

From a microbiologic point of view, the consumption of raw milk from cows can be considered as a significant hazard for human foodborne infection. Therefore, the population in general and especially the young, elderly, pregnant and immunocompromised people should be careful with the consumption of raw milk from cows as well as from other animal species. As historical data show that pasteurization or other heat treatments of raw milk can prevent infections, consumers should be made aware of the risks of raw milk consumption and should boil the raw milk before consumption. In addition, the availability of milk distributors for direct sale of raw milk to consumers should be managed carefully, and sufficient information should be provided to the consumer concerning the risk of raw milk consumption. The distribution of raw milk in schools or on field trips to dairy farms is considered as a high risk.

9 Future trends

Consumers are increasingly motivated by health and environmental concerns and therefore, they are looking for locally grown and processed foods with more freshness and taste, which have a better nutritional quality and safety (Verraes et al., 2015a). Examples are raw milk sold through vending machines and raw milk butter or cheese that is locally produced at the farm. It is in the interest of consumers and of producers of short supply chain products to maintain and to further optimize the safety of their products in order to preserve the excellent image of the foods concerned. Additional investment in guidance, training and networking for exchanging information provided by either public or private organizations to farmers or businesses in the short food supply chain may further enhance the capacity to deliver high quality and safe foods to the consumer (Verraes et al., 2015a).

Several microbiological benefits are assigned to consumption of raw milk from cows, namely increased immunity and reduced allergies. The current evidence for the assumed relation between drinking raw milk and an increased immunity, on the one hand, and a reduction of allergies, on the other hand, is controversial and the underlying mechanisms are unknown. It is therefore difficult to conclude about a possible effect of heating milk on these parameters. Further research could give a better understanding of such effects (Claeys et al., 2013).

In general, a more thorough examination of the link between human outbreaks and sporadic cases with milk-borne (and foodborne) diseases could be performed to estimate a more precise impact of the risks involved in human consumption of raw milk and related dairy products. Subsequently, further research into the human pathogenicity of *M. avium* ssp. *paratuberculosis* and the potential of *C. burnetii* to be transmitted due to milk consumption seems necessary, as well as the possibility of the transmission of *C. botulinum* toxins to humans via raw milk.

10 Where to look for further information

The European Food Safety Authority (EFSA) has recently published a detailed assessment of the public health risks associated with the consumption of raw drinking milk:

<http://www.efsa.europa.eu/en/efsajournal/pub/3940>
www.efsa.europa.eu/sites/default/files/scientific_output/.../3940.pdf

Individual countries also provide their own guidance. As an example, more information can be found in several opinions of the Scientific Committee (SciCom) of the Belgian Federal Agency for the Safety of the Food Chain (FASFC): <http://www.favv-afsc.fgov.be/scientificcommittee/opinions/>:

- Advice 15-2011 on the risk-benefit evaluation of raw cow milk consumption and the effect of heat treatment on these risks and benefits (dossier SciCom 2010/25: self-tasking initiative). Available online: http://www.favv-afsc.fgov.be/scientificcommittee/opinions/2011/_documents/Advice15-2011.pdf (English summary); http://www.favv-afsc.fgov.be/wetenschappelijkcomite/adviezen/2011/_documents/ADVIES15-2011_NL_DOSSIER2010-25.pdf (Dutch version); http://www.favv-afsc.fgov.be/comitescientifique/avis/2011/_documents/AVIS15-2011_FR_DOSSIER2010-25.pdf (French version).
- Advice 11-2013 on the evaluation of the risks and benefits of the consumption of raw milk from animal species other than cows (dossier SciCom 2012/12: self-tasking initiative). Available online: http://www.favv-afsc.fgov.be/scientificcommittee/opinions/2013/_documents/Advice11-2013.pdf (English summary); http://www.favv-afsc.fgov.be/wetenschappelijkcomite/adviezen/2013/_documents/ADVIES11-2013_NL_DossierSciCom2012-12.pdf (Dutch version); http://www.favv-afsc.fgov.be/comitescientifique/avis/2013/_documents/AVIS11-2013_FR_DossierSciCom2012-12.pdf (French version).
- Advice 02-2015 on the evaluation of the microbiological risks of the consumption of dairy products based on raw milk (dossier SciCom 2014/06: self-tasking initiative). Available online: http://www.favv-afsc.fgov.be/scientificcommittee/opinions/2015/_documents/Advice02-2015.pdf (English summary); http://www.favv-afsc.fgov.be/wetenschappelijkcomite/adviezen/2015/_documents/ADVIES02-2015_NL_DOSSIER_2014-06.pdf (Dutch version); http://www.favv-afsc.fgov.be/comitescientifique/avis/2015/_documents/AVIS02-2015_FR_DOSSIER_2014-06.pdf (French version).

Examples of other advice include the Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention in the US:

<http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm079516.htm>

<http://www.cdc.gov/foodsafety/rawmilk/raw-milk-index.html>

11 References

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