# **Preliminary Clinical Pathway for Cancer Related Cognitive Impairments (CRCI)** Karmjit Vicki Sagoo, OTD/S



### Introduction

- 76% of oncology clients face cancer-related cognitive deficits
- Cancer and cancer treatments have been found to create a varied neurocognitive decline for clients
- Previously known as "chemo-brain"
- Interventions have been found to be difficult to structure due to the variability of deficits

## **Needs Assessment Results**

- 1) The OTs felt interventions were not structured and were disorganized
- 2) Clients often had many questions surrounding cognitive deficits due to chemotherapy
- 3) Therapists desired a concise way to organize and structure interventions

# **Doctoral Experiential Internship Site**

### **City of Hope**

- Main campus Duarte, CA
  - Nationally rated for adult specialty treatment
  - City of Hope has multiple avenues for research
- **Occupational Therapy Department**
- Inpatient and Outpatient

# **Literature Review**

- The lack of data on gold standard or reliable assessment tools to begin OT treatment is a difficult problem (Olsen et al., 2016).
- Inconsistent measures
- several articles found group interventions to have moderate changes when compared to individual interventions (Becker et al., 2018).
- No models currently exist to guide OT treatments, a clinical pathway can organize and structure information for interventions (Kinsment et al., 2010).
- Definition of a clinical pathway (Seys et al., 2017):
  - 1) Multidisciplinary intervention
- 2) Best evidence into action
- 3) Outlines treatments
- 4) Sets timeframes or levels of intervention

progression

5) Intervention addresses a detailed clinical problem

Sherry Hite, OTR/L, Sergio Sandoval, OTD, OTR/L, CHT

# West Coast University - CGS

### Learning Objectives **Data Collection** 1) Synthesis of current evidence with previous evidence and resources 2) Development of an intervention outline sample 3) Clinical pathway to guide interventions and provide patient resources evid relat eno Methods & Implementation defi City of Hope for ed for streamline intervention 5. I ofca impa **Cognitive Domain** Lifestyle Domains Results Physical 1----software erials, therapist out • Q1-Q6 p = 0.005bjective Feedback • Q2-Q7 p = 0.017pist report: Likert scal • Q3-Q8 p < 0.001nary Clinical Pathw • Q4-Q9 p < 0.001Resources organized to ress lifestyle and cognit • Q5-Q10 p = 0.029Week 1-3: Previous resources gathered, mentor meeting, shadow schedule created domains Paired Samples T-Test Week 3-5: Meeting with neuropsychologist, shadowed OTs, began resource creation Week 5-8: Developed initial drafts of patient handouts for clinical pathway Week 8-12: Created and formalized draft of clinical pathway composed of intervention resources Week 12-13: Gained initial feedback and Limitations implemented changes. In-service on new treatment options Limited time on site Week 13-14: Gained final subjective feedback regarding handouts overall structure Week 14-16: Final clinical pathway organization, in-service, and data analysis

- Bi-weekly meetings to analyze and discuss creation of clinical pathway materials
- Pre/post test Likert scale dispersed at the end of the DEI to gather quantitative data to gauge effectiveness of the completed pathway

	1-not at all	2	3	4	5-very much
The current resources and dence surrounding cancer ated cognitive impairments is ough.					
I have a good understanding how to address cognition in inpatient and outpatient ting.					
Do you know where to find cancer related cognitive ficit resources?					
Do you find yourself looking more patient resources?					
I have a good understanding cancer related cognitive pairments.					

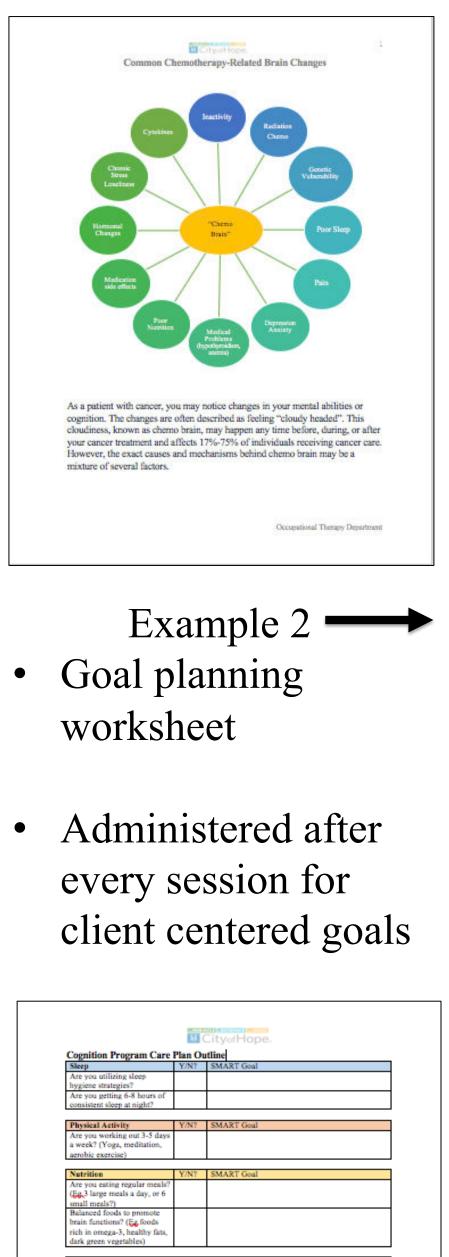
Paired t-test via Jeffery's Amazing Statistics Program (JASP)

- P-value significant (p = <0.05) between:

Therapist data reported statistical significance across all

							95% CI for	Cohen's d
			t	df	р	Cohen's d	Lower	Upper
Q1	-	Q6	-3.674	9	0.005	-1.162	-1.958	-0.329
Q2	-	Q7	-2.905	9	0.017	-0.919	-1.649	-0.154
Q3	-	Q8	-5.667	9	< .001	-1.792	-2.798	-0.752
Q4	-	Q9	5.250	9	< .001	1.660	0.666	2.619
Q5	-	Q10	-2.586	9	0.029	-0.818	-1.524	-0.079

- Differences in clinical approaches may change
- Unable to administer pathway
  - Unable to test resources and material on client





2) Sergio Sandoval, OTD, OTR/L, CHT The countless contributions provided by Sherry Hite, the mastermind behind this project, made the overall pathway possible. Dr. Sandoval's guidance as a faculty mentor was immeasurable and incredibly valuable.

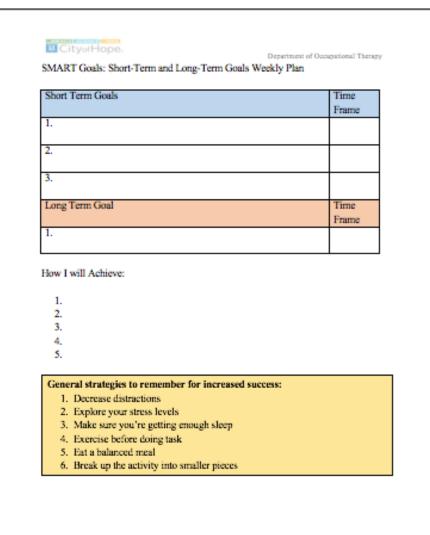


### Discussion

### **Scholarly Deliverables:**

you utilizing sleep ene strategies? you getting 6-8 hours of istent sleep at night? <b>Stent Activity</b> you working out 3-5 days ek? (Yoga, meditation, hic exercise) <b>Stion</b> you eating regular meals? <b>Stage</b> meals a day, or 6 I meals?) and foods to promote functions? (Eg. foods in omega-3, healthy fats, green vegetables) <b>pre</b> <b>Y</b> /N? <b>SMART</b> Goal <b>SMART</b> Goal <b>pre</b> <b>Y</b> /N? <b>SMART</b> Goal <b>pre</b> <b>Y</b> /N? <b>SMART</b> Goal <b>pre</b> <b>Y</b> /N? <b>SMART</b> Goal <b>pre</b> <b>Y</b> /N? <b>SMART</b> Goal <b>stategies</b> ? <b>ritizing</b> necessary <b>ritizing</b> necessary <b>ritizi</b> necessary <b>ritizi</b> necessary <b>ritizi</b> necessary <b>ritizi</b> necessary <b>ri</b>	nition Program Care		
ine strategies? you getiting 6-8 hours of istent sleep at night? <b>istent sleep at night</b> ? <b>istent out</b> 3-5 days ket? (Yoga, meditation, bic exercise) <b>isten out</b> 3-5 days ket? (Yoga, meditation, bic exercise) <b>isten out</b> 3-5 days ket? (Yoga, meditation, bic exercise) <b>isten out</b> 3-5 days ket project at a state of the state	p	Y/N?	SMART Goal
you getting 6-8 hours of istent sleep at night?     Y/N?     SMART Goal       ical Activity     Y/N?     SMART Goal       you working out 3-5 days ek? (Yoga, meditation, hic exercise)     Y/N?     SMART Goal       ition     Y/N?     SMART Goal       oyou eating regular meals?     Image meals a day, or 6 I meals?)     SMART Goal       blarge meals a day, or 6 I meals?)     Y/N?     SMART Goal       gee     Y/N?     SMART Goal       you stillpring energy ervation strategies?     Y/N?     SMART Goal       gev our getting in between g activities or projects?     Y/N?     SMART Goal       besocial     Y/N?     SMART Goal       ryou been able to uge your moods or itos without feeling whelmed?     Y/N?     SMART Goal       you seeing support when heed it?     Y/N?     SMART Goal       king Memory you decreasing actions while you blet projects/work?     Y/N?     SMART Goal			
isterit sleep at night?  isterit sleep at nigh			
you working out 3-5 days ck? (Yoga, meditation, bic exercise) SMART Goal you eating regular meals? SMART Goal I meals a day, or 6 I meals?) need foods to promote in omega-3, healthy fats, green vegetables) get you utilizing energy ervation strategies? ritizing necessary ity, planning ahead, and g yourself) you resting in between g activities or projects? besocial y/N? SMART Goal Y/N? SMART Goal Y/N? SMART Goal you seeing support when need it? king Memory you decreasing actions while you helts projects/work?			
you working out 3-5 days ck? (Yoga, meditation, bic exercise)			-
ek? (Yoga, meditation, bic exercise)     Y/N?     SMART Goal       ition     Y/N?     SMART Goal       you cating regular meals?     Immals?       b large meals a day, or 6     Immals?       ineed foods to promote if anctions? (Gp foods in omega-3, healthy fas, green vegetables)     SMART Goal       gree     Y/N?     SMART Goal       you utilizing energy ervation strategies?     Y/N?     SMART Goal       gy ourself)     you resting in between g activities or projects?     SMART Goal       bssocial     Y/N?     SMART Goal       eyou seeing support when need it?     Y/N?     SMART Goal       vou seeing support when need it?     Y/N?     SMART Goal		Y/N?	SMART Goal
bit exercise)     Y/N?     SMART Goal       stage meals a day, or 6 I meals?) need foods to promote functions? (Eg foods in onega-3, healthy fats, green vegetables)     Y/N?     SMART Goal       green vegetables)     Y/N?     SMART Goal			
ition         Y/N?         SMART Goal           you cating regular meals?         Singe meals a day, or 6         Incels?           I meals?         Inced foods to promote fonctions (Go foods in omega-3, healthy fats, green vegetables)         SMART Goal           gee         Y/N?         SMART Goal           you utilizing energy ervation strategies?         Filizing necessary         Filizing necessary           you resting in between g activities or projects?         Y/N?         SMART Goal           besocial         Y/N?         SMART Goal           'you been able to the symbolic for group of the symbol			
you eating regular meals?       barge meals a day, or 6       1 meals?)       need foods to promote       if unctions? (Eg. foods       in omega-3, healthy fats,       green vegetables)       pre     Y/N?       syou utilizing energy       rivation strategies?       ritizing necessary       ritizing necessary       rig yourself)       you resting in between       g activities or projects?       basocial     Y/N?       syou been able to       uge your modds or       ions without feeling       whelmed?       you seeing support when       need it?       King Memory       you seeing way       you seeing way       you decreasing       actions with way       you decreasing       actions with wear       proderessing       actions with wear       prot setting	ne exercise)		
B large meals a day, or 6 I meals?) need foods to promote i functions? (Eg foods in omega-3, healthy fars, gree Y/N? SMART Goal you utilizing energy ervation strategies? ritizing necessary ity, planning ahead, and tg yourself) our resting in between g activities or projects? basocial Y/N? SMART Goal you been able to tge your moods or inos without feeling whelmed? you seeing support when need it? King Memory you decreasing actions while wan blet projects/work?	ition	Y/N?	SMART Goal
I meals?)       inced foods to promote is functions? (Eg. foods in omega-3, healthy fats, green vegetables)         gee       Y/N2       SMART Goal         geven vegetables)       Y/N2       SMART Goal         gevented       Y/N7       SMART Goal         you resting in between green vegetables       Y/N7       SMART Goal         you resting in between green vegetables       Y/N7       SMART Goal         you resting in between green vegetables       Y/N7       SMART Goal         you seeing support when heed it?       Y/N2       SMART Goal         you seeing support when heed it?       Y/N2       SMART Goal         you decreasing helt projects/verk?       Y/N2       SMART Goal			
need foods to promote functions? (Ge foods in omega-3, healthy fats, green vegetables) gee Y/N? SMART Goal you utilizing energy ervation strategies? ritizing necessary ity, planning ahead, and g yourself) you resting in between g activities or projects? besocial Y/N? SMART Goal er you been able to tige your modes or ions without feeling whelmed? you seeing support when need it? King Memory you dereasing eitons withe you settons while you between you settons while you between you settons while you between you settons withe you between you settons while you between you you seeing support when hered it?			
<pre>s functions? (Eg foods in omega-5, healthy fats, green vegetables) gree Y/N? SMART Goal ou utilizing energy ritizing necessary ity, planning ahead, and tg yourself) ou resting in between g activities or projects? besocial Y/N? SMART Goal cyou been able to ge your moods or ions without feeling whelmed? you seeing support when heed it? king Memory you decreasing elicitons wile you let projects/work? </pre>			
in omega-3, healthy fats, green vegetables)  get Y/N? SMART Goal  rvation strategies? ritizing necessary ity, planning ahead, and g yourself) you resting in between g activities or projects?  besocial Y/N? SMART Goal  ryou been able to tage your moods or fors without feeling whelmed? you seeing support when heed it?  king Memory Y/N? SMART Goal  vou decreasing het projects/work?			
green vegetables)     Y/N?     SMART Goal       gee     Y/N?     SMART Goal       ou utilizing energy ervation strategies?     ritizing necessary ity, planning ahead, and ge yourself)     ge yourself)       you resting in between g activities or projects?     Y/N?     SMART Goal       bosocial     Y/N?     SMART Goal       e you been able to tige your modds or ions without feeling whelmed?     Y/N?     SMART Goal       you seeing support when need it?     MART Goal     Y/N?       king Memory you decreasing exitons with exan blete projects/work?     Y/N?     SMART Goal			
you utilizing energy ervation strategies? ritizing necessary ity, planning ahead, and ig yourself) you resting in between g activities or projects? besocial Y/N? SMART Goal you been able to tge your moods or ions without feeling whelmed? you seeing support when need it? king Memory Y/N? SMART Goal you decreasing etimes while <u>you</u> helte projects/work?			
you utilizing energy ervation strategies? ritizing necessary ity, planning ahead, and ig yourself) you resting in between g activities or projects? besocial Y/N? SMART Goal you been able to tge your moods or ions without feeling whelmed? you seeing support when need it? king Memory Y/N? SMART Goal you decreasing etimes while <u>you</u> helte projects/work?			
ervation strategies? ritizing necessary ity, planning abead, and g yourself) you resting in between g activities or projects? bosocial Y/N? SMART Goal r you been able to try ou been able to		Y/N?	SMART Goal
ritizing necessary ity, planning ahead, and ig yourself) our resting in between g activities or projects? besocial Y/N? SMART Goal e you been able to ige your moods or ions without feeling whelmed? you seeing support when need it? king Memory you decreasing actions while you helt projects/work?			
ity, planning ahead, and g yourself) you resting in between g activities or projects? besocial Y/N? SMART Goal you been able to tge your moods or fons without feeling whelmed? you seeing support when heed it? king Memory you decreasing actions while you bete projects/work?	Sec. 1		
ag yourself) you resting in between g activities or projects? bosocial Y/N? SMART Goal ryou been able to tage your moods or ions without feeling whelmed? you seeing support when need it? king Memory Y/N? SMART Goal pou decreasing etimes while <u>you</u> helte projects/work?			
g activities or projects?       besocial     Y/N?       synthesis     SMART Goal       ryou been able to tage your moods or fores without feeling whelmed?     SMART Goal       you seeing support when heed it?     Image: Coal State of the second second second second second second second second second second sections while won helte projects/work?     SMART Goal			
basecial Y/N? SMART Goal you been able to tige your moods or ions without feeling whelmed? you seeing support when need it? king Memory Y/N? SMART Goal vou decreasing etions while <u>you</u> blete projects/work?			
: you been able to tige your moods or tions without feeling whelmed? you seeing support when need it? King Memory Y/N? SMART Goal you decreasing setions while you leter projects/work?	g activities or projects?		
: you been able to tige your moods or tions without feeling whelmed? you seeing support when need it? King Memory Y/N? SMART Goal you decreasing setions while you leter projects/work?	haspelal	V/8/5	CMADT (Cas)
tige your moods or ions without feeling whelmed? you seeing support when need it? king Memory Y/N? SMART Goal you decreasing citions while you blete projects/work?		1/87	Source ( Oost
ions without feeling whelmed? you seeing support when need it? king Memory Y/N? SMART Goal you decreasing actions while <u>you</u> blete projects/work?			
you seeing support when need it? king Memory Y/N? SMART Goal you decreasing actions while <u>won</u> left projects/work?			
heed it?           king Memory         Y/N?         SMART Goal           you decreasing         sciences while you         sciences while you           plete projects/work?         science         science			
king Memory Y/N? SMART Goal you decreasing actions while you alete projects/work?			
you decreasing actions while <u>you</u> alete projects/work?	seed n?		1
you decreasing actions while you alete projects/work?	king Memory	Y/N?	SMART Goal
actions while your alete projects/work?			
			1
you limiting multi- ng?	plete projects/work?		

- Example 1 • Introductory explanation handout for patient
- Administered at the beginning of treatment for normalization and guideline for client



- Example 3 • Resource guidelines for clients to follow up on after OT treatments
- Handout explained to client towards end of OT treatment

### **Implications**

• OT treatments for cognitive deficits more streamlined

• Structured and organized pathway

Increased structure may provide better outcomes • Therapist confidence

- Client understanding
- Clinical pathway edits

## Acknowledgements

1) Sherry Hite, OTR/L