

DRP classification – Refinement of the GSASA classification system

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GSASA classification tool

PCNE DRP
classification
system (1999)

SPFC
classification
(2009)



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RESEARCH ARTICLE

Demonstrating the clinical pharmacist's activity: validation of an intervention oriented classification system

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2020: need for a new
version?

- 11 sub-categories
- **Outcome of intervention**
 - 5 sub-categories

[1] Allenet B et al. Validation of an instrument for the documentation of clinical pharmacists' interventions. Pharm World Sci. 2006;28(4):181–8.
[2] Kaufmann, C., Tremp, R. M., Hersberger, K. E. & Lampert, M. Validation of a New Classification System. (2011).
[3] Maes, K. A., Tremp, R. M., Hersberger, K. E. & Lampert, M. L. Demonstrating the clinical pharmacist's activity: validation of an intervention oriented classification system. *International Journal of Clinical Pharmacy* 37, 1162-1171, (2015).

Aims & Goals

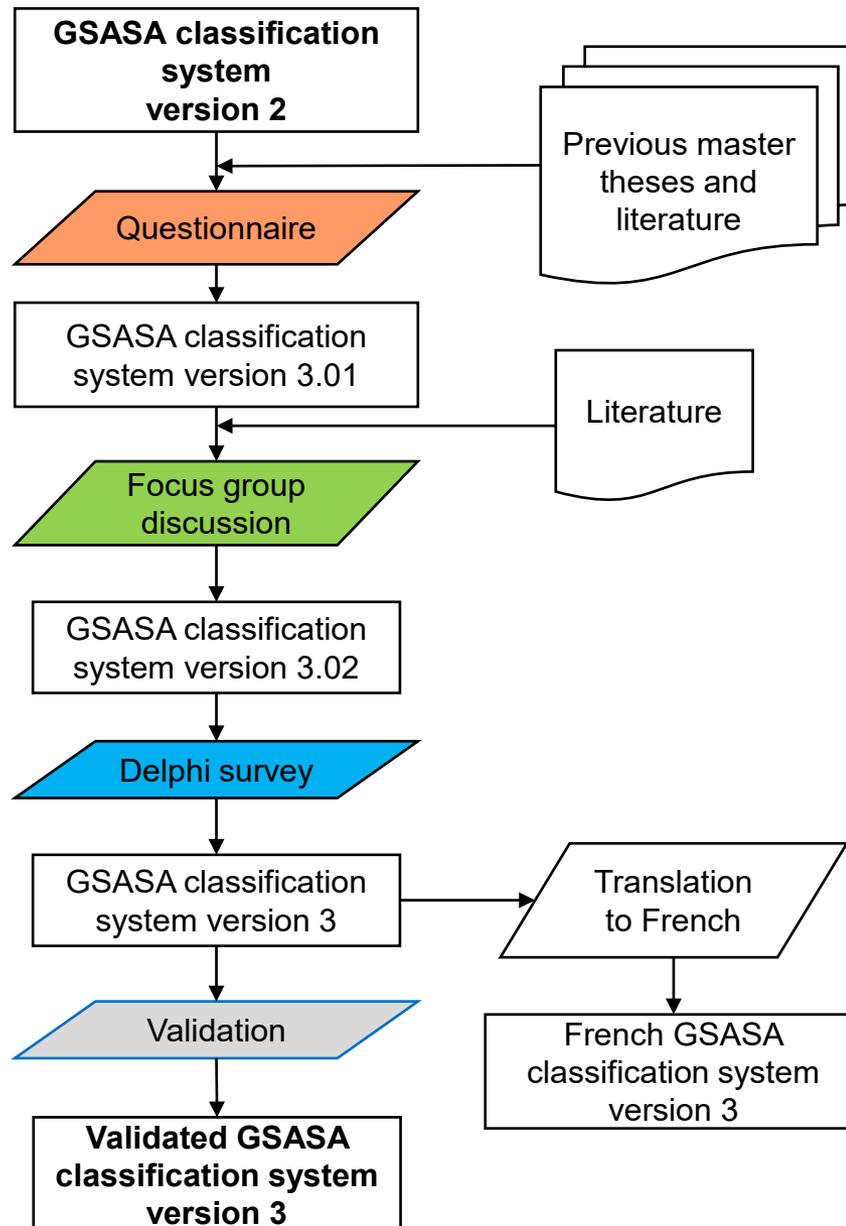
Goal:

The goal of this work was the development of a new version of the GSASA classification tool, which meets today's needs and includes aspects of medication reconciliation.

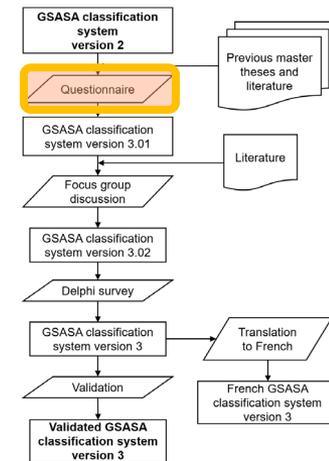
Aims:

- Shortcomings of the 2014 classification system should be collected and analysed.
- A revised version of the classification system should be reached by consensus.
- The revised classification system should be validated.

Process



Questionnaire: Methods

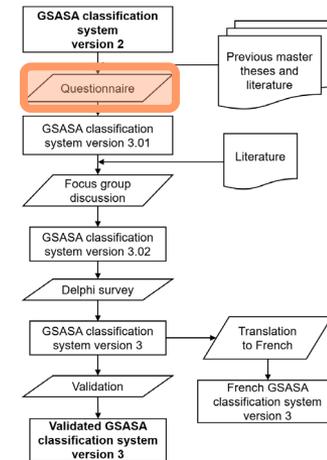


- General topic: shortcomings of the GSASA classification tool
- Findmind¹
- 49 questions
- German and French

- Inclusion criteria of particular interest for the revision:
 - $\geq 20\%$ stated uncertainties and specific suggestions for improvement were madeor
 - $\geq 30\%$ stated that they used specific categories never-rarely and specific suggestions for improvement were made

[1] Keller, F. *Findmind*, <<https://www.findmind.ch/>> [Last accessed: 21.3.2020]

Questionnaire: Results

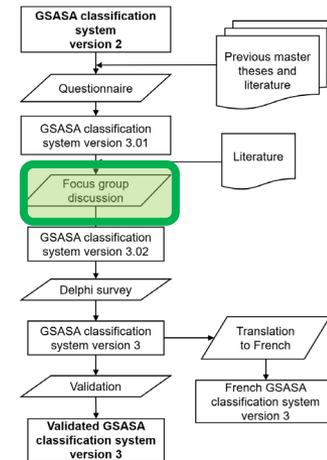


- A total of 108 participants, 44 institutions
- 88% (n=59) used the GSASA classification system
 - 51% (n=27) added subcategories
 - 77% (n=46) said that they were not fully satisfied

→ **GSASA V3.01**

Focus group discussion: Methods

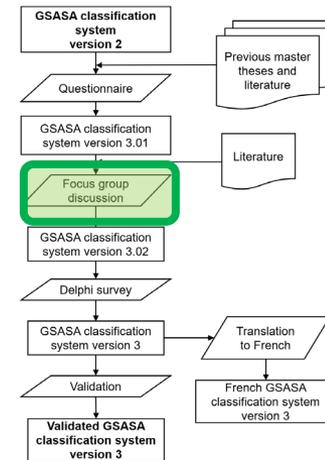
- Experts: from various hospitals, in various job positions, with large range of experience
- Virtual meeting by *Zoom Video Communications, Inc.* (California, USA)
 - Discussions
 - Votes
- Every change made had to be accepted by a majority in a vote



Focus group discussion: Results

- 14 votes, with a majority in favour in 12
- Additional suggestions for the future

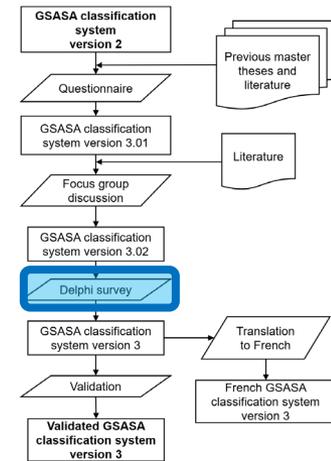
→ **GSASA V3.02**



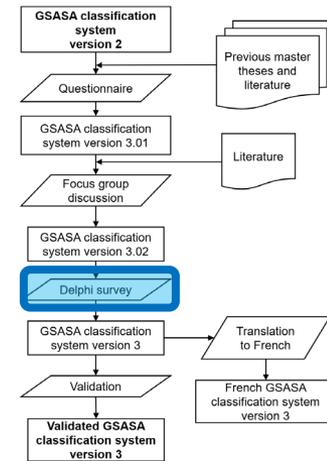
Participant	Sex	Age	Professional position	Working experience	Place of work
1	F	41	Leading clinical pharmacist	12 years	Cantonal hospital
2	M	33	Leading clinical pharmacist	5 years	Cantonal hospital
3	F	33	Certified clinical pharmacist	5 years	University hospital
4	F	30	Trainee in clinical pharmacy	2.5 years	Cantonal hospital
5	F	30	Trainee in clinical pharmacy	3.5 years	Cantonal hospital
6	F	29	Trainee in clinical pharmacy	1 year	University hospital

Delphi survey: Methods

- For each proposed amendment, it had to be indicated whether they disagreed(1), they rather disagreed (2), they rather agreed (3) or whether they agreed (4)
- Minimal agreement for implementation: 3.1 (70%)
- Further rounds, if the approval was too low, with the comments from the previous round



Delphi survey: Results

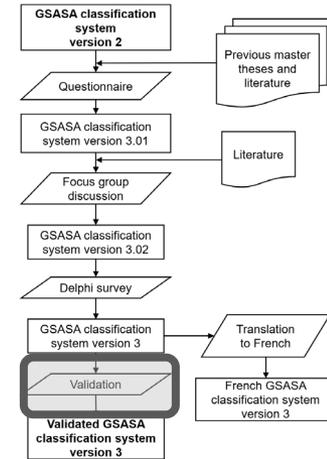


- 21 certified clinical pharmacists
- 2 new proposals for changes have been introduced during the Delphi survey
 - The naming of a new category and the modification of an explanation of a new category

	Delphi round 1	Delphi round 2
Proposed amendments	44	46
Median >3.1	41	43
Median <3.1	3	3
Changes implemented	-	44

Validation: Methods

- 8 pharmacists
- The same test cases, that were already used for GSASA V2
 - checked if still applicable
- Interrater Reliability: Fleiss' Kappa
 - Average strength of agreement
 - Interpretation according to Landis & Koch¹



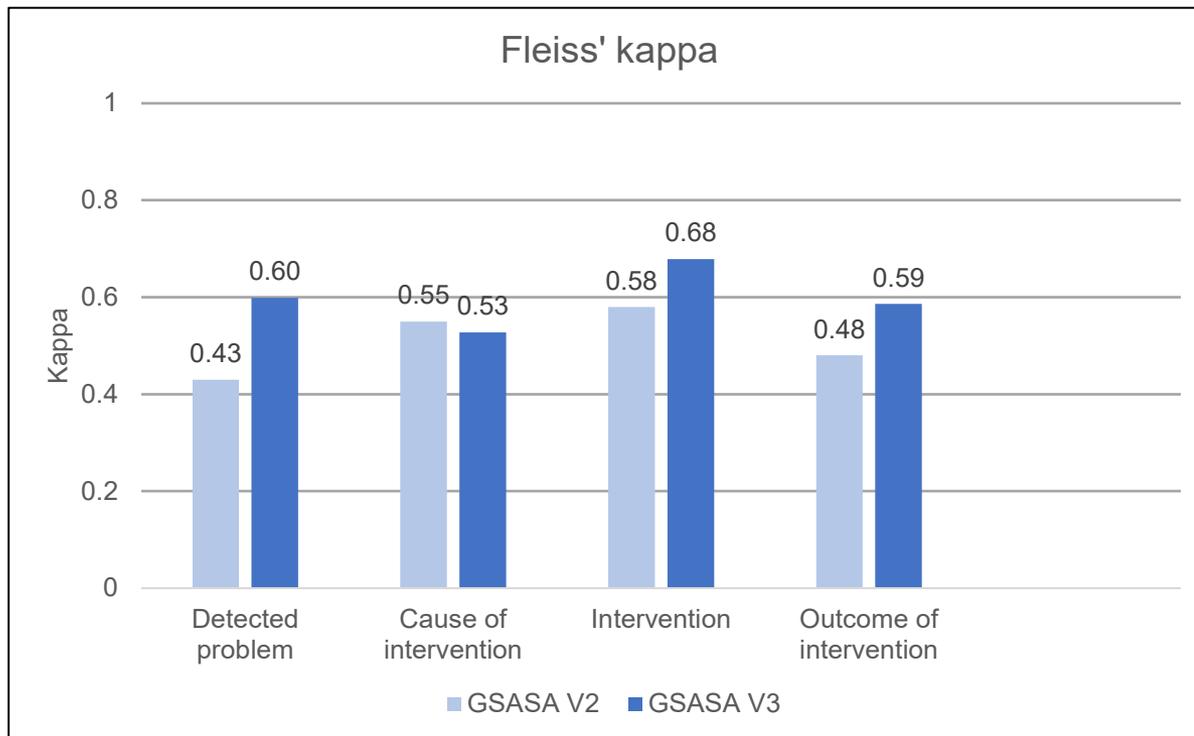
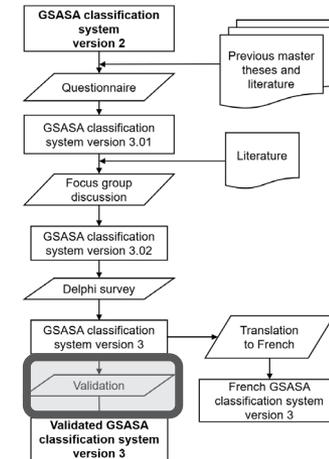
[1] Landis, J. R. & Koch, G. G. The Measurement of Observer Agreement for Categorical Data. *Biometrics* **33**, 159, doi:10.2307/2529310 (1977).

Validation: Results

average strength of agreement

GSASA V3: $\kappa = 0,60$ (moderate)

GSASA V2: $\kappa = 0,52$ (moderate)



Almost perfect

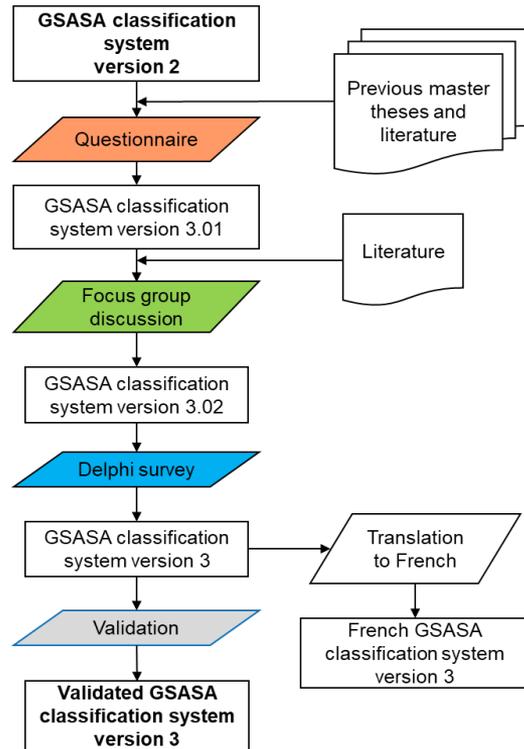
Substantial

Moderate

Fair

Slight

Summary.



GSASA version	V2	V3
Amount of categories	39	50
Pharmaceutical interventions	✓	✓
Medication reconciliation	✗	✓

Pharmaceutical intervention form: version 2
Date: _____ Drug: _____

Ward

- 1) Medicine
- 2) Surgery
- 3) Geriatrics
- 4) Orthopedics
- 5) Psychiatry
- 6) Intensive Care
- 7) Paediatrics
- 8) Paediatrics
- 9) Rehabilitation Centre
- 10) Other...

1-Detected Problem

- 1) Treatment effectiveness
- 2) Untreated indication
- 3) Safety of treatment
- 4) Treatment cost
- 5) Patient dissatisfaction

2-Cause of intervention (1 possibility)

Drug selection

- 1a) No concordance with guidelines or contraindication
- 1b) Drug not indicated or duplication
- 1c) Interaction
- 1d) Adverse effect
- 1e) Incomplete patient documentation

Logistics

- 6a) Prescribed drug not available
- 6b) Error in medication process

Patient

- 7) Insufficient compliance

Drug form

- 2) Inappropriate dosage form

Dose selection

- 3a) Underdose Dose too low
- 3b) Overdose Dose too high
- 3c) Inappropriate monitoring & missing ...
- 3d) Dose not adjusted to organ function

Therapy duration

- 4) Inappropriate therapy duration

Drug use

- 5a) Treatment not received
- 5b) Inappropriate timing or frequency of administration

3-Intervention (1 possibility)

- 1) Therapy started / restarted
- 2) Therapy stopped
- 3) Substitution
- 4) Dose adjustment
- 5) Therapy monitoring
- 6) Change of administration route
- 7) Optimisation of administration
- 8) Counselling of patient, training
- 9) Information to caregivers medical personnel
- 10) Clarification in the case notes
- 11) Report to pharmacovigilance centre
- 12) Other

4-Outcome of intervention

- 1) Accepted 1) Therapy change made
- 2) Partially accepted without implementation 2) Therapy change not made
- 3) Not accepted 3) Clarification initiated
- 4) Not known
- 5) Not applicable

1a) Contraindication
1b) Drug not indicated
1c) Duplication
1g) No concordance with guidelines / PIM

Introduction of various categories to classify medication reconciliation

● changes resulting from questionnaire ● changes resulting from focus group discussion ● changes resulting from Delphi surveys

Conclusion.

GSASA classification system V3

- 50 categories
 - 7 of them: optional for medication reconciliation
-
- Every change verified
 - Improvement in inter-rater reliability
-
- Further steps:
- Acceptance by the GSASA (working group pharmaceutical services)
 - Upload of the new version onto the GSASA webpage
 - Publication in scientific journal
-
- Outlook: digital database for national data collection



University
of Basel

Thank you
for your attention.