Integrating a Behavioral Activation Approach within Occupation-Based Intervention to Reduce Depression in Older Adults with Low Vision

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BACKGROUND

Age-related macular degeneration (AMD)
- Leading cause of vision loss in older adults in the US affecting almost 10 million people (The Eye Diseases Prevalence Research Group, 2004).
- A major cause of occupational dysfunction, diminished quality of life, and a known risk factor for depression (Casten & Rovner, 2007).
- AMD patients may generalize their vision loss to the extent that they perceive themselves as being useless and dependent, becoming dissatisfied with their performance in valued activities and resulting in disengagement.

The Low VIsion Depression Prevention TriAL for Age Related Macular Degeneration (VITAL)
- A randomized clinical trial that tests an innovative intervention addressing depressive symptoms and functional limitations in people with AMD.

Occupational therapy plays a vital role in enabling elders with AMD and the risk of depression to resume valued occupations, thus occupational therapists served as interventionists for this study.

Study Aims
1. To test the efficacy of a collaborative intervention (among a low vision optometrist, occupational therapist and client) to reduce the incidence of depressive symptom at 4 and 12 months
2. To improve targeted vision function and vision-related quality of life at 4 and 12 months

METHODS
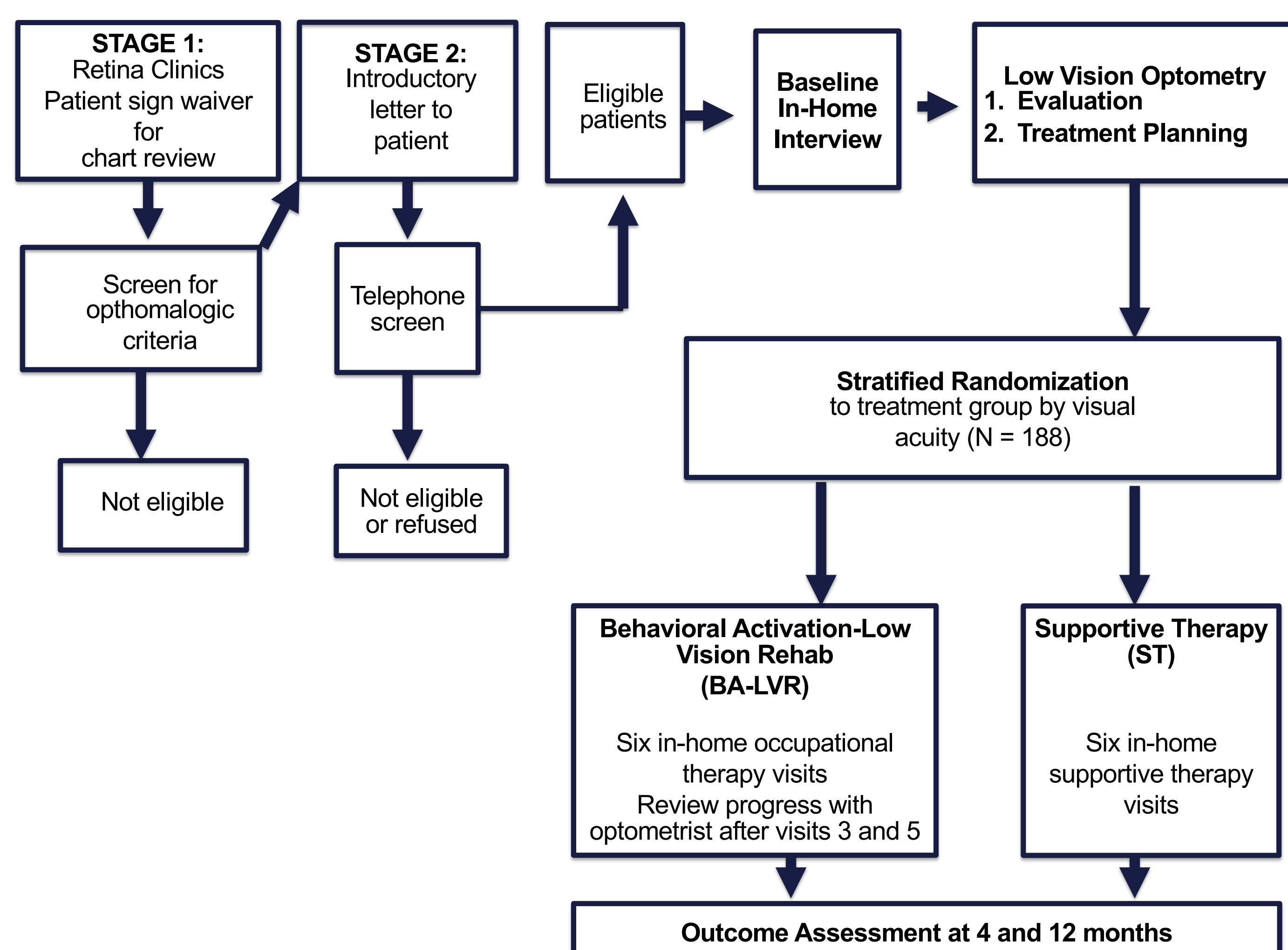
Data Analysis
Primary Aim: Reduce the incident of depressive disorders at 4 and 12 months
Chi-square test, accounting for stratification by severity of vision loss, to determine whether the incidence of depressive disorder is significantly lower in experimental vs. control subjects
Supplemental to primary analysis - Analysis of covariance (ANCOVA) to assess the effect of intervention on depression symptom severity adjusted for *baseline scores, severity of vision loss, change in visual acuity, and change in contrast sensitivity*
**Secondary Aims:** Improve: a) vision function, and b) vision-related quality of life at 4 and 12 months
Vision Function: ANCOVA to determine group differences in targeted vision function – covariates are visual acuity and demographic or clinical characteristics that are significantly different between the two study groups
Vision-related quality of life: Multivariate analysis of covariance (MANCOVA) - *dependent variables* are vision function, vision-specific mental health, vision-specific role functioning, dependency due to vision loss, and vision-specific social functioning and *covariates* are quality of life subscales, visual acuity stratification variable, change in visual acuity, change in contrast sensitivity, and any relevant demographic or background variables

RESULTS

- At 4 months, Low Vision Optometry and OT-BA-LVR **halved the incidence of depression** compared to Low Vision Optometry and ST.
  - 11 OT-BA-LVR subjects (12.6%) and 18 ST subjects (23.4%) developed a depressive disorder (relative risk [RR], 0.54; 95% CI, 0.27-1.06; P = 0.067).
  - In planned adjusted analyses the RR was 0.51 (95% CI, 0.27-0.98; P = 0.04).
- A mediational analysis suggested that OT-BA-LVR prevented depression to the extent that it enabled subjects to remain socially engaged.
- In addition, OT-BA-LVR was associated with greater improvements in functional vision than ST, although there was no significant between-group difference.
- There was no significant change or between-group difference in quality of life.

(Rovner, B., Casten, R., Hegel, M., et al 2014)

BEHAVIORAL ACTIVATION-LOW VISION MODEL
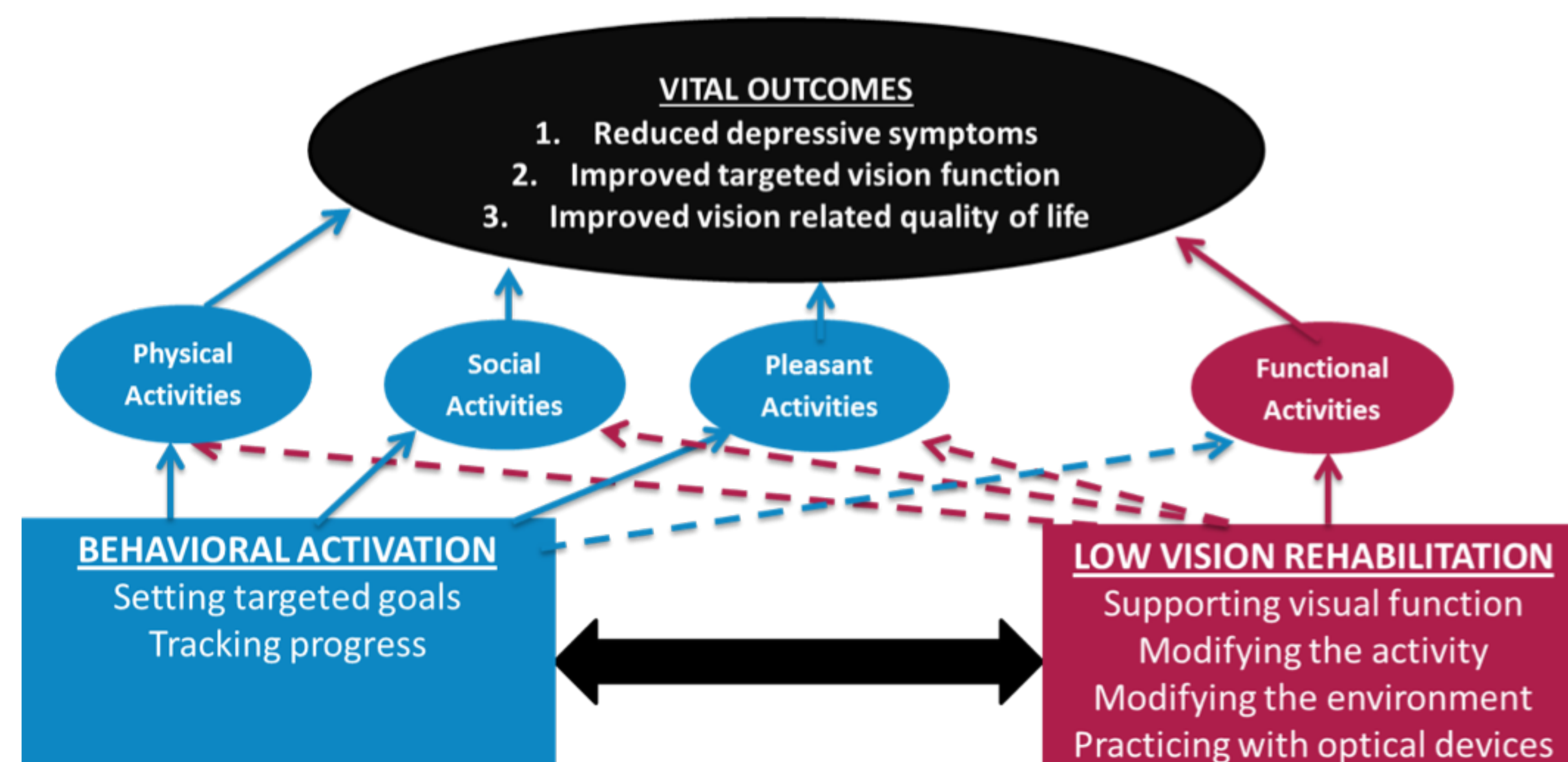
INTERVENTION DESCRIPTION

SESSIONS 1 & 2
- Establish Rapport; Set agenda for visit
- Introduce Intervention; Discuss depression, healthy & unhealthy behaviors
- Discuss rationale for Behavioral Activation (BA) and what it entails
- Complete Life Activity Form
- Provide large print BA calendar to record behavioral task completion
- Assign 1 BA Goal; Complete Master Goal Log
- Introduce and review basic principles of home modification
- Assign homework - identify additional Functional and Activity goals

SESSIONS 3 to 6
- Set agenda for visit; Educate about depressive "rumination"
- Inquire about new Function and Activity goals; Revise Master Goals Log
- Review and reinforce low vision rehabilitation strategies
- Review BA Goal from previous session using BA Calendar
- Subject rated level of satisfaction with task completion
- Reinforce rationale of BA.
- Identify 1 new Functional activity and 1 Activation activity
- Employ Brainstorming, Decision Analysis (Pros/Cons) and Implementation (Action Plan) steps of problem-solving if necessary
- Telephone meeting with OD (Sessions 3 & 5)

CASE EXAMPLE

Cecelia: 79 year old wife, mother , grandmother; retired teacher
Optometrist Report: *Distant acuity:* OD: count finger 2 ft. OS: 20/80; *Near vision*: OU 3.2 M; Location of Scotoma - central macula; Contrast sensitivity: + Both eyes.
Prescription: reading glasses to be used with closely placed lighting; hand magnifier as needed.
PHQ-9 Baseline Score: 4/27
Self-identified Occupational challenges: (Life Activity Form)
1. Finances – writing checks
2. Reading - newspaper headlines
3. Hobbies/Leisure- cross word puzzles
4. Exercise routine
5. Home management tasks – near vision home repairs
6. Going to restaurants with family

Visit	Date	Activity	Goal	Actual # of times completed	Monitor progress on Calendar?	Was Goal Attained? (Y or N)
2	10/22	Walk for 20 minutes in neighborhood (physical)	3X/wk	6X/wk	Y	Y
2	10/22	Practice writing in checkbook using border & OTT Light (Functional)	3X/wk	3X/wk	Y	Y
3	11/8	Fill in enlarge Crossword Puzzle with OTT Light (Pleasant)	5X/wk	3X/wk	N	N
4	11/20	Use magnifier with LED bulb to read menu in restaurant (social)	1X/wk	1X/wk	Y	N

GOAL SATISFACTION FORM: *"Practice writing in checkbook using border and OTT light 3x/week"*
Satisfaction with accomplishing goal (1 = not satisfied – 10 = very satisfied):   **9**
Mood Improvement (1 = no improvement – 10 = most improved):   **5**
Can you see the relationship between accomplishing this goal and feeling better (Yes or No)? **Yes**