Improved quality of nursing documentation:
Results of a nursing diagnoses, interventions and outcomes implementation study

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Background

- Requirements for nursing:
  - quality assurance
  - efficiency
  - measurability

  due to laws and financial pressures in health care
  (Institute of Medicine, 2001; KVG)

- Results regarding enhanced interventions and outcomes after implementing classifications are still scarce

Classifications

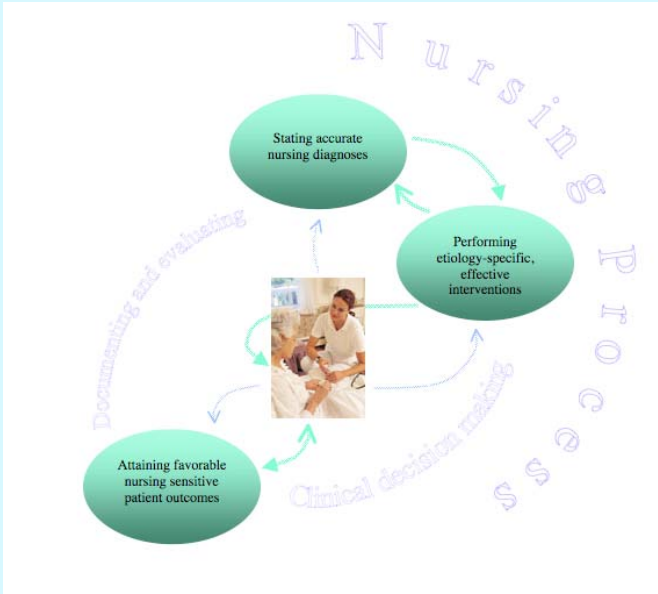
Classifications = Knowledge base

- **Nursing diagnoses**
  (impaired mobility, hopelessness)
  PES-Format
- **Nursing interventions**
  (exercise therapy, hope instillation/self-modification assistance)
- **Nursing outcomes**
  (enhanced ambulation, hope)

State of research

Don’t implement
or examine

nursing
diagnoses in isolation!



- To attain favorable nursing-sensitive patient outcomes:
  - accurate diagnoses
  - linked with effective nursing interventions (Lavin, 2005, Müller-Staub et. al, 2006)
- Need for coherent relations between nursing diagnoses, interventions and outcomes

(Delaney et al., 2000; Delaney & Moorhead, 1997; Denehy & Poulton, 1999; Larrabbee et al., 2001)

Theoretical framework

Frameworks and definitions of nursing diagnoses, interventions and outcomes

- NANDA International, NIC, NOC

Transfer into nursing process:

- Nurse‘s Pocket Guide

(Doenges, Moorhouse, & Murr; 2006)

Study aims

Evaluate the implementation of nursing diagnoses, interventions and outcomes

- Evaluating the effect of two educational follow-up measures

Research questions

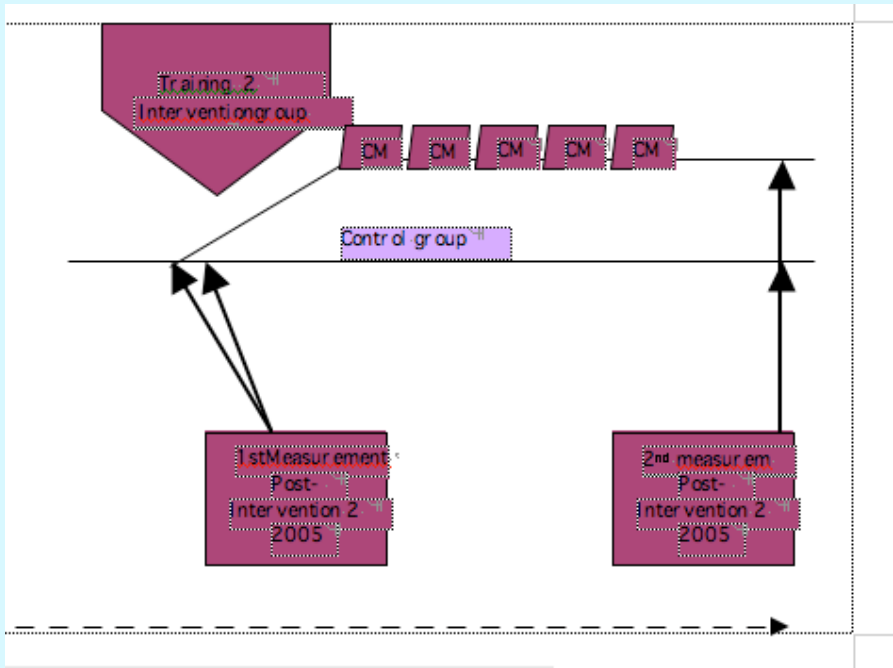
1. Does "Guided Clinical Reasoning" lead to
   - correctly formulated nursing diagnoses, including signs/symptoms and etiology?
   - aetiology-specific nursing interventions?
   - measurable, achievable nursing outcomes, describing the improvement in patients?
2. Difference between intervention and control group?

Methods

Guided clinical reasoning (intervention group)
Classic case discussions (control group)

- Cluster-randomized, experimental intervention study (Duration: 17 months)
- Evaluation with Q-DIO
- Sample: 444 nursing diagnoses, interventions and outcomes
- Data analysis: Q-DIO; T-tests and multi-level analyses

Experimental design



Research field

- General, Swiss State Hospital
- Project to implement nursing diagnoses, interventions and outcomes (3 years) (Odenbreit, 2005)
- Implementation of nursing diagnostics: good results
- ..... Potential to enhance accuracy, coherence and outcomes

Guided Clinical Reasoning

- Nursing diagnoses (P = labels and definitions, NANDA)
- Accurate etiologies
- Correct signs/symptoms (S)
- Setting nursing goals/outcomes
- Effective interventions
- Reassessment / Evaluation of nursing diagnoses
- Relations:
  outcomes ⟺ nursing interventions
  interventions ⟺ nursing diagnoses (Odenbreit, 2002a)

Method	Guided clinical Reasoning	Classic Case discussion
Duration	1.5 h/month; 5 months	1.5 h/month; 5 months
Data	Actual patients‘ situation	Actual patients‘ situation
Aims	Foster critical thinking/clinical reasoning: **accurate nursing diagnoses,** **effective interventions** **desired outcomes**	Fostering use/application of NANDA, including interventions and outcomes
Paedagogical approach	Interactive method, iterative hypothesis testing, internal relations between NNN	Knowledge destillation
Qualification	RN, Master Nursing Science, Nurse Educator, specialized in “Guided Clinical Reasoning” and NNN	Nursing expert FH-Diploma in Nursing Management, Knowledge about NNN

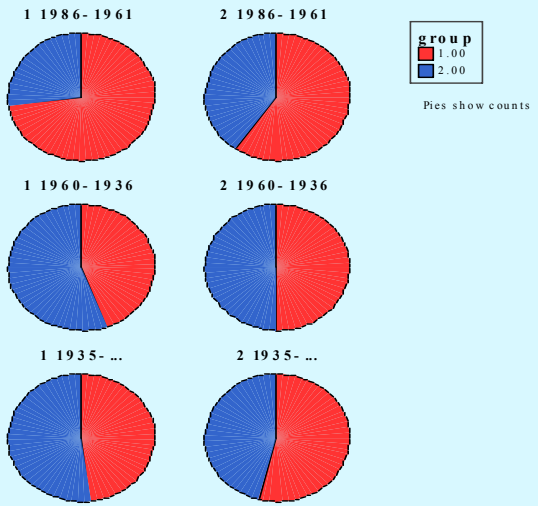
Measurement Instrument Q-DIO **Nursing diagnoses as product**	**5-point scale**				
	4	**3**	**2**	**1**	**0**
12. Nursing problem/nursing diagnosis label is documented					
13. Nursing diagnosis label is formulated according to NANDA and numbered					
14. The etiology (E) is do cumented					
15. The etiology (E) is correct, related /corresponding to the nursing diagnosis (P)					
16. Signs and symptoms are formulated					
17. Signs and symptoms (S) are correctly related to the nursing diagnosis (P)					
18. The nursing goal r elates /corresponds to the nursing diagnosis					
19. The nursing goal is achievable through nursing interventions					
8 Items, maximum score = 32, mean = 4					
Nursing interventions	**4**	**3**	**2**	**1**	**0**
20. Concrete, clearly named nursing interventions according t o NIC are planned (what will be done, how, how often, who does it)					
21. The nursing interventions effect the etiology of the nursing diagnosis					
22. Nursing interventions carried out, are documented (what was done, how, how often, who did it)					
3 Items, maximum score = 12, mean = 4					

Nursing sensitive patient outcomes	**4**	**3**	**2**	**1**	**0**
23. Acute, changing diagnoses are assessed daily or form shift to shift / enduring diagnoses are assessed every fourth day					
24. The nursing diagnosis is reformulated					
25. The nursing outcome is documented					
26. The nursing outcome is observably /measurably documented according to NOC					
27. The nursing outcome shows - improvement in patientõs symptoms - improvement of patientõs knowledge state - improvement of patientõs coping strategies - improved self-care abilities - improvement functional status					
28. There is a relationship between nursing sensitive patient outcomes and nursing interventions					
29. Nursing outcomes and nursing diagnoses are internally related					
7 Items, maximus score = 28, mean = 4 **Total Items 29**					

Sample

- ✓ Nursing documentatin of 225 patients
- ✓ 444 Nursing diagnoses (222 prä + 222 post-intervention)

Alter/Geschlecht



Frauen

Männer

1 = Interventiongroup **2 = Controlgroup**

- No stat. significant differences in age, gender medical condition and group allocation

Results

	Pre- intervention Mean (SD)	Post-intervention
Nursing diagnoses		
Intervention group	2.69 (SD = .90)	3.70 (SD = .54) *
Control group	3.13 (SD = .89)	2.97 (SD = .80)
Nursing interventions		
Intervention group	2.33 (SD = .93)	3.88 (SD = .35) *
Control group	2.70 (SD = .88)	2.46 (SD = .95
Nursing outcomes		
Intervention group	1.53 (SD= 1.08)	3.77 (SD = .53) *
Control group	2.02 (SD = 1.27)	1.94 (SD = 1.06)

Intervention group: t-Tests p < 0.0001

Results: exemples

Control group

<u>Nursing problem</u>

"Patient has a decubitus at left heel"

Intervention group - Guided Clinical Reasoning

<u>Nursing Diagnosis</u>:

Impaired tissue integrity: Dekubitus, grade II

Etiology/related factors:

- Altered circulation
- Mechanical (pressure, shear, friction)
- Impaired physical mobility
- Nutritional deficit

Signs/symptoms (def. characteristics)

- Distroyed tissue at left heel, 2x3 cm wide, 1mm deep)

Results...

Control group	Intervention group - Guided Clinical Reasoning
Nursing goal	**Desired Outcomes/nursing goals**
1) "Healing of wound"	1) "Patient displays progressive improvement in wound, healing w/o complications 2) Patient displays balanced nutritional stage (no signs of nutritional deficit) 3) Patient verbalizes and understands her condition and causative factors 4) Patient actively participates in interventions (change of wound dressings/ changes in position, physical mobility)"

Results...

Control group	Intervention group - Guided Clinical Reasoning
Nursing interventions 1)„Change bed position every 4 hours 2)„ Change dressing daily”	**Nursing interventions** 1) „Observe wound daily 2) Constant pressure-free positioning of heel 3) Aguagel dressing, next change at (date) 4) Positioning patient every 3 hours with wedge-pillow 5) Mobilize patient 3 times daily for meals 6) observe and document food and fluid intake (see protocols) 7) Instruction of patient about condition and interventions“

Results...

Control group

Nursing outcomes

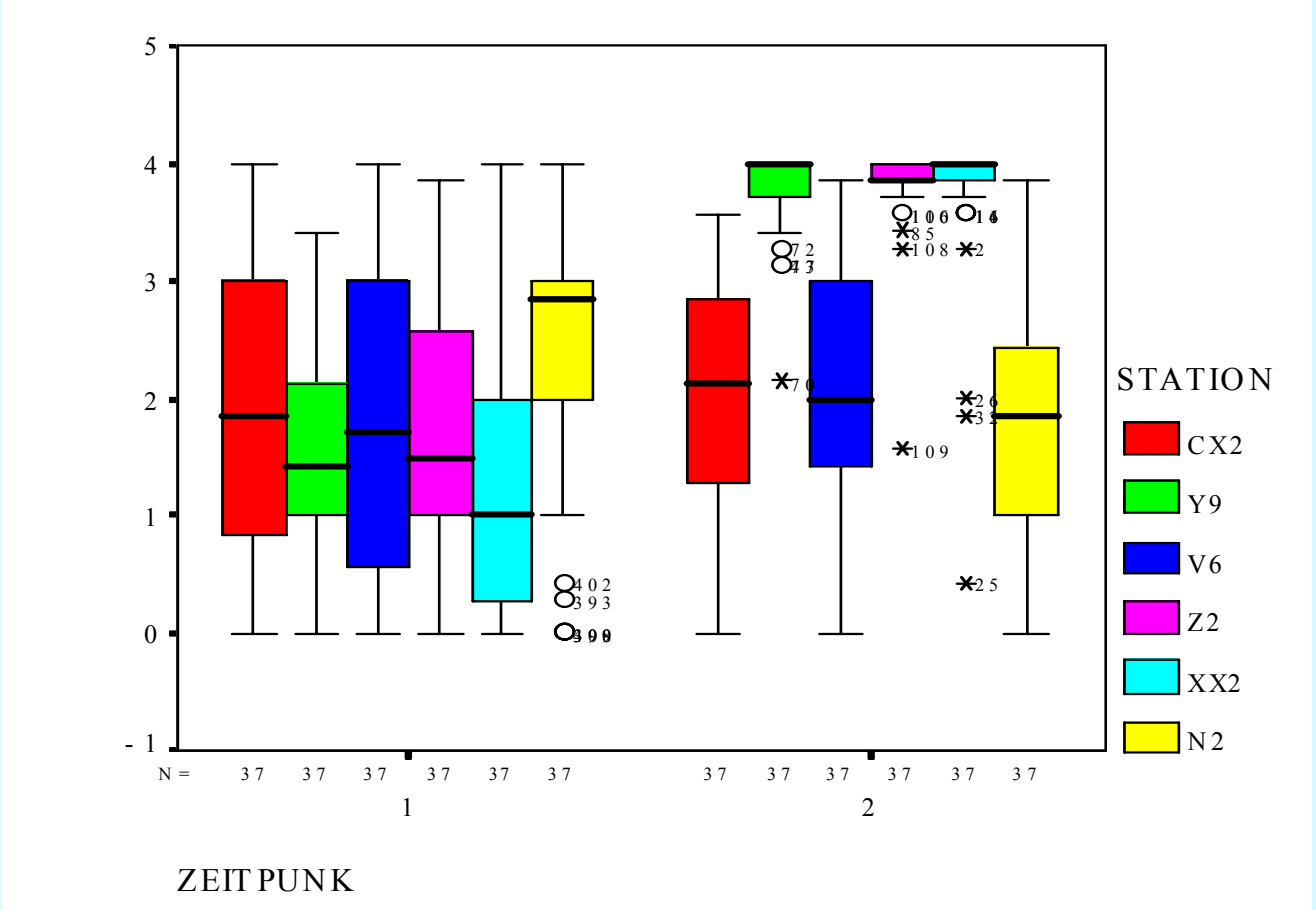
1)“Skin still read, small tissue damage”

Intervention group - Guided Clinical Reasoning

Nursing outcomes

1) „Tissue integrity/observable healing with epithelized, dry, irritation- and odorless skin, free of pain
2) Unimpaired mobility of joint
3) Improved self-care ability = patient performs skin observation and care, changes of position, mobility and constant pressure free positioning of heel
4) Patient can explain her condition, the etiology (pressure, immobility, nutritional status and meaning of risk management).

Nursing outcomes



T-Tests und Mann Whitney Signifikanz Test $p < 0.0001$

Discussion

- Significant/clinically meaningful quality improvements: engouraging for nurses, educators and managers

- Guided Clinical Reasoning + + +

- Nurses need support through educational measures
- Methodological considerations

Conclusions

- The Nurse‘s Pocket Guide:
  transfer diagnoses, interventions and outcomes into the nursing process and for quality documentation (Doenges et. al, 2002)
- Implementation into
  electronic patient documentation,
  including linkages
  nursing assessements, reports)

Thank you!

Results, other: exemples of diagnoses...

Pre-intervention

Nursing problem

Urinary incontinence; no PES

- **-----**
- **-----**
- **----**
- Confusion, no PES
- **----**
- Risk for falling: sometimes…

Post-intervention

Nursing Diagnosis

Urinary incontinence, total. includ.signs/symt. + etiol. fact.

Hopelessness includ.signs/symt. + etiol. fact.

Anxiety includ.signs/symt. + etiol. fact.

Coping, ineffective includ.signs/symt. + etiol. fact.

Confusion, acute includ.signs/symt. + etiol. fact.

Sensory Perception, impaired (visuel, kinesthetic)

Risk for falling includ.signs/symt. + etiol. fact.