

Evaluation of the implementation of a classification system for pharmaceutical interventions

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Background and Objectives

The Swiss Society of Public Health Administration and Hospital pharmacists (GSASA) introduced in 2011 a new GSASA classification system for pharmaceutical interventions in Swiss hospitals¹. The instrument (fig.1), developed and validated in a previous research², comprises five main categories (problem, type of problem, cause, intervention, and outcome). Our objectives were to evaluate the implementation of this classification system in daily practice, and to analyse the pooled data retrieved from Swiss hospitals.

Setting and Method

Chief hospitals pharmacists (n=47) were asked by online questionnaire about the use and satisfaction with their classification system. Users of the GSASA system were asked to voluntarily provide their data containing all interventions classified with this system during daily work (example fig.1). We evaluated users' satisfaction about comprehensiveness, feasibility, and acceptability with a 5-point Likert scale.

The case
An immunosuppressed patient is treated for gout with allopurinol 300 mg. According to his chronic renal failure (creatinine concentration 200 µmol/L, GFR 25 mL/min), a daily dose of <100 mg is appropriate. The physician agreed with the recommendation of monitoring the uric acid levels and adapting the dose according to the medical analysis.

The classification

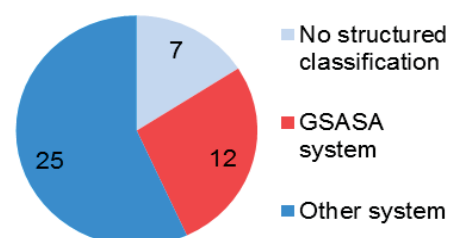
- ✓ Problem: **Safety of treatment** GSASA-code 1.3
- ✓ Type of problem: **Potential** 2.2
- ✓ Cause of intervention: **Dose not adjusted to organ function** 3.3d
- ✓ Intervention: **Therapy monitoring** 4.5
- ✓ Outcome of intervention: **Accepted** 5.1

Fig. 1: Example of a pharmaceutical intervention classified with the GSASA classification system

Results

The questionnaire was completed by 44 chief pharmacists (94%), therefrom 33 hospitals offer regularly clinical pharmacy services (75%) and 7 planned it (16%). Figure 2 shows the types of classification system used in Swiss hospitals. All hospitals using the GSASA system provided regular clinical pharmacy services.

Fig.2: How hospital pharmacists classify their interventions? n=44



Eleven of 12 hospitals using the GSASA system provided us all classification data thus covering an observation period of 121.5 months. In total, 9'543 interventions were recorded. Of all interventions, 840 (8.8%) were not fully categorised because of missing aspects (fig.3).

Fig. 3: Not coded aspects of drug-related problem in GSASA categories n=840

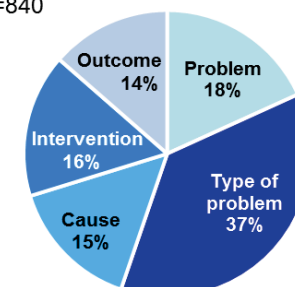


Figure 4 illustrates the users' satisfaction:

- Six of 12 users were not fully satisfied with the **comprehensiveness** of the system (mean user agreement 2.9 ± 1.1). The users suggested additional subcategories (examples):
 - Problem: Problem based on electronic prescription
 - Cause: i.v. drug incompatibility, incorrect prescription
 - Intervention: Information to physician
 - Outcome: Refused by the patient
- Users found the system **easy to use** in daily work (3.8 ± 1.0).
- In general, users were **satisfied** (3.8 ± 0.9) with the GSASA system, especially (4.) with the **adequate time expenditure** (4.1 ± 1.0). Ten users reported to need less than 2 minutes (83%) and 2 (17%) up to 4 minutes to classify one intervention.

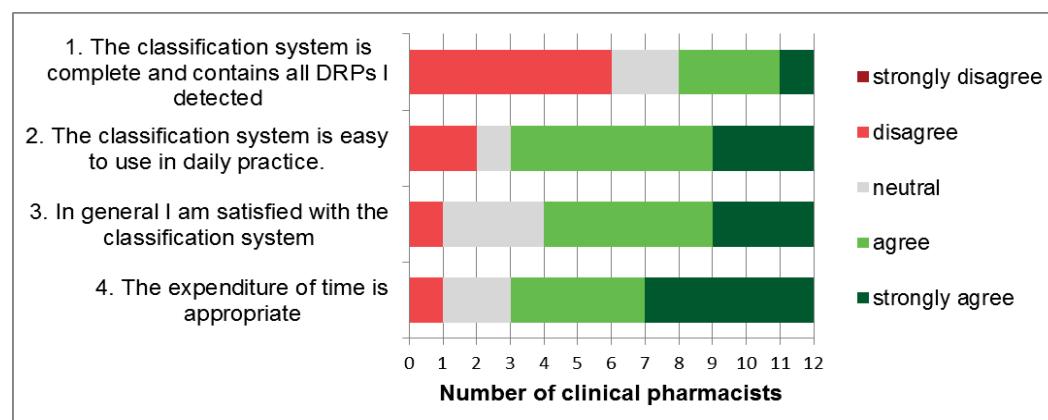


Fig. 4: Satisfaction of the users (n=12) with the classification system

Discussion

After one year, the GSASA classification system is already widely accepted in Swiss hospitals. This instrument proved to be suitable to daily life settings. Most pharmaceutical interventions can be classified with an adequate time effort. Users' satisfaction is good. Further refinements are needed to improve the precision of the system (additional subcategories, clarification of existing subcategories). The extent of how the system is used and the good acceptance within a short time after implementation are promising results to use it as basis for a further development.

References

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