Medication wastage: the current situation

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Educational aims

- To provide an insight into the current situation regarding medication wastage both at a national level and internationally
- To have increased awareness on the extent of medication wastage and its financial implication
- To understand the need for policy and guidelines in relation to medication wastage

Key words

Delphi, medication, medication wastage, systematic review, unused medication.

Abstract

Reducing any wastage, including that of medication, is an important priority objective at both a national and European level due to the direct and indirect consequences of wastage. Following an in-depth study, medication wastage has been defined in the Maltese context. This provides a common ground on which to base local policy to address the issue. The extent of medication wastage has been studied and documented in various countries. Yet to date there is still a lack of policy guidance in relation to medication wastage. This paper highlights the available literature in relation to medication wastage and urges the need to further explore and implement wastage reduction strategies.

Introduction

Reducing any wastage has become an important priority objective at both a national and European level. There are several direct and indirect consequences of medication wastage, mainly the economic implications for both the individual and society arising from costs of unused medications, expenses required to dispose of unused medication, costs related to wasted time spent on the supply based activities of prescribing and dispensing as well as environmental implications associated with wastage disposal.

Definition of medication wastage

A systematic review of the published literature carried out in 2010, identifying forty-three papers found that only one study defined medication wastage or related terms. This was defined as “any drug product, either dispensed by a prescription or purchased over the counter (OTC) that is never fully consumed. Medication wastage may be due to poor compliance of patients, excessive and irrational prescribing, or the lack of control of the sales of prescription medications in the community pharmacy.” A standard definition was later formulated mainly in the Maltese context by applying the Delphi technique amongst a wide range of panel of experts. Medication wastage was defined as:

“Medication wastage refers to any medication which expires or remains unused throughout the whole medicines supply chain. Medication wastage also refers to the unnecessary or inappropriate consumption of medications by patients, or the unjustified non-adherence to treatment guidelines by healthcare professionals. Medication wastage poses a financial burden on patients themselves and the state’s economy and requires adequate education of all people concerned.”

Medication wastage: The international scenario

The extent of medication wastage has been studied and documented amongst various countries with quantities ranging from 65 unused medication items gathered from 73 households that had at least one oral medication stored to 20,304 medication packages collected from 100 community pharmacies. Tablets and capsules topped the list in terms of wasted formulation, probably since this is the most commonly used.

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Medication wastage: The Maltese scenario

The information available about the extent of medication wastage in Malta can be gleaned through press reports and statements from politicians.

In April 2012, the Times of Malta reported that the Health Minister of the time voiced his concerns about medication wastage, particularly unused medication and “urged people to act responsibly and to keep in mind that although medicines were given to them free of charge, they were an investment by the government”. The newspaper added that “80 different types of medicine worth around €10,000” had been returned to government pharmacies by members of the public during a three month period with the Health Minister stating that “this was likely to be only the tip of the iceberg, since many people kept unused medicine at home”. These medications were not purchased through community pharmacies but dispensed to the public for free through the National Health System (NHS). The government responsible for waste management on the Maltese islands, which concluded that only a tenth of the Maltese population dispose of expired medication and syringes correctly, by bringing these to the civic amenity sites which cater for the disposal of expired medication amongst other things. WasteServ also added that EU will be sought to launch a nationwide awareness campaign regarding the civic amenity sites and about hazardous waste. Later on in September 2014, The Times of Malta reported three tonnes of medications being disposed in civic amenity sites.

Laws, directives and policies relating to medication wastage

The EU directive ‘2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste states that ‘waste’ refers to “any substance or object which the holder discards or intends or is required to discard”. The focus of this directive is on management strategies related to issues such as disposal and recycling, with lack of guidance focusing specifically on medication. The Medicines Act of Malta enacted by the Parliament of Malta prohibits the sale of expired or damaged medication, but provides little guidance on the handling of medication wastage and no guidance at all on minimising wastage.

Interventions to reduce wastage

A systematic review identified only two studies which reported wastage as a research outcome measure following intervention, both describing community pharmacy instalment dispensing as a potential solution to reduce medication wastage. However, there were no direct measures of reduction in wastage; therefore, reduction in costs in these studies cannot be equated to reduction in medication wastage.

In 2011 the UK Department of Health roundtable event hosted by the King’s fund recruited patients, healthcare professionals, the NHS and industry to consider the findings of the afore-mentioned research and to identify measures that might be taken to help minimise wastage, optimise medication taking and improve health outcomes. Following this, the Department of Health Medicines Pharmacy and Industry group UK issued the report ‘Making best use of medicines’ and stated that “wastage of medications involves a wide range of different stakeholders who all have a contribution to make to reducing its occurrence and improving quality of care”. These stakeholders include...
manufacturers and suppliers of medications; healthcare professionals, including pharmacists, doctors and nurses, as well as patients and the public. The report also highlighted the fact that costs related to medication wastage are not just financial but should also take into consideration the price a patient has to pay if medications are not used appropriately at the detriment of improved health outcomes. Through the roundtable event a number of initiatives to improve use of medications emerged. The group concluded that not only should the group participants take ownership of the outcomes and benefits of this study, but they should also engage in future discussions. The group also concluded that patients should be encouraged to become more involved with their medication. The group also acknowledged the fact that issues raised during this discussion should become part of the education of healthcare professionals and the implications of these issues need to be considered by the Department of Health in future discussions relating to community pharmacy contractual framework. The group ultimately supported the initiative of a communications campaign to raise awareness of the issues discussed and alter people’s behaviour and concluded that any intervention should be carefully planned before being implemented.

Conclusion
This paper clearly highlights that vast resources are consumed by wastage, with a negative consequence on the economy. Moreover, medication wastage continues to compromise public health in terms of safety and the environment. There is therefore an urgent need to further explore and implement wastage reduction strategies.

Key points
- The extent and cost of medication wastage have been documented locally and internationally.
- A standard definition of medication wastage was formulated mainly in the Maltese context by applying the Delphi technique.
- A number of reasons have been attributed as the causative factors giving rise to medication wastage, namely ‘medication changed’, ‘patient death’, ‘resolution of patient’s condition’, ‘expired medication’ and overstocking due to fear of medication unavailability.
- There is a paucity of studies reporting medication wastage as a research outcome measure following intervention to reduce medication wastage.
- There is a lack of policy guidance in relation to medication wastage.

Disposal of Medicines in Malta
The general public can dispose of their expired medicines at one of the Civic Amenity sites of WasteServ Malta Limited which are located at Maghtab, Mriehel, Hal Far, Luqa, Ta’ Qali and Gozo. Further information may be obtained from WasteServ Malta Ltd on the Freephone (8007 2200).

References
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