How does the nurse-patient ratio influence the quality and safety of renal care?

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Staffing of dialysis clinics

• Staffing of dialysis clinics has changed considerably over the past two decades

• A wide variation was found in perceived best practice staffing ratios, particularly for patient-to-nurse
Various European countries experienced HD/HDF treatment reimbursement rate cuts

As a consequence, some dialysis centres increased nurse-patient ratio

Is this the best solution?
Nurse – patient ratio

- The recommended nurse-patient ratio for chronic haemodialysis is 1:4, some dialysis centres increased it up to 1:6 or 1:8
- Do we believe that quality of care is always the same?
What can happen if nurse is responsible for too many patients?

- Quality of care might be compromised as nurse is just a human being with two hands and two eyes
- Patients may feel unsecure
- Nurses can experience “burnout syndrome“ and leave the healthcare sector
Venous needle dislodgement (VND) happens when the venous fistula needle becomes dislocated out of the vascular access, resulting in blood loss. This can lead to a rapidly declining blood volume in the patient and may cause morbidity and mortality if not discovered quickly.
At typical hemodialysis blood flow rates of 300 to 400 ml/minute, it can take only minutes for the patient to lose over 40% of blood volume.

There is statistical evidence that the risk of venous needle dislodgements (VND) is higher if the unit has a higher nurse-patient ratio.
Risk for a serious VND incident

- The risk for a serious venous needle dislodgement (VND) incident depends on both:
  - the likelihood of the needle becoming dislodged and
  - the likelihood that the action necessary to stop blood loss will not be taken in time to prevent serious harm e.g. nurse is responsible for too many patients.
In order to further educate nurses and prevent VND incidents, the EDTNA/ERCA performed the assessment of the overall risk for a serious VND incident and identified the possible risk factors that contribute to the overall risk of VND.
Groups of risk factors related to:

- The staff failing to observe that a VND had occurred or was likely to occur (e.g. due to tension on the lines, loose tape)
- The patient not realising that a VND occurred or not raising the alarm (e.g. due to dementia, lack of awareness)
- The patient behaviour that could dislodge a needle (e.g. uncontrolled movement, tampering with the tapes)
- Security of the taping of the needle and line (e.g. difficult needle angle, excessive perspiration)
Why is it important to take general actions, not just in renal care?

- The RN4CAST study conducted by the National Institute of Nursing Research (NINR) confirmed that hospitals in Europe, where nursing staff care for fewer patients and have a higher proportion of bachelor’s degree-trained nurses, had significantly fewer surgical patients die while hospitalized.
Why is it important to take actions?

- The RN4CAST study estimated that an increase in hospital nurses’ workloads by one patient increases the likelihood of in hospital death by 7 percent.

- Also, a better educated and trained nurse workforce was associated with fewer deaths. For every 10 percent increase in nurses with bachelor’s degrees, there was an associated 7% drop in the likelihood of deaths.
A consortium of scientists from the University of Pennsylvania School of Nursing, Philadelphia and from the Catholic University of Leuven in Belgium, reviewed hospital discharge data of nearly 500,000 patients from nine European countries who underwent common surgeries.

They also surveyed over 26,500 nurses practicing in study hospitals to measure nurse staffing and education.

Can we rely on these data?
Way forward

• Scientific associations and organizations to define a “best practice” nurse-patient ratio for chronic HD

• Government and healthcare organizations to define minimum HD/HDF treatment reimbursement rates for all European countries as differences are enormous starting from 85 Euro per HD treatment
Way forward

- Contradictory, some countries have HD treatment reimbursement rate 250 Euro
- Are renal patients different according to where they live?
- Are we going forward?
Thank you for your attention!