

HA Convention 2026

A comparison of PHQ-9 and GDS in screening post-stroke depression of non-elderly stroke patients in Stroke Rehabilitation Unit (SRU)

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Introduction

- ◆ Post-stroke depression (PSD) affects ~1/3 of stroke patients
- ◆ Associated with:
 - Higher risk of recurrent stroke
 - Poor prognosis
 - Reduced quality of life
 - Increased mortality.....




Introduction

- Current practice: Geriatric Depression Scale (GDS) used for geriatric patients at admission and before discharge
- No. of young stroke patients ↑, Patient Health Questionnaire (PHQ)-9 with no age restriction introduced to SRU since 2024
- If screened +ve, +/- refer to MSW, CP & PSY

| | | |
|---|---|-------|
|  RUTTONJEE HOSPITAL  TANG SHIU KIN HOSPITAL | Please Affix Gum Label or Use Block Letters | |
| | HN: _____ | _____ |
| | Name: _____ (中文) | _____ |
| | ID No: _____ Sex/Age: _____ | _____ |
| | Dept: _____ Ward/Bed: _____ | _____ |
| Department of Medicine & Geriatrics Geriatric Depression Assessment Form | | |
| Geriatric Depression Scale | | |
| | YES | / NO |
| 1. Are you basically satisfied with your life? 你基本上滿意你自己的生活嗎? | (0) | (1) |
| 2. Have you dropped many of your activities and interests? 你有沒有放下一些往來的活動和興趣? | (1) | (0) |
| 3. Do you feel that your life is empty? 你覺得生活空虛嗎? | (1) | (0) |
| 4. Do you often get bored? 你常感到無聊嗎? | (1) | (0) |
| 5. Are you in good spirits most of the time? 你的心情時常都很好? | (0) | (1) |
| 6. Are you afraid that something is going to happen to you? 你是否害怕會發生一些不幸的事情? | (1) | (0) |
| 7. Do you feel happy most of the time? 你時常都感到愉快嗎? | (0) | (1) |
| 8. Do you often feel helpless? 你時常都感到無可奈何嗎? | (1) | (0) |
| 9. Do you prefer to stay at home, rather than going out and doing new things? 你寧願安坐家中而不願出外閒逛? | (1) | (0) |
| 10. Do you feel you have more problems with memory than most? 你認為自己的記憶力較別人差嗎? | (1) | (0) |
| 11. Do you think it is wonderful to be alive now? 你認為現在生存是一件好事嗎? | (0) | (1) |
| 12. Do you feel pretty worthless the way you are now? 你認為現在生活得毫無價值嗎? | (1) | (0) |
| 13. Do you feel full of energy? 你精力充沛嗎? | (0) | (1) |
| 14. Do you feel that your situation is hopeless? 你對自己的境況感到絕望嗎? | (1) | (0) |
| 15. Do you think that most people are better off than you are? 你認為別人的境況比你好得多嗎? | (1) | (0) |
| | Total Score : /15 | |
| Name of Assessor: _____ Rank _____ Date _____ | | |
| Cut-off Pointing: A score ≥ 8 is considered the risk of depression | | |

Geriatric Depression Assessment Form

| | | |
|--|---|---|
|  | Primary & Community Services | Doc No.: PCS-PC-OM-002 |
| | | Page: Page 43 of 51 |
| | Manual for Integrated Mental Health Programme | Approved by: COC(FM) |
| | | Issue Date: 1 st April 2016 |
| | | Review Date: 1 st April 2019 |

K. Appendix 2: PHQ 9 and GAD 7 questionnaires

K1. English version of PHQ-9

| Over the last 2 weeks, how often have you been bothered by any of the following problems? (use "✓" to indicate your answer) | Not at all | Several days | More than half the days | Nearly everyday |
|--|------------|--------------|-------------------------|-----------------|
| 1. Little interest or pleasure in doing things | 0 | 1 | 2 | 3 |
| 2. Feeling down, depressed, or hopeless | 0 | 1 | 2 | 3 |
| 3. Trouble falling or staying asleep, or sleeping too much | 0 | 1 | 2 | 3 |
| 4. Feeling tired or having little energy | 0 | 1 | 2 | 3 |
| 5. Poor appetite or overeating | 0 | 1 | 2 | 3 |
| 6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down | 0 | 1 | 2 | 3 |
| 7. Trouble concentrating on things, such as reading the newspaper or watching television | 0 | 1 | 2 | 3 |
| 8. Moving or speaking so slowly that other people could have notice. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual | 0 | 1 | 2 | 3 |
| 9. Thoughts that you would be better off dead, or of hurting yourself in some way | 0 | 1 | 2 | 3 |
| Total : _____ | | | | |

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

| | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Not difficult at all | Somewhat difficult | Very difficult | Extremely difficult |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3

Objectives

- To compare the results of GDS and PHQ-9 of young stroke patients in the SRU
- To analyze the correlation between both screening tools in identifying depressive symptoms in those patients



Methods

- ◆ Study period: May 2024 – Oct 2025
- ◆ Target population: patients <65 admitted to SRU (2 wards)
- ◆ Nursing Assessments: GDS & PHQ-9 at admission & before discharge

Cut-off scores(indicates risk of depression)

- **GDS** ≥ 8
- **PHQ-9** ≥ 10

- Analysis: Pearson correlation test

Note: Depression should not be diagnosed or excluded solely on the basis of a PHQ-9 score. A PHQ-9 score ≥ 10 has a sensitivity of 88% and a specificity of 88% for major depression.¹ Since the questionnaire relies on patient self-report, the practitioner should verify all responses. A definitive diagnosis is made taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient.

| | | | | | |
|---|--|--|------------|------------|-------------------------|
| Name of Assessor: _____ | | | Rank _____ | Date _____ | Total Score : _____ /15 |
| Cut-off Pointing: <u>A score ≥ 8 is considered the risk of depression</u> | | | | | |
| MR-M&G/GER-006-07/18 | | | | | |

Results

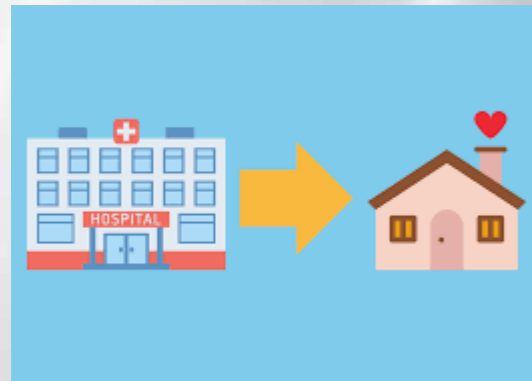
- Total patients: 52 (39 males, 13 females)
- Age: 38–64 (mean 56.4)



Excluded: communication difficulties,
incomplete records & not yet discharged

Analyzed pairs:

- Admission: 39 & Discharge: 40



Results

Admission phase (39 patients):

- GDS: 5 patients at risk
- PHQ-9: 2 patients at risk

Discharge phase (40 patients):

- GDS: 2 patients at risk
- PHQ-9: 1 patient at risk

| | Risk of depression | No risk of depression |
|-----------|--------------------|-----------------------|
| Pre GDS | 5 | 34 |
| Pre PHQ-9 | 2 | 37 |

| | Risk of depression | No risk of depression |
|------------|--------------------|-----------------------|
| Post GDS | 2 | 38 |
| Post PHQ-9 | 1 | 39 |

Total **7** cases flagged by GDS but PHQ-9 only found 3 cases!!

Results

- ◆ Positive correlation between GDS & PHQ-9 at both phases

Correlations between GDS and PHQ-9 in admission phase

| | | preGDS | prePHQ9 |
|---------|---------------------|--------|---------|
| preGDS | Pearson Correlation | 1 | .606** |
| | Sig. (2-tailed) | | .000 |
| | N | 44 | 39 |
| prePHQ9 | Pearson Correlation | .606** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 39 | 39 |

** . Correlation is significant at the 0.01 level (2-tailed).

Correlations between GDS and PHQ-9 in discharge phase

| | | postGDS | postPHQ9 |
|----------|---------------------|---------|----------|
| postGDS | Pearson Correlation | 1 | .698** |
| | Sig. (2-tailed) | | .000 |
| | N | 43 | 39 |
| postPHQ9 | Pearson Correlation | .698** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 39 | 40 |

** . Correlation is significant at the 0.01 level (2-tailed).

Implications

- ◆ +ve correlation between GDS & PHQ-9
- ◆ GDS identified more cases than PHQ-9
- ◆ GDS appears more inclusive for young stroke patients



Way forward

Further study with

- larger sample size
- Demographic balance e.g. balanced ratio of female & male targets

- Use of GDS in young stroke patients: extend to ASU, other medical wards



Conclusion

- ✓ Young stroke patients with higher GDS scores → higher PHQ-9 scores



→GDS: recommended as the standard screening tool for PSD in young stroke patients in SRU

References

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