Optimizing Recovery Following Stroke

4/16/21

Scott Bankard, MPT, MHA

Incidence / Prevalence

- Every 40 seconds[1]
- Leading cause of disability
- 7 million survivors
- 2000-2010: 800,000 individuals per year

JAMA Network

- Hong et al.[2]
  - Cohort study of Medicare patients from 2012-2014
  - 99,185 Medicare Patients > 66 years old
    - 66% admitted to IRF, 33.4% admitted to SNF
  - Main Outcome measures: changes in mobility and self-care during an IRF or SNF stay
    - FIM and MDS assessments utilizing crosswalk developed by Mallinson et al.
  - Findings
    - In the four instrumental variable models, the differences in improvement in mobility scores between IRF and SNF patients was between 5 and 10 points and 8 and 12 points for self-care
      - 10 point difference in self-care is the difference between Max assist and supervision

AHA/ASA Guideline

- Winstein, CJ et al.[3]
- Synopsis of best clinical practices; 944 articles reviewed
  - Classification of recommendations and level of evidence
- Idea of a "chronic condition," 3-4 months should not be the end
- Strong data to support early OT/PT/ST
- Lit review shows that IRF patients have higher rates of return to community living and greater functional recovery
- *"…consistency of the findings in favor of IRF referral suggests that stroke survivors who qualify for IRF services should receive this care in preference to SNF-based care."*
- "*Ideally, rehabilitation services are delivered by a multidisciplinary team of healthcare providers with training in neurology, rehabilitation nursing, OT, PT, speech and language therapy. Such teams are directed under the leadership of physicians trained in physical medicine and rehabilitation (physiatrists) or by neurologists who have specialized training or board certification in rehabilitation medicine.*"

Stroke

- Duncan et al.[4]
- Hypothesis: Patients who received the best process of care as measured by compliance with the stroke rehabilitation guidelines would have better functional outcomes.
  - Agency for Health Care Policy and Research, (AHCPR)
  - 26 recommendations on the assessment and management of stroke patents in acute and post-acute settings
    - Reviewed and classified recommendations into Dimensions of Stroke Care

AHCPR Dimensions of Stroke Care

Acute Care

1. Multidisciplinary team coordination
2. Baseline assessment
3. Early initiation of rehabilitation
4. Management of general health functions
5. Prevention of complications
6. Preventions of recurrent stroke
7. Use of standardized scales appropriate for stroke
8. Screening for rehabilitation placement

Post-Acute Care

1. Multidisciplinary team coordination
2. Baseline assessment
3. Goal setting
4. Treatment plan
5. Monitoring of progress
6. Management of impairments/disabilities
7. Preventions of complications
8. Preventions of recurrent stroke
9. Family involvement
10. Patient and family education
11. Discharge planning

Stroke continued

- 288 stroke patients in 11 Department of Veteran Affairs Medical centers
- Prospective study for 6 months between Jan 1998 and Mar 1999
- Data abstraction from medical records and telephone interviews
- Outcome measures
  - Primary
    - FIM
  - Secondary
  - IADL
  - SF-36 physical functioning
  - Stroke Impact Scale (SIS)

Stroke *continued*

- Findings
  - Level of compliance with post acute rehabilitation guidelines was significantly associated with FIM motor, IADL and SIS aggregate physical domain scores
  - Clear differences in level on compliance depending on rehab setting
    - *"Nursing home compliance substantially worse than inpatient rehab."*

So…what is the take home message?

- Let's consider the research in discharge planning
  - Right bed vs. fastest bed, (path of least resistance)
  - Short-term vs long term financial costs
    - ALOS
    - Readmissions

Leading a hospital during a Pandemic

- The mission was the same, but operationalizing it had some challenges
  - Fear/anxiety
  - Fluid recommendation/guidelines
  - The MASK
    - Loss of identities and reading facial expressions
  - Communication
  - Limiting visitation
  - “Diagnosis blurring”

References

1. American Stroke Association

https://www.stroke.org/

2. Hong I et al. Comparison of Functional Status Improvements Among Patients With Stroke Receiving Postacute Care in Inpatient Rehabilitation vs. Skilled Nursing Facilities. *JAMA Network Open*. 2019;2(12):e1916646. doi:101001/jamanetworkopen.2019.16645.

3. Winstein CJ et al. Guidelines for Adult Stroke Rehabilitation and Recovery: A Guideline or Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke.* 2016;47:98-169.

https://www.ahajournals.org/doi/full/10.1161/str.0000000000000098

4. Duncan et al. Adherence to Postacute Rehabilitation Guidelines Is Associated With Functional Recovery in Stroke. Stroke. 2002:33:167-178.