention have been enacted (infec-
tion control policies, temperature control regulations for
assurance of the cold-hot chain, regular information up-
dates for personnel, supervision of working practices,
etc.). However, my experiences from infection control in-
spections in hospitals, rehabilitation clinics and nursing
homes show that the preventive measures intended to
assure hygienic provision of foodstuffs are often patchy
and poorly observed.

NOTE: The food in the central kitchen is not sterile.
Therefore when food is allowed to stand at room temper-
ature for a long time, both in the case of food cooked for
lunch and of food intended for supper which has been
previously chilled, there is the possibility of massive spore
germination or of dangerous toxin formation.

A) Catering for the wards from a central
kitchen:

- Formulation of an infection control policy that should
  be checked and updated at regular intervals.
- Informing staff about the risk of spore germination and
toxin formation in foods supplied (often, mistaken
views held by auxiliary staff have to be corrected). As
borne out by Table 1, more stringent measures are
needed for instant products that are not cooked.
- Spot checks of temperature of supplied foods.
- Specification of how long the supplied food, e.g. if the
  patient is absent, can be kept on the ward (e.g. refri-
gerator, ward room, ward kitchen, patient’s room).
- Need for reheating, e.g. in microwave to a core temper-
  ature of above 65 ° C (caution: fish and meat por-
tions).
- Preparation and storage of dispensed teas must also
  be borne in mind as regards brewing with boiling water
  and avoidance of long standing time in patient’s or
  resident’s room.

NOTE: The aim must be to maintain as far as possible
the cold or hot chain on the ward.

B) Hygiene checks in the ward kitchen

- Kitchen workstations: regular cleaning is necessary
  (cleaning policy!) bacteriological spot checks advisable
  after cleaning (check of efficiency).
- Cleaning cloths: If disposable wipes, the best solution,
  are not available for the worktops and equipment
  coming into direct contact with foodstuffs, cleaning
cloths (ideal breeding ground thanks to humidity,
  contamination, room temperature and time). Spot
  checks showed up to 9,000 cfu/dm²! Such cloths are
  no longer suitable for cleaning but rather for uniform
  distribution of any pathogenic microbes present in the
  kitchen.
- Hygienic hand disinfection is needed after performing
  any care/nursing activities and before handing out or
  preparing food in the ward kitchen.
- Refrigerators should be available for storage of food-
stuffs on the wards if this is warranted by the hygienic
  or organizational situation.
- Cleaning crockery: occasional microbiological spot
  checks, e.g. with Rodac plates, of the cleaned crockery
  advisable. This is all the more needed if there is visible
  evidence of inadequate cleaning or drying. The aim
  aspired to must be to exceed a maximum count
  of 50 cfu/dm² for clean crockery.
Table 1: Microbiological guide and potentially hazardous values for instant products

|                                | Guide value | Potentially hazardous value |
|--------------------------------|-------------|----------------------------|
| Aerobic mesophilic colony count | $10^6/g$    | -                          |
| Salmonella                     | -           | Not detectable in 25 g     |
| Staphylococcus aureus          | $10^2/g$    | $10^3/g$                   |
| Bacillus cereus                | $10^4/g$    | $10^2/g$                   |
| Escherichia coli               | $10^2/g$    | $10^3/g$                   |
| Sulfite-reducing clostridia    | $10^3/g$    | $10^3/g$                   |
| Moulds                         | $10^4/g$    | $10^4/g$                   |

Guide value: can be exceeded for limited time (no official complaint; reference and advice)
Pot. haz. value: official complaint if exceeded (in general as per Section 17 (1) Item 1 Foodstuffs Acts (LMBG)

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Table 2: Guide and potentially hazardous values for frozen confectionery with fillings that have not been fully baked and ready to eat without reheating

|                                | Guide value | Potentially hazardous value |
|--------------------------------|-------------|----------------------------|
| Cfu                            | $10^6/g$    | -                          |
| Salmonella                     | -           | Not detected in 25 g       |
| Staphylococcus aureus          | $10^2/g$    | $10^3/g$                   |
| Bacillus cereus                | $10^3/g$    | $10^4/g$                   |
| Escherichia coli               | $10^2/g$    | $10^3/g$                   |
| Moulds                         | $10^3/g$    | $10^4/g$                   |

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C) Confectionery brought in by visitors:

As ward staff are well aware of, this presents a special hygienic and organizational problem. As shown in Table 2, already high baseline microbial counts can be expected in the case of inadequately baked fillings. Often, pieces of cake at left in the patient’s room and eaten only hours later. It is therefore the duty of the nursing staff or ward doctors to make patients, and possibly also visitors, aware of the problems involved. Again, because of their underlying disease or for dietary reasons patients are often not supposed to eat foodstuffs with a very high fat. After all as can be deduced from Table 3, confectionery and ice cream with a score of 33.4% are the chief causes of foodborne disease.

In summary, the following principles of food hygiene must be observed on the wards:

- Maintenance of the cold-hot chain
- Not only reheat food, but ensure it is well heated throughout
- Avoid situations giving rise to spore germination in foodstuffs brought in by visitors, in particular of confectionery.
- Cleanliness and minimal contamination of kitchen worktops
- Cleanliness of crockery and kitchen towels
- Do not allow food to stand at room temperature for a long time, in particular desserts and confectionery
- A standard policy must be enforced to define the hygienic status and organization for food distribution.
Table 3: Role played in foodborne infections

| Implicated foodstuffs   | %  |
|-------------------------|----|
| Meat                    | 19.8% |
| Eggs                    | 10.5% |
| Poultry                 | 3.6%  |
| Milk                    | 4.5%  |
| Foods                   | 11.6% |
| Fish                    | 3.6%  |
| Cake, ice cream         | 33.4% |
| Salads                  | 12.1% |
| Vegetables              | 2.5%  |
| Other foodstuffs        | 0.4%  |

Curriculum Vitae

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