

Haemodialysis – Rethinking our environmental responsibilities

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Introduction

The global efforts to combat climate change and carbon generation are accelerating, and sooner or later the environmental impact of dialysis practice will come under increasing regulatory scrutiny.

There are a number of reasons why the healthcare sector must act to reduce associated emissions (Connor *et al.* 2009), however it is likely that the greatest drivers of change will be the ongoing increases in energy costs (during a period of diminished expansion, in healthcare funding).

Renal services must develop sustainable waste management strategies. Effective segregation at source is vital to increase recycling and requires staff education and facilities, which take time and occupy extra space, to stream clinical and non-clinical waste.

Protecting the environment is wide-ranging. We use it here to describe a reconciliation of the environmental, social and economic demands impacting upon resource use in order to facilitate 'sustainable development' (the pattern of resource use that allows us to meet our current needs, whilst preserving the environment in order that the needs of future generations might also be met).

Objectives

To prove that awareness and efficient procedures can reduce the rate of consumption of natural resources and minimize the negative effects of waste generated in dialysis units.

Methods

We analysed the savings in terms of water consumption, efficient procedures and contaminated waste generated in the dialysis unit during a 5 months period while implementing:

- post-dilution haemodiafiltration, with an automatic adjustment of the ratio of dialysate flow rate / blood flow rate of 1.2.
- Kaizen methods and principles by training, involving employees in order to improve the efficiency of our daily activities and to raise the employee's awareness for the importance of environmental protection.
- separation of domestic and plastic waste under the motto "Reduce, Re-use, Recycle" – by always looking for ways to use fewer resources.
- specific emptying procedures of the extracorporeal blood circuits used for the dialysis treatments.
- internal directives and ensuring compliance with legal requirements.

Results

The amount of contaminated waste/treatment has decreased in average from 1.2 to 0.9 kg /treatment. The water consumption remained overall constant although the number of patients increased in this period.

Conclusion

Protecting the environment became a priority of all staff in our dialysis unit. The aim is to ensure high-quality and safe treatment for patients with a minimum impact on the environment.

References

1. <http://www.mediarelease.ro/social>
2. Connor A., Mortimer, F. (2010). The Green Nephrology survey of sustainability in renal units in England, Scotland and Wales. *Journal of Renal Care* **36**(3), 153-160.

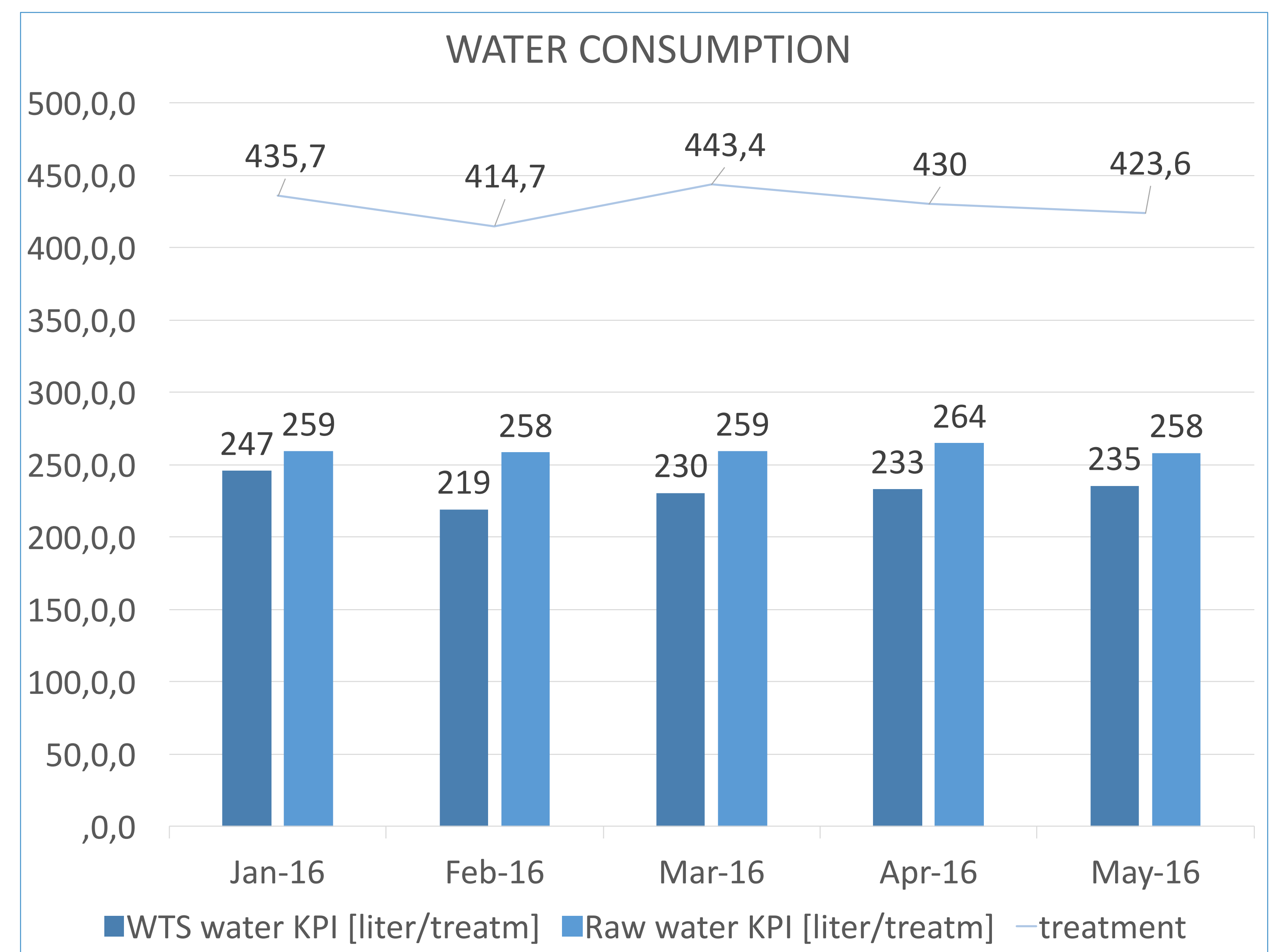


Figure 1: Water consumption in the analysed period

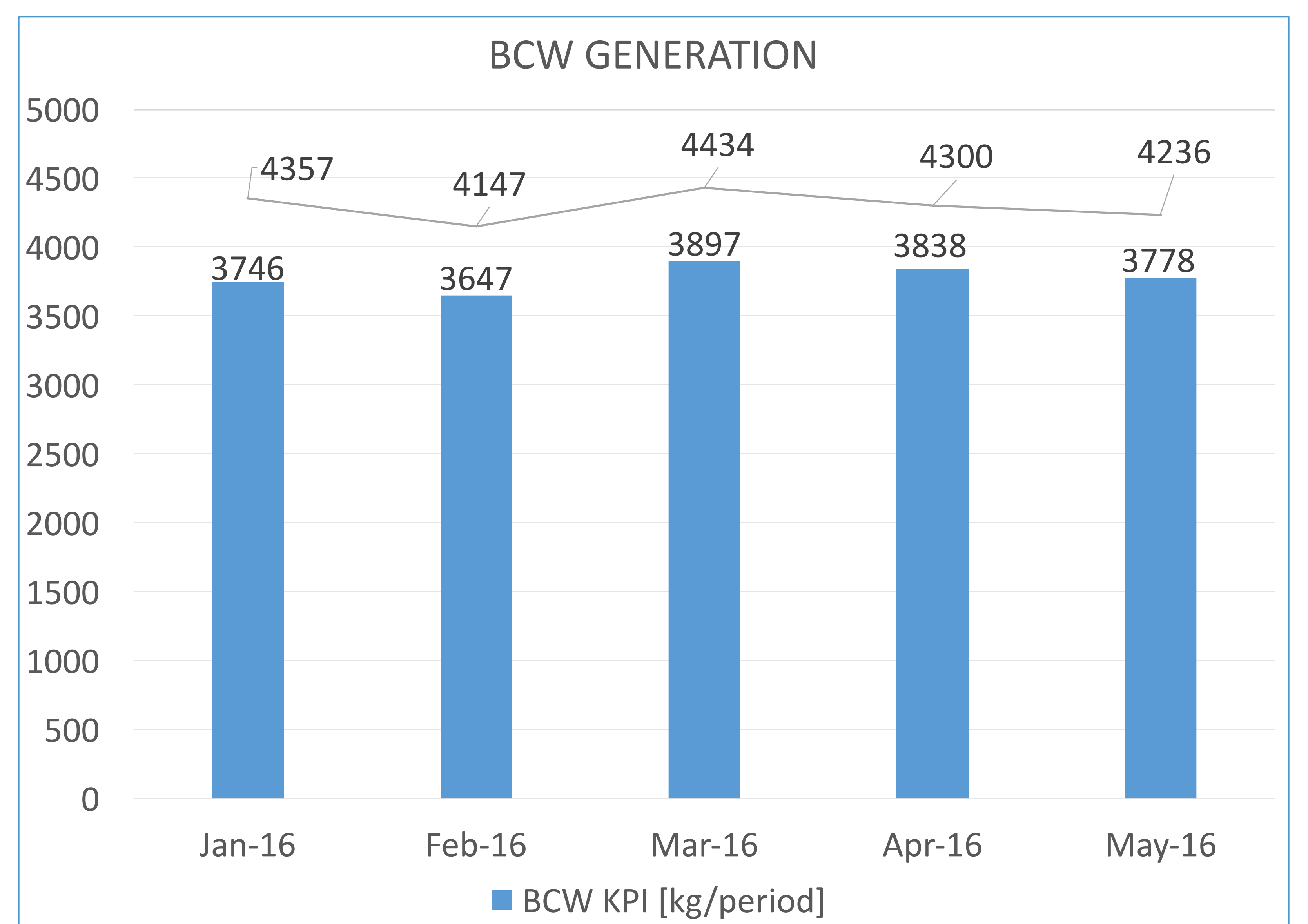


Figure 2: Blood contaminated waste in the analysed period