Prevention of Late-Life Depression in Low & Middle Income Countries: An Intervention Development Project (DIL)

Charles F. Reynolds III, MD

Vikram Patel, MD

Pim Cuijpers, PhD

Alex Cohen, PhD
Jennifer Morse, PhD
Stewart Anderson, PhD
Amit Dias, MD

Sangath

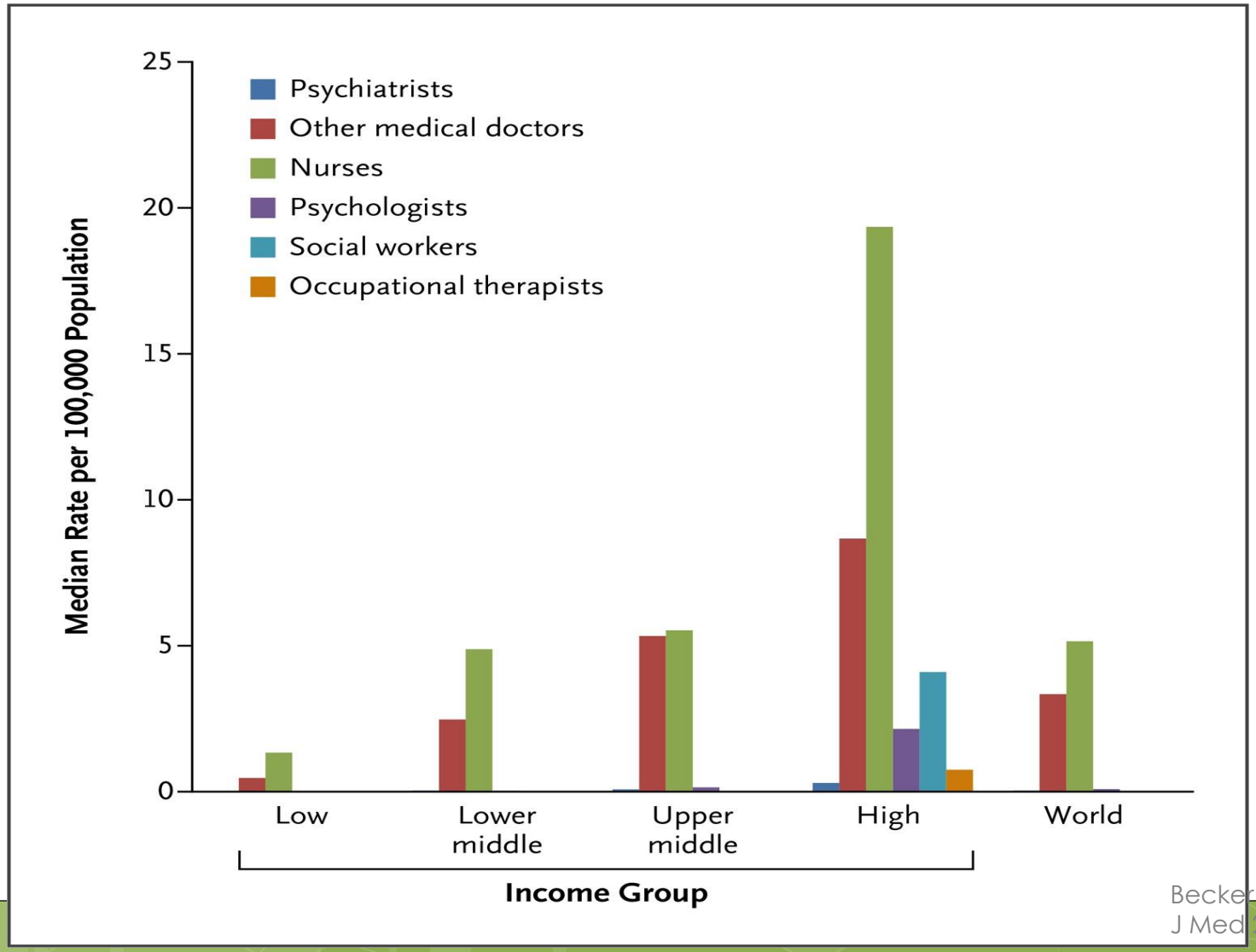
vrije Universiteit amsterdam


GOA
IS LIKE A FRIDGE,
BECAUSE
EVERYONE JUST
CHILLS HERE.
Amritsar
PRADESH
Shimla
CHINA
(Tibet)
NEPAL
Chennai
PONDICHERRY
TAMIL
NADU
KERALA
ISLANDS

kground

- Depression in older adults is a growing challenge in the LMIC
- Utilization of lay health counselors to promote task shifting and efficient utilization of scarce mental health resources
- Using experiences from the **MANAS/RX** (treatment) and the Dementia Home Care project to inform content and strategies for DIL (Patel et al., 2010)

Scarcity of Human Resources for Mental health services in the LMIC



Becker Anne et al. N Engl J Med 2013; 369:66-73

Learn how to use your resources the right way

Depression **i**n Late **L**ife (Dil)Study

- **Randomized** depression prevention trial carried out in Goa, India, using **lay health counselors** (LHCs)
  - ✓ Allow for flexibility and cost-effectiveness when adopting the interventions to a wide variety of settings

Tools for Screening

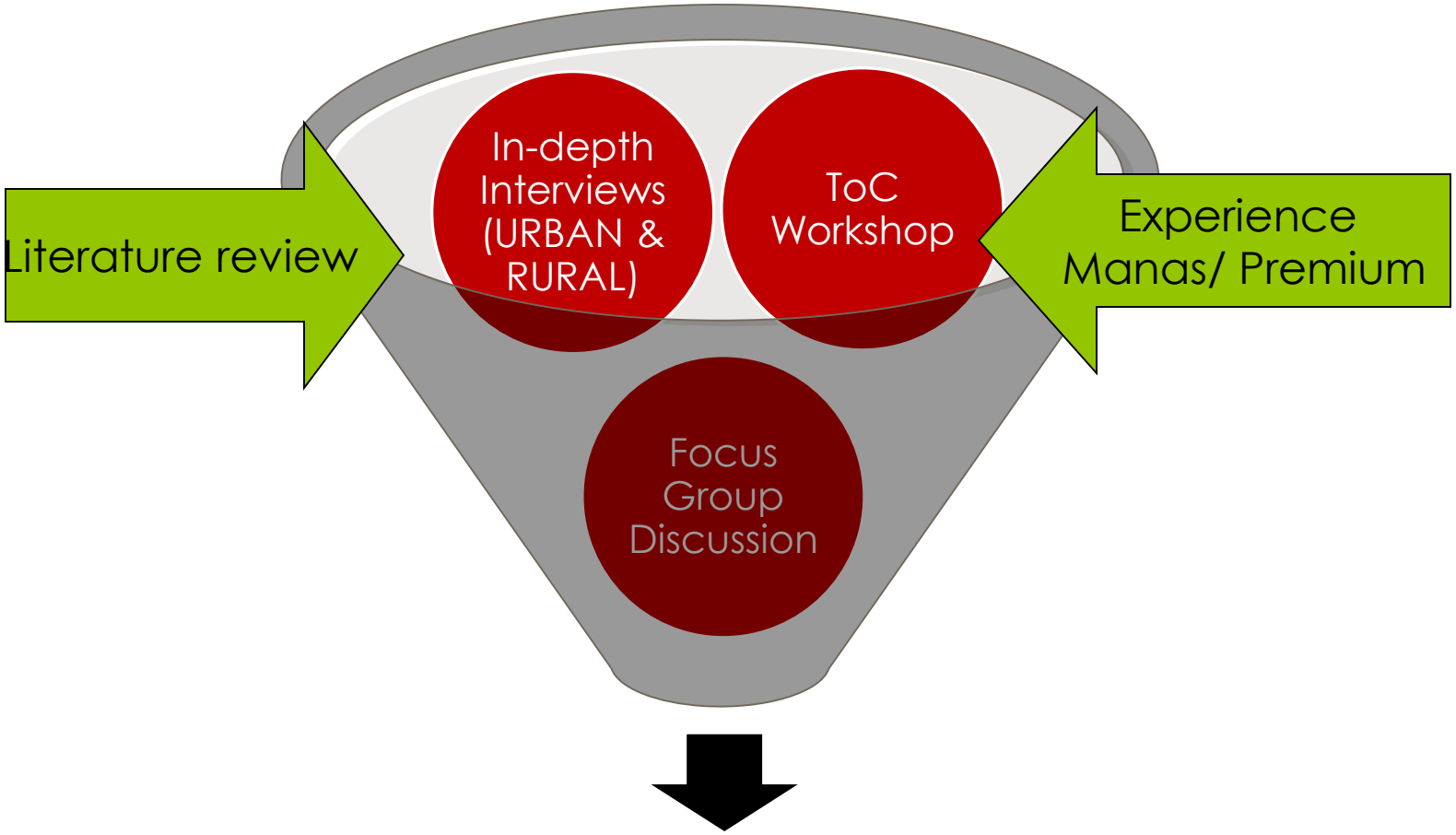
- **General Health Questionnaire (**GHQ) to evaluate the depressive and anxiety symptoms of the participants. (Those participants who scored a score of 4 or more in the GHQ scale were deemed to have symptoms of depression and anxiety)
- **Mini International Neuropsychiatric Interview** (MINI) 6.0 to rule out active cases. (Only those participants who were negative on the MINI 6.0 were included)
- **Hindi Mini Mental State Examination (HMMSE)**. (Those who scored 24 or more were included).
- **WHO Disability Assessment Schedule** (WHODAS 2.0) 12 item interviewer administered. (The WHODAS score was not used as an exclusion criteria)

We used the same questionnaire for the outcome evaluation following the DIL intervention

Inclusion & Exclusion Criteria

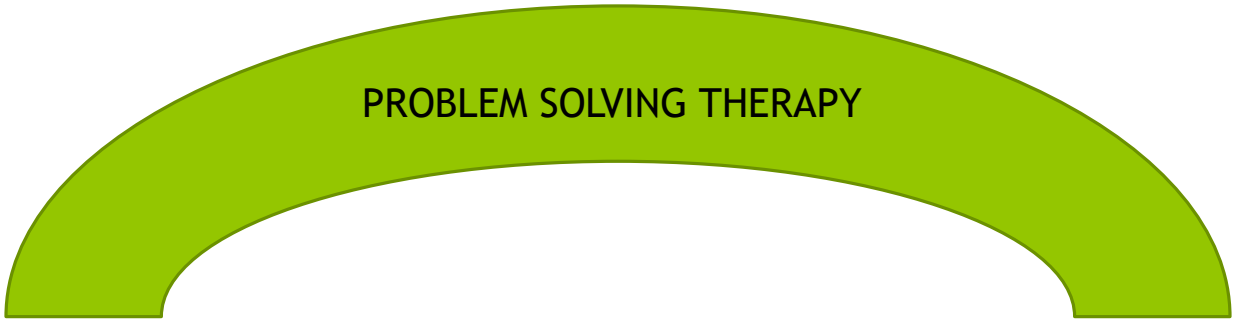
- Include
  - Age 60 years and above
  - GHQ score of 4 or above
  - Negative on MINI 6.0
  - Residing in the catchment area
  - English, Hindi or Konkani speaker
- Exclude
  - On anti-depressant medications
  - Moderate to High Suicidality
  - Dementia
  - Terminal Illnesses

Formative Phase (Phase I)



Strategies & Intervention

Components of the Intervention



I	• Identify the Problem
N	• Note realistic achievable goal
S	• Search for all possible solutions
P	• Probe pros & cons of each solution
I	• Identify preferred solution
R	• Run with the action plan
E	• Evaluate the outcome

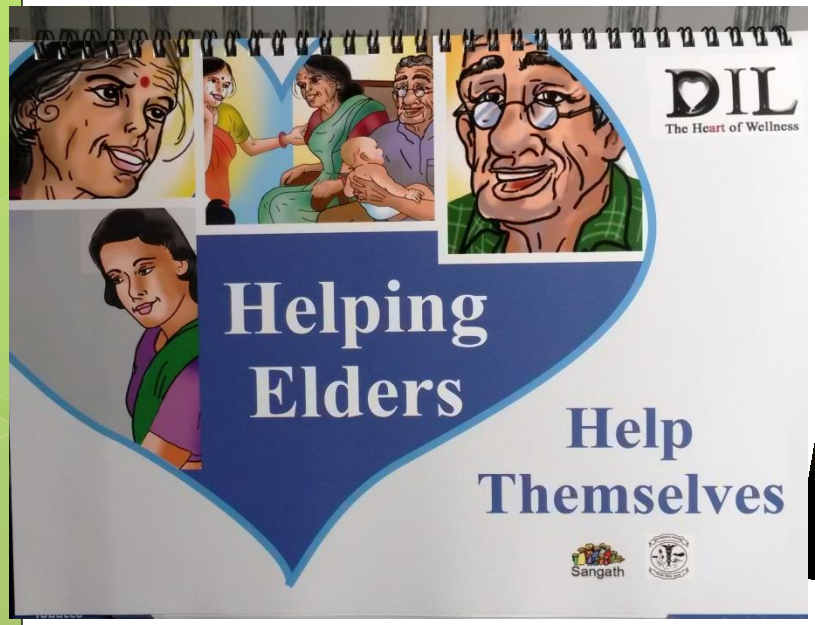
Components: Brief Behavioural Therapy for Insomnia (BBTI)

- Connection between depression and insomnia
- BBTI is simple and effective
- Good sleep improves overall health and well-being
- Better sleep= better problem solving = depression

Adaptation

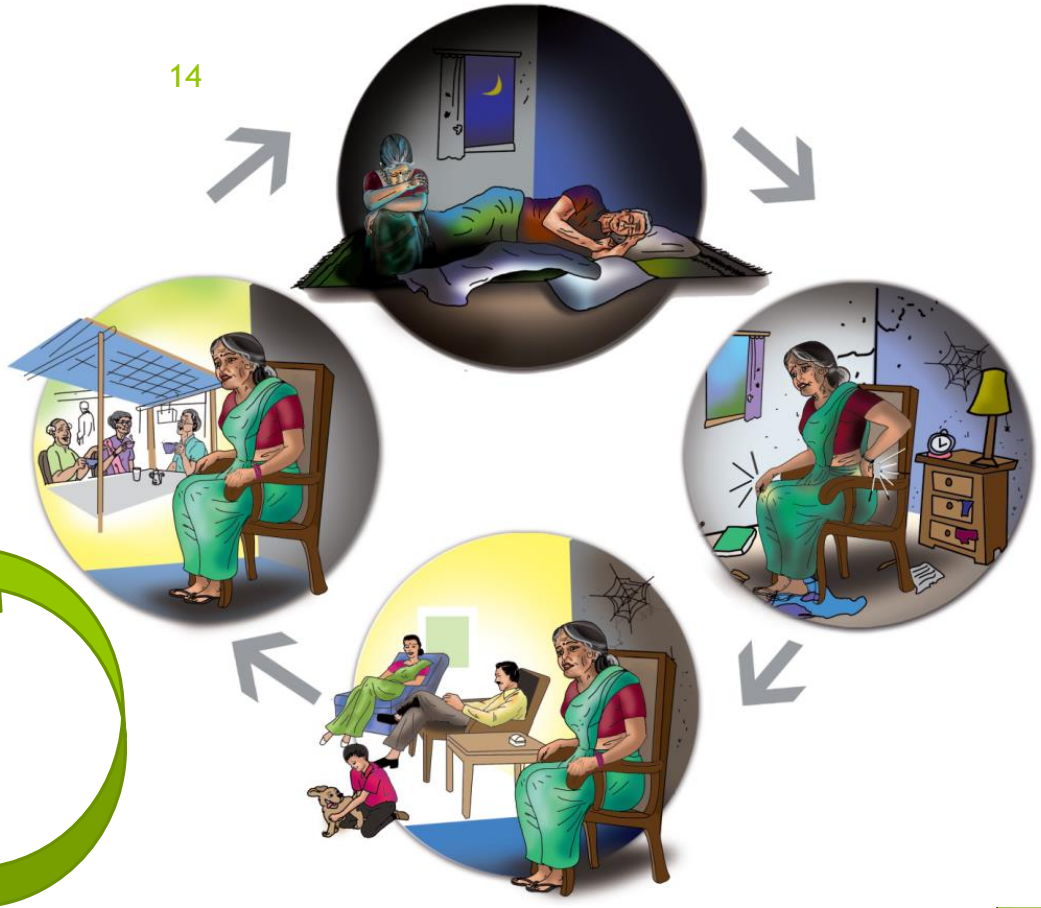
- **Flipchart** with illustration for each step of PST
- Involve **SO** as much as possible (especially for lower literacy groups)
- More **flexible scheduling** of sessions- need based
- Filling up of **home work not mandatory** but preferable
- Making a **brief phone call** or contact between PST sessions when the sessions are scheduled further apart(15 days)
- Dealing with chronic illness- and social case management
- Suicide risk assessment
- Six primary sessions
- Booster sessions

Improving engagement: Flip charts



Feel Bad

Do Less



The relationship between low mood and reduced happy activities.

Flip Chart: storytelling

- PSA- Problem
  Solution
  Action

Problems to use PST:

- Rumination- "thinking too much"
- Sleep problems

Phases of the Intervention

PHASE	GOALS	DESCRIPTION	STRATEGIES
Engaging **(Delivered in sessions 1-2)**	Engaging and establishing an effective counselling relationship. Helping elders understand the DIL program. Identifying the main problem of the elder.	Includes getting started, explaining the link between problem-solving and stress, explaining that problems are normal and give hope.	Use the field guide to help the elder understand what is delivered.
Problem-solving **(Delivered in sessions 3 & 4)**	Identifying happy activities and encouraging the elder to engage in them. Helping the elder learn PST and use it to solve specific problems in her/his life. Helping the elder learn healthy sleep behaviours.	Includes assessing the problem of the elder, using the happy activity chart to monitor the progress of the elder, learning the 7 steps of PST and practicing on the elder's problems, identifying unhealthy sleep patterns and learning healthy ones.	Activity scheduling Problem Solving Therapy Healthy sleep strategies
Ending Well **(Delivered in sessions 5 & 6)**	Reviewing and strengthening the gains the elder has made during the program. Making sure the elder has learnt PST to face problems in future.	Includes summarizing the main concepts of the program and preparing for situations that may arise in future. Generating plans to deal with future problems.	Anticipatory problem-solving


ROTARY CLUB OF PANAJI
ROTARY
INTERNATIONAL
SUB - HEALTH CENTRE CURCA


WELCOME
55
Aerolife

Flipchart

Step 1:
Identify the problem

DIL
The Heart of Wellness

Sangath

Step 2: Search for all possible solutions

Understanding Diabetes- warning signs

DIL
The Heart of Wellness

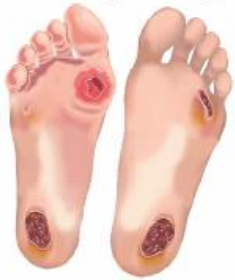
Always hungry

Crave for extra liquids

Frequent urination

Always tired

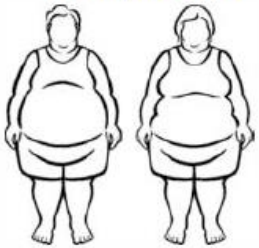
Sudden



Sores that wont heal

Family member with diabetes

Blurry vision



Obesity

Sangath

Randomized Prevention Trial (Phase II)

Preventing Incident Major Depression & Anxiety Disorders in Older Adults

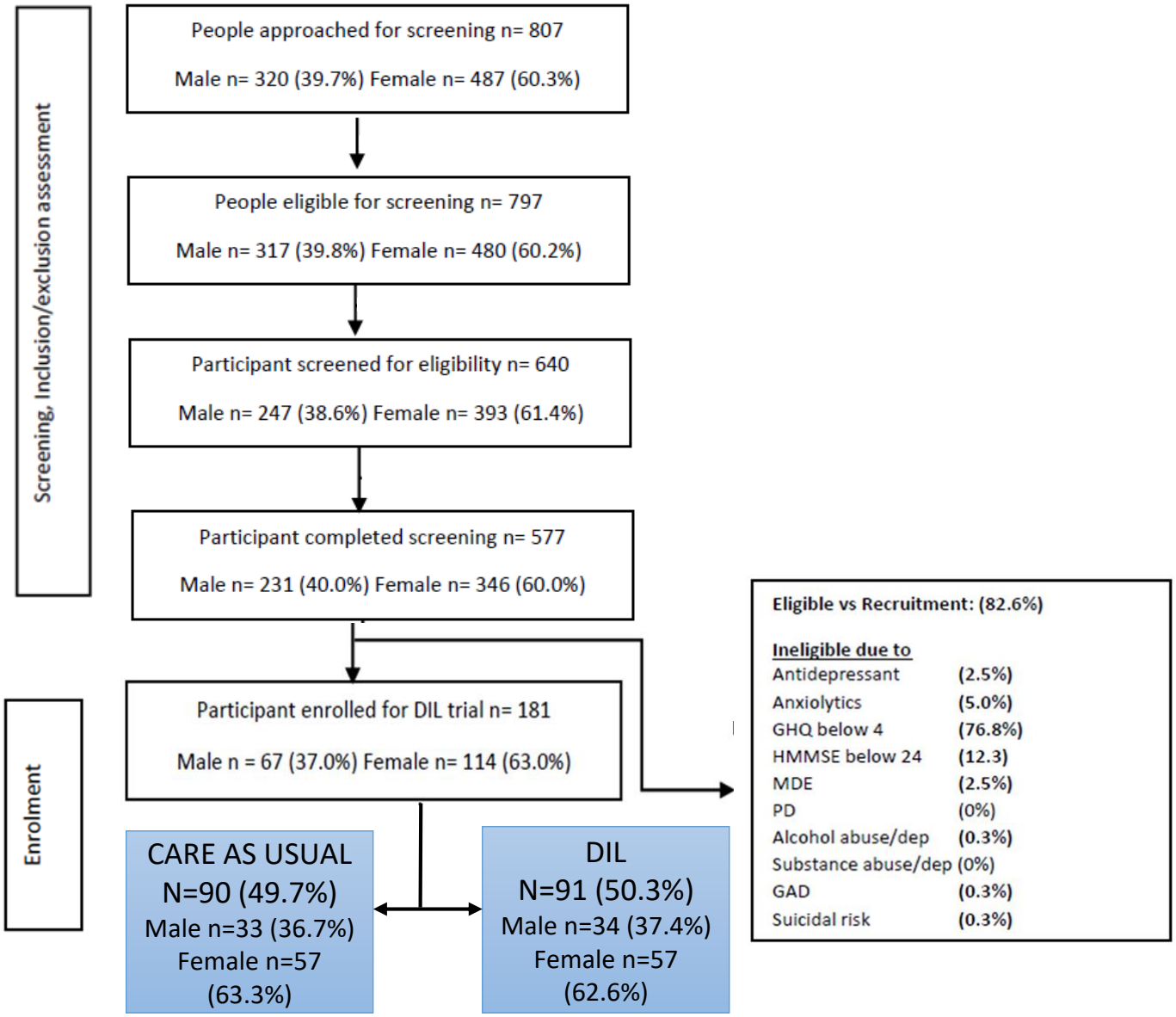
Primary Care patients ≥ 60 Years of Age
N=181
Subthreshold depressive symptoms
& no MDD or anxiety disorder in past 12 months

DIL	Usual Care
N=91	N=90

Primary Outcomes

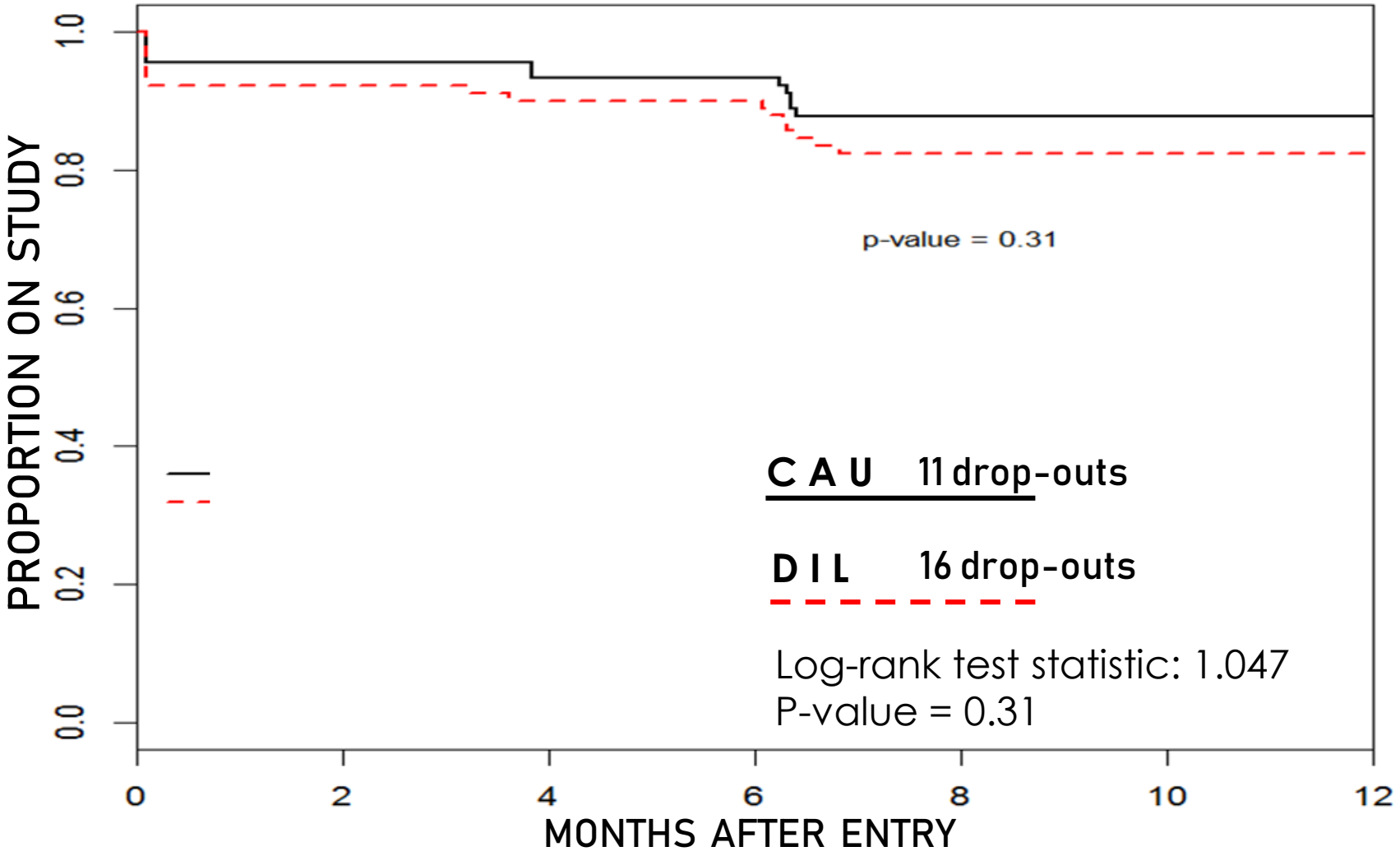
- Incident episodes of depressive & anxiety disorders
- Levels of depressive & anxiety symptoms
- Functional status (WHODAS-II)

Assessment point (time from T1):
T1: baseline **T2**: 3 months (follows completion of intervention) **T3**: 6 months **T4**: 12 months

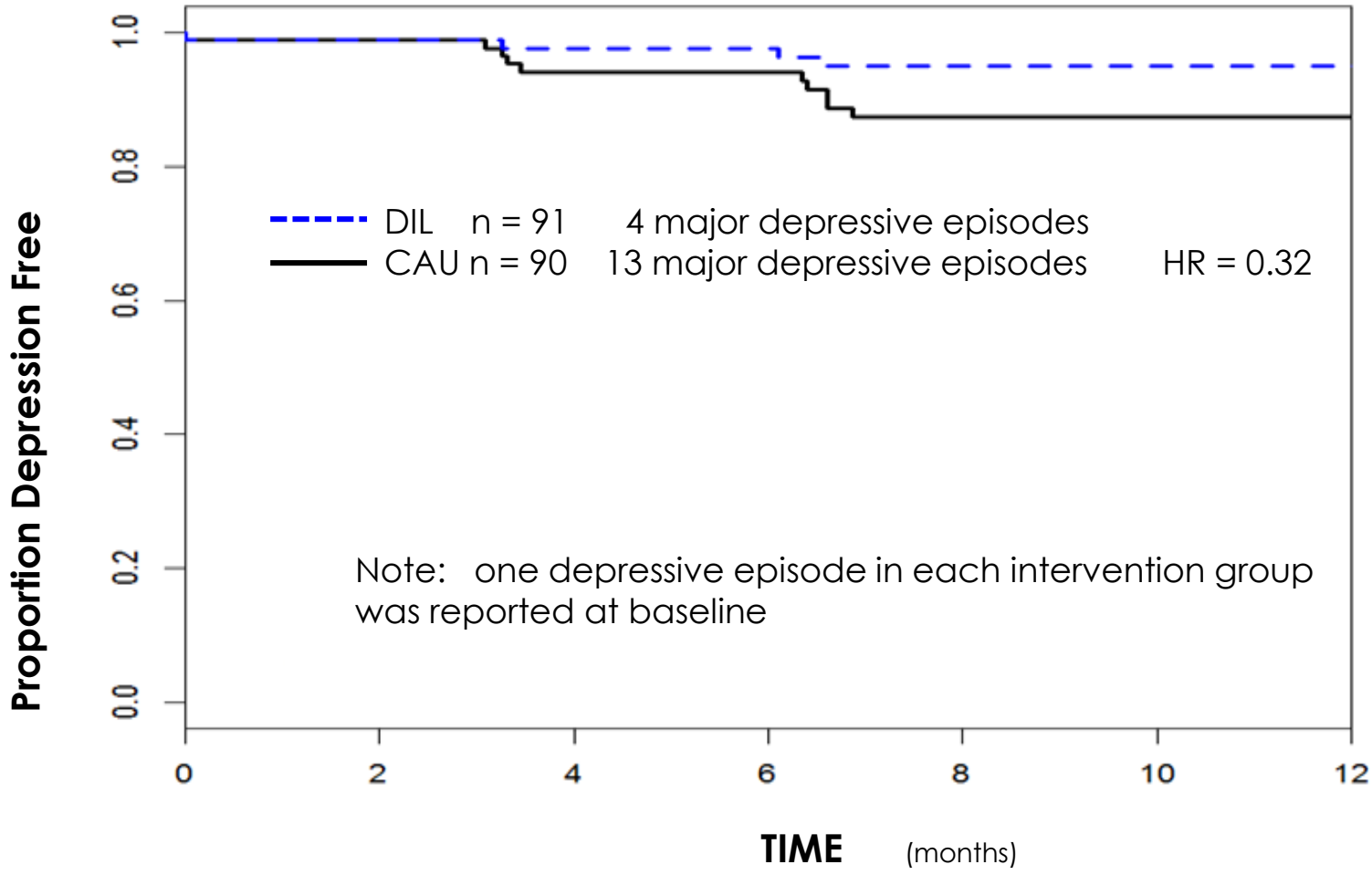

Screening, Inclusion/exclusion assessment
People approached for screening n= 807
Male n= 320 (39.7%) Female n= 487 (60.3%)
People eligible for screening n= 797
Male n= 317 (39.8%) Female n= 480 (60.2%)
Participant screened for eligibility n= 640
Male n= 247 (38.6%) Female n= 393 (61.4%)
Participant completed screening n= 577
Male n= 231 (40.0%) Female n= 346 (60.0%)
Eligible vs Recruitment: (82.6%)
Ineligible due to
Antidepressant (2.5%)
Anxiolytics (5.0%)
GHQ below 4 (76.8%)
HMMSE below 24 (12.3)
MDE (2.5%)
PD (0%)
Alcohol abuse/dep (0.3%)
Substance abuse/dep (0%)
GAD (0.3%)
Suicidal risk (0.3%)
Enrolment
Participant enrolled for DIL trial n= 181
Male n = 67 (37.0%) Female n= 114 (63.0%)
CARE AS USUAL
N=90 (49.7%)
Male n=33 (36.7%)
Female n=57
(63.3%)
DIL
N=91 (50.3%)
Male n=34 (37.4%)
Female n=57
(62.6%)

Results

Attrition by Treatment Group



Depressive Free Interval by Intervention Group (MINI)

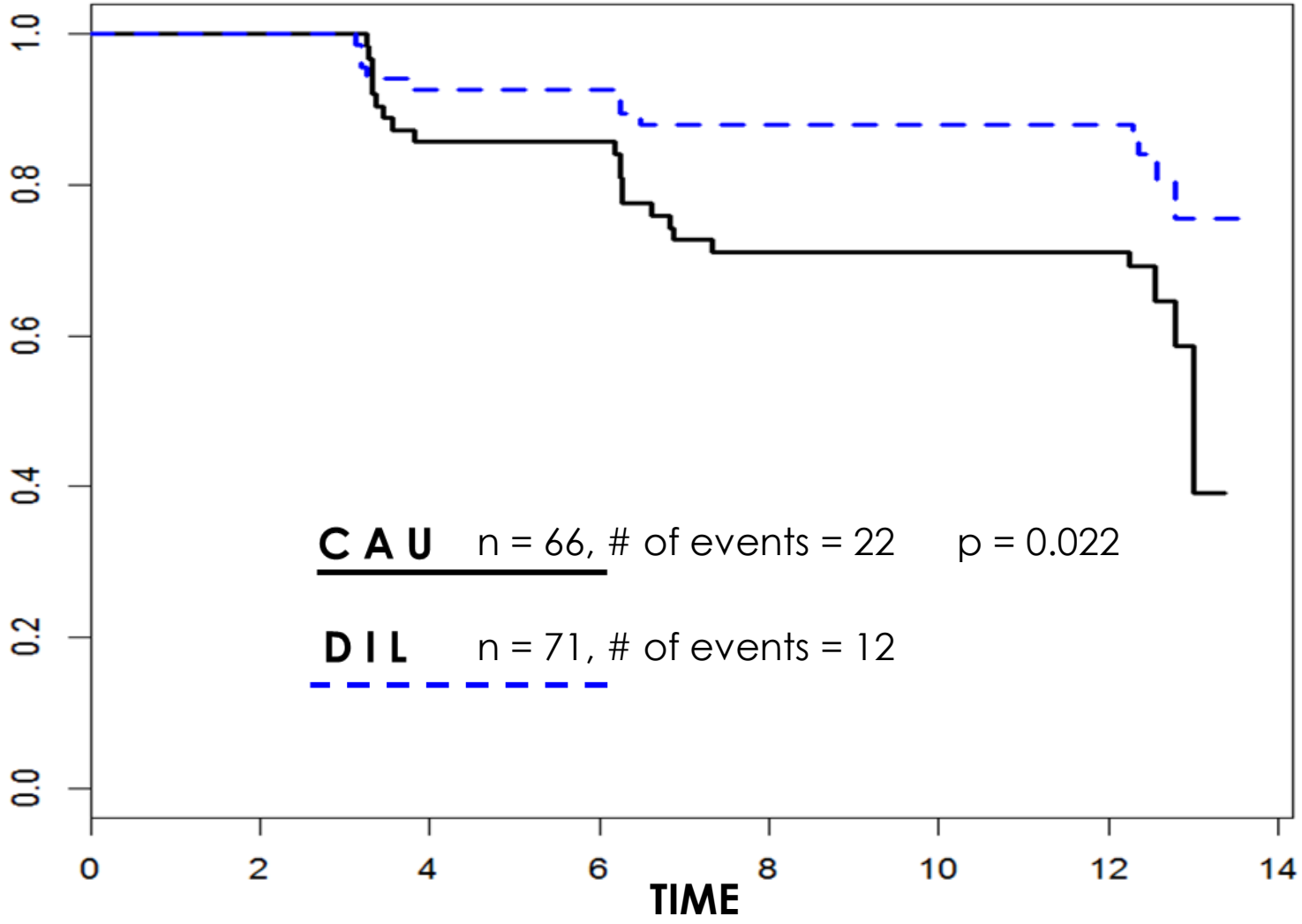


Incident Episodes Of Major Depression

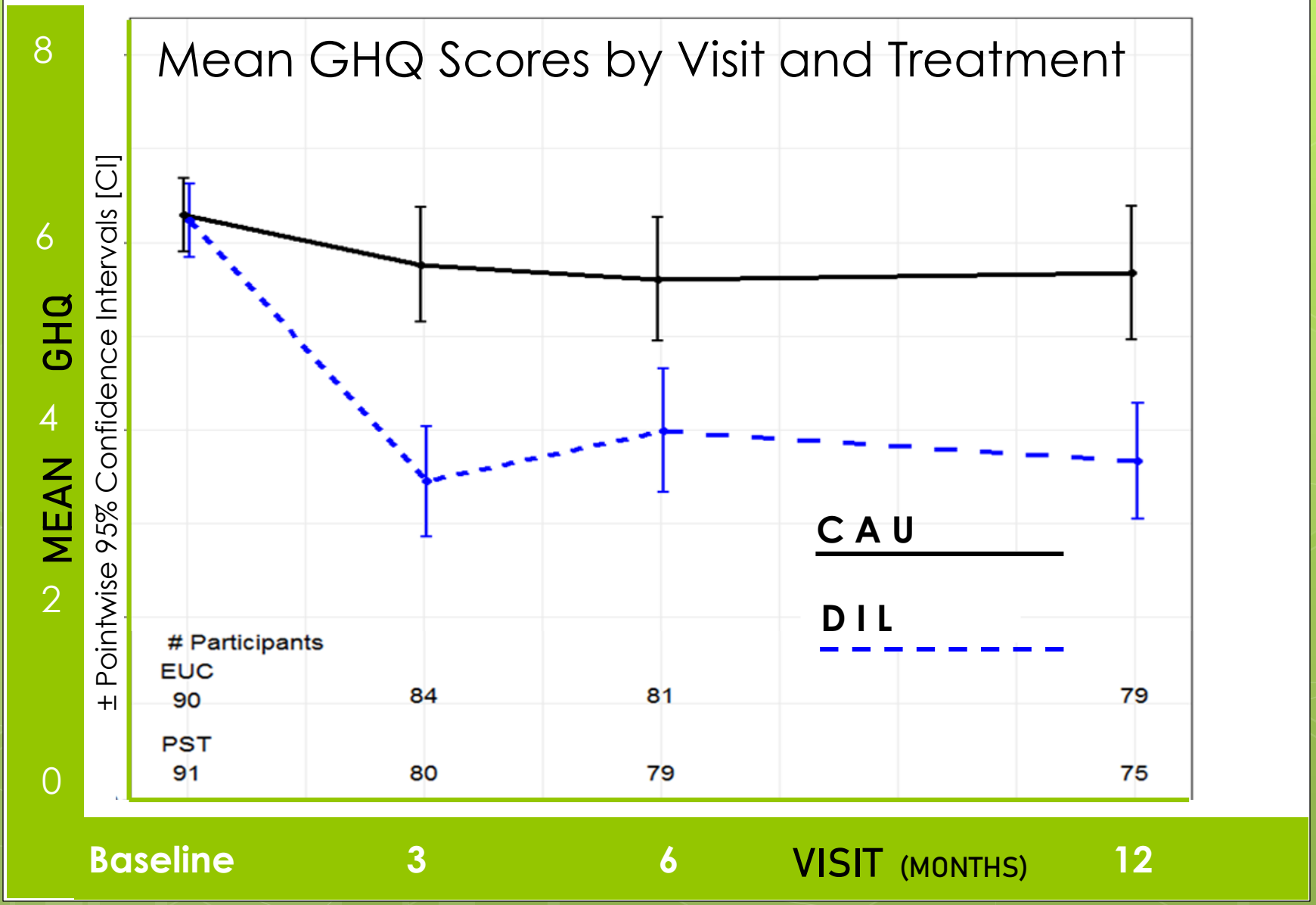
- 4.4% In DIL vs 14.4% In CAU
- Log rank P-value = 0.036
- Nnt = 9.95, CI: 5.12-182.43

Results

Time to "First Event of Depression" (First GHQ score > 7) by Treatment Group

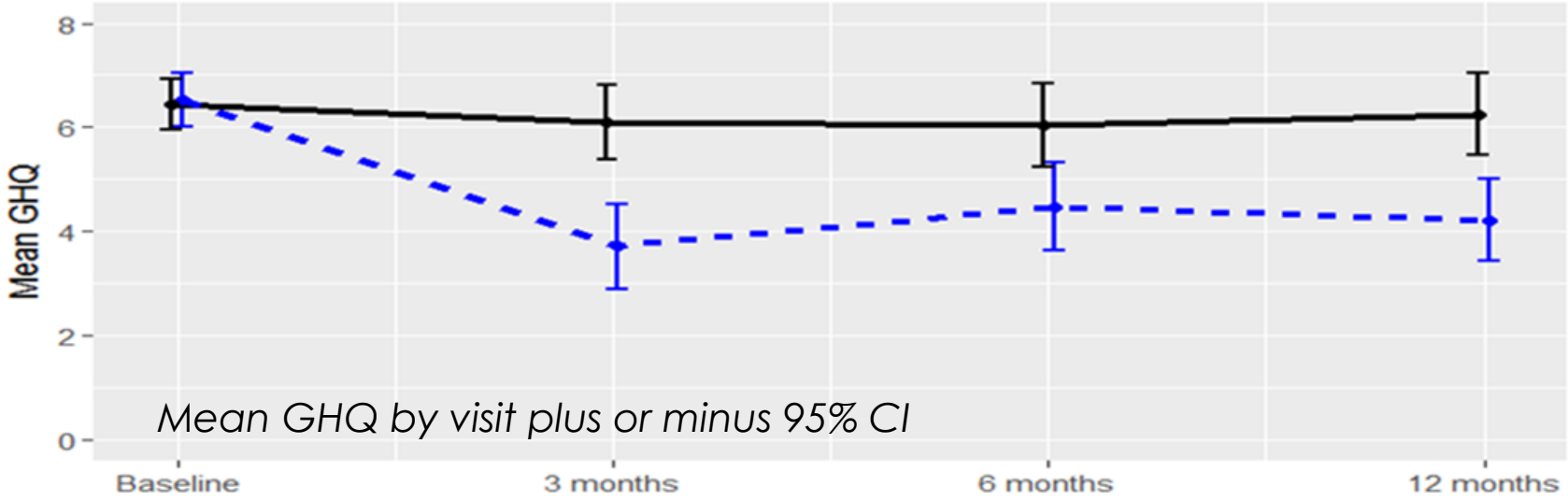


Results

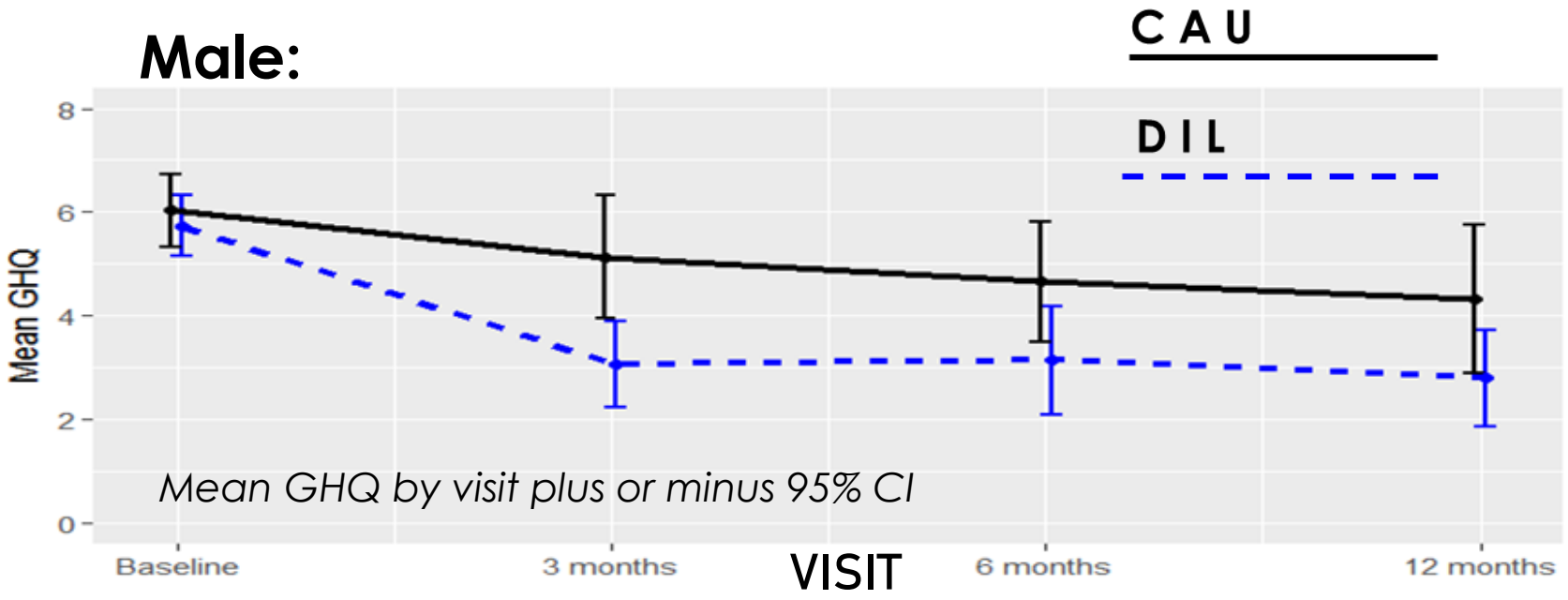

Mean GHQ Scores by Visit and Treatment
± Pointwise 95% Confidence Intervals [CI]
MEAN GHQ
8
6
4
2
0
CAU
DIL
Participants
EUC
90
84
81
79
PST
91
80
79
75
Baseline
3
6
VISIT (MONTHS)
12

Results

Female:



Male:



Secondary Outcomes

- Functional Status: WHODAS-II
- Cognitive Status: Hindi MMSE
- No Differences Observed

Exploratory Outcomes

- Systolic BP Control & Body Mass Index Improved To A Greater Extent In DIL; Diastolic BP, No Difference
- 24 Medical/Surgical Hospitalizations
- 19 In DIL (20.9%) and 5 In CAU (5.6%)
- 9 Deaths: 4 In DIL and 5 In CAU


RURAL HEALTH & TRAINING CENTRE
MANDUR - GOA
World Alzheimer's
DIL

Conclusion

- DIL, as delivered by lay health counselors, appears to be effective for delaying the onset of major depression in older adults living with subsyndromal symptoms and in reducing the severity of such symptoms.

- If replicated, may be scalable to other LMICs

Limitations and Next Steps

- Include participants with MCI
- Extend follow-up period
- Investigates biomarkers of risk for depression, to better target higher-risk individuals
- Investigate moderators and mediators of response variability
- Improvise neurocognitive and functional assessment