Screening Recommendations for Baby Boomers with Chronic Hepatitis C and the Uncertainties That Surround Them
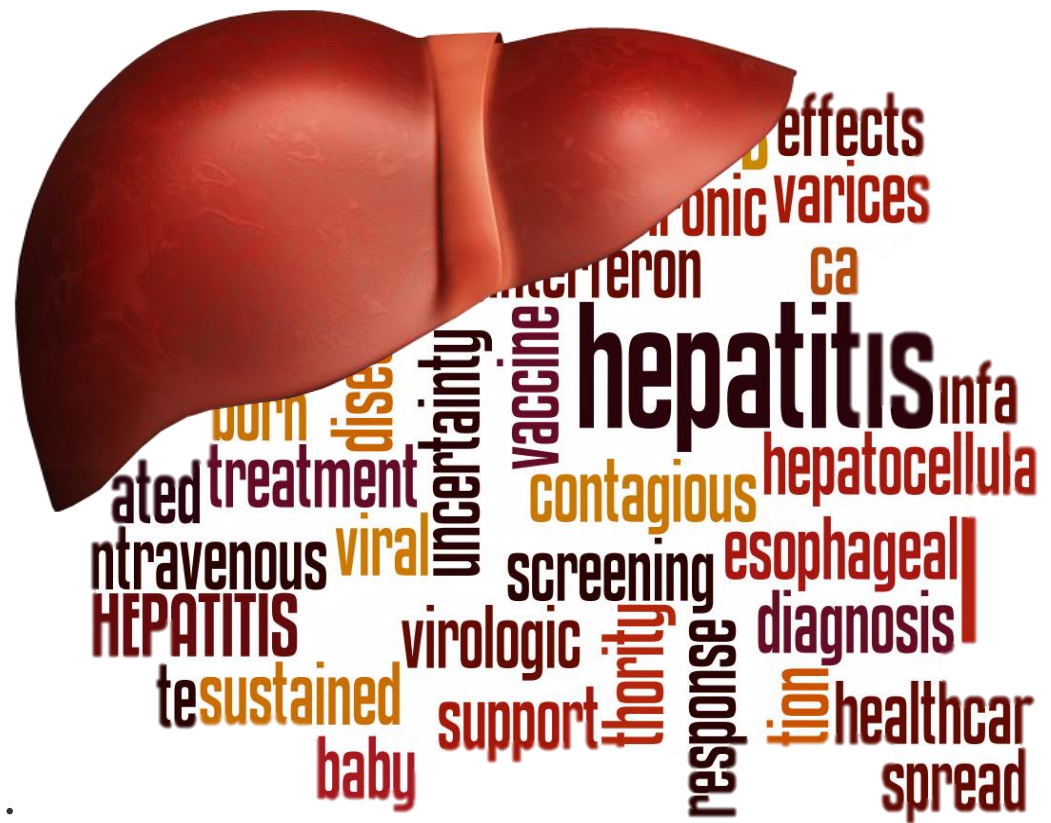
Humberto Reinoso, PhD, FNP-BC, ENP-BC

Lesson Objectives

The learner will be able to:

1. Review new hepatitis C screening and treatment recommendations for baby boomers.
2. Describe Mishel's Uncertainty in Illness Theory and the antecedents surrounding individual's perception of uncertainty.
3. Analyze the predictive ability the antecedents of Mishel's theory had on baby boomers perception of illness uncertainty.
4. Recommend proven methods to decrease uncertainty in baby boomers diagnosed with hepatitis C.

Humberto Reinoso, PhD, FNP-BC, ENP-BC

Georgia Baptist College of Nursing of Mercer University
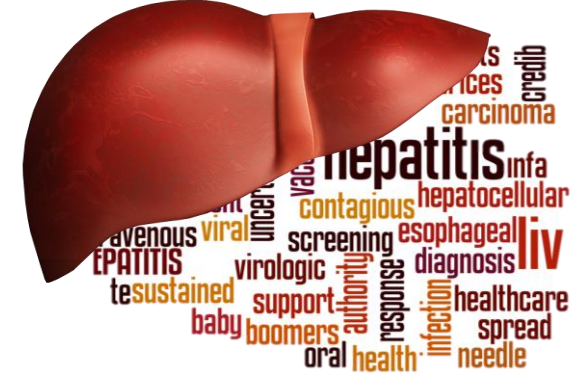3001 Mercer University Drive, Atlanta, GA. 30341
reinoso_h@mercer.edu   678-547-6735   @livermiami

Disclosure
I have no actual or potential conflict of interest in relation to this program/presentation.
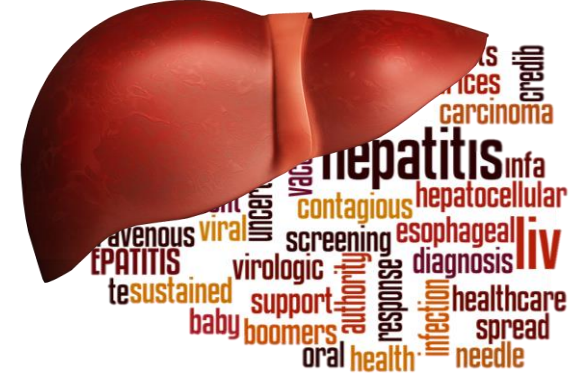
Background of the Study

- Viral Hepatitis
  - Hepatitis – A, B, C, D, E

- Globally
  - Over 550 million individuals
  - One in every twelve individuals worldwide
  - One million deaths are attributed to viral hepatitis

- United States
  - 2% of the US population (5.3 million)affected by HCV
  - 12,000 – 15,000 Americans die annually

HCV Screening Recommendations

- The scientific community has called attention to the silent epidemic of viral hepatitis.
  - Created actions plans on prevention, screening and treatment of individuals with viral hepatitis.

- New screening practices targeting the baby boomer population is sure to identify numerous new cases of chronic hepatitis C.

HCV Treatment Recommendations

Summary of Recommendations for When and in Whom to Initiate HCV Therapy

Goal of Treatment

- The goal of treatment of HCV-infected persons is to reduce all-cause mortality and liver-related health adverse consequences, including end-stage liver disease and hepatocellular carcinoma, by the achievement of virologic cure as evidenced by a sustained virologic response.
  Rating: Class I, Level A

Recommendations for When and in Whom to Initiate Treatment
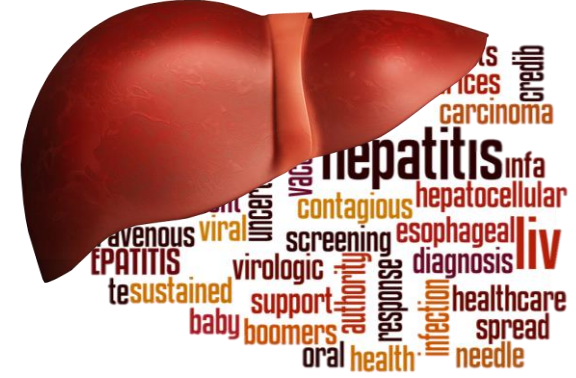
- Treatment is recommended for all patients with chronic HCV infection, except those with short life expectancies that cannot be remediated by treating HCV, by transplantation, or by other directed therapy. Patients with short life expectancies owing to liver disease should be managed in consultation with an expert.
  Rating: Class I, Level A

Recommendations for Pretreatment Assessment

- Evaluation for advanced fibrosis using liver biopsy, imaging, and/or noninvasive markers is recommended for all persons with HCV infection, to facilitate an appropriate decision regarding HCV treatment strategy and to determine the need for initiating additional measures for the management of cirrhosis (eg, hepatocellular carcinoma screening) (see HCV Testing and Linkage to Care).
  Rating: Class I, Level A

Recommendations for Repeat Liver Disease Assessment

- Ongoing assessment of liver disease is recommended for persons in whom therapy is deferred.
  Rating: Class I, Level C

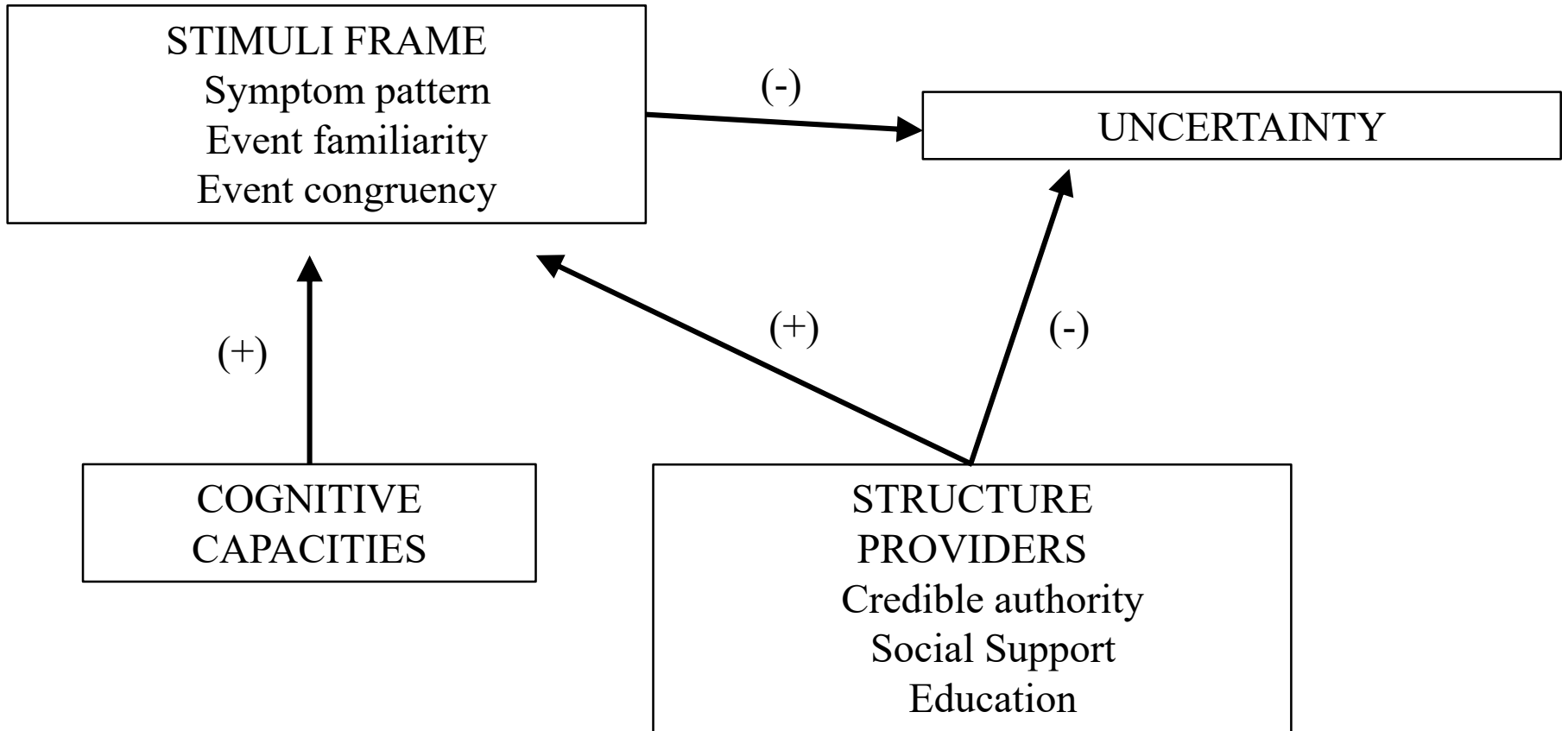http://www.hcvguidelines.org

Theoretical Framework

- Mishel's Uncertainty in Illness Theory

- <u>Uncertainty</u>
  - cognitive state created when the person cannot adequately structure or categorize an event because of a lack of sufficient cues

- Cognitive Schema for Illness Event
  - <u>Cognitive capacity</u>
  - <u>Structure providers</u>
  - <u>Stimuli frame</u>

Theoretical Framework

Purpose of the Study

- The purpose of this study was to test Mishel's Theory of Uncertainty in Illness among baby boomers with chronic hepatitis C.

- The study focused on the influences predictor variables prescribed by the model have on the individual's perception of uncertainty.

Research Questions

- 1. How accurately will the antecedents of Mishel's Uncertainty in Illness Theory (level of education, credible authority, social support, length of diagnosis and familiarity of events) predict uncertainty in the baby boomer population affected by hepatitis C?

Literature Review

- Studies Utilizing Mishel's Uncertainty in Illness

- Chronic Hepatitis C and Illness Events

- Attributes of Hepatitis C

Recruitment / Data Collection Procedures

- Participants were sought from virtual settings
  - Hepatitis C Support Groups, Facebook, Twitter

- Participants that access the SurveyMonkey™ link were guided through a 53-item survey:
  a) Demographic questionnaire,
  b) Mishel's Uncertainty in Illness Scale – Community
  c) Duke Social Support Index,
  d) Health Care Orientation subscale of the Psychosocial Adjustment to Illness Scale.

Demographic and Background Characteristic of the Sample (N= 146)

Characteristic			M	SD	Range
Age in Years			58.34	4.81	49 - 69
				n	%
Gender					
Male				33	22.6
Female				112	76.7

Demographic and Background Characteristic of the Sample (N= 146)

Characteristic	*n*	%
Relationship Status		
Married	66	45.2
Widowed	11	7.5
Divorced	42	28.8
Separated	8	5.5
Domestic partnership or civil union	6	4.1
Single, cohabitating with significant other	4	2.7
Single, never married	7	4.8

Demographic and Background Characteristic of the Sample (N= 146)

Characteristic	*n*	%
Level of Education		
1-8 years (Less than High School Diploma)	6	4.1
9-12 years (High School Diploma)	42	28.8
1-2 years college (Associate's Degree)	58	39.7
3-4 years college (Bachelor's Degree)	26	17.8
Over 4 years college (Graduate Degree)	11	7.5

Sample Characteristics Pertaining to Hepatitis C (N=146)

Characteristic	M	SD	Range
Length of Hepatitis C Diagnosis (years)	15.16	9.47	0 - 45
		n	%
Current HCV Treatment			
Current treatment		25	17.1
Not currently on treatment		119	81.5
No response		2	1.4

Sample Characteristics Pertaining to Hepatitis C (N=146)

Characteristic	*n*	%
Prior HCV Treatment		
History of prior treatment	96	65.8
Never had prior treatment	48	32.9
No response	2	1.4
HCV Treatment Success		
Successful treatment	34	34.7
Unsuccessful treatment	63	64.3
No response	1	1

Reliability Estimates: Internal Consistency (Cronbach's Alpha) for Study Measures

Instrument	Number of Items	Cronbach's Alpha
Mishel's Uncertainty in Illness Scale Community Form	23	0.91
Duke Social Support Index	11	0.88
Psychosocial Adjustment to Illness Scale	8	0.80

Hypotheses Testing

- **Hypothesis 1**
  - A standard multiple linear regression analysis was conducted to evaluate how well the antecedents of Mishel's Uncertainty in Illness Theory predicted uncertainty.
    - The predictors were level of education, credible authority, social support, length of diagnosis, and familiarity of events.
    - The criterion variable was the uncertainty score.

Hypotheses Testing

- A preliminary analysis evaluating the required assumptions for linear regression indicated:
  - 1. all continuous variables were normally distributed
  - 2. credible authority and social support had a linear relationship with uncertainty.

- Hypothesis one was supported since the linear combination of the predictors revealed a significant regression model
  - $F(5,115) = 27.091$, $p < .001$, with an R^2 value of 0.54

Regression Analysis Summary for Education, Credible Authority, Social Support, Years Since Diagnosis, and Familiarity of Events Predicting Uncertainty
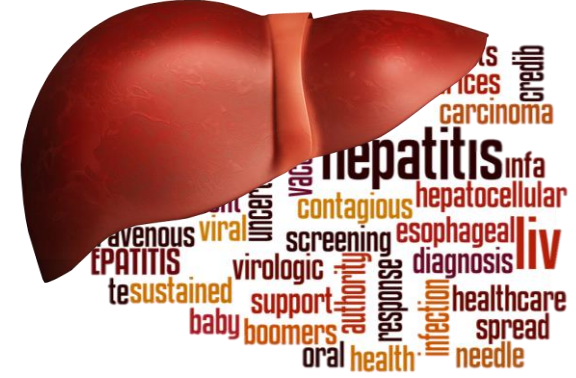
Variable	Unstandardized Coefficient (B)	Standard Error	Standardized Coefficient (Beta)	Partial Correlation
(Constant)	46.513	8.221		
Level of Education	2.964	5.252	.038	.053
Credible Authority	1.931***	0.249	.625	.587
Social Support	-.527*	.236	-.169	-.204
Year Since Diagnosis	.045	.105	.028	.040
Familiarity of Events	.891	.783	.076	-.106

Note. $R^2 = 0.54$ ($N = 121$, $p < 0.001$) *$p<.05$. ***$p<.001$. one-tail

Hypotheses Testing

- Social Support
  - These findings suggest that baby boomers diagnosed with hepatitis C with higher levels of social support have lower perceived levels of uncertainty, (beta= -.169, $p<.05$).
  - The negative relationship between the two variables indicates that as social support increases, perceived levels of uncertainty decreases.

Hypotheses Testing

- Credible authority
  - Higher score on this subscale indicates a lower degree of trust and satisfaction with one's health care providers and treatments.
    - Higher scores on this subscale were associated with higher levels of perceived uncertainty, (beta = .625, $p < .001$).

Discussion

- Non-significant Variables
  - Level of Education
- Stimuli Frame
  - Length of Diagnosis
  - Familiarity of Events

Significance of The Study

- Education

- Practice

- Research

- Health/Public Policy

Strengths &Limitation

- Strengths
  - 200 participants
  - Sample size which was adequate
  - Study instruments reliable

- Limitations
  - Convenience sampling
  - Over representation of female
  - Level of Education distribution

Methods to Decrease Uncertainty

- Findings indicated that those unique resources available to the individual in the form of their _social support_ and _credible authority_ have the greatest influence on their perception of uncertainty surrounding illness events.

Questions?
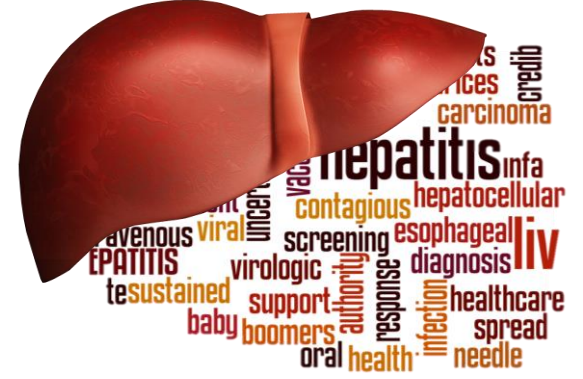
Reference

- Hussain, K.B., Fontana, R.J., Moyer, C.A., Su, G.L., Sneed-Pee, N., and Lok, A.S.F. (2001). Comorbid illness is an important determinant of health related quality of life in patients with chronic hepatitis C. *The American Journal of Gastroenterology, 96,* 2737 – 2744.
- Groessl, E.J., Weingart, K.R., Gifford, A.L., Asch, S.M., & Ho, S.B. (2010). Development of the Hepatitis C Self-Management Program. *Patient Education and Counseling, 83,* 252-255.
- Kim, S., H., Lee, R., & Lee, K., S. (2011). Symptoms and uncertainty in breast cancer survivors in Korea: differences by treatment trajectory. *Journal of Clinical Nursing, 21,* 1014 – 1023.
- Lepe, R., Layden-Almer, J.E., Layden, T.J., & Cotler, S. (2005). Ethnic differences in the presentation of chronic hepatitis C. *Journal of Viral Hepatitis, 13,* 116 – 120.
- Mishel, M.H., (1984). Perceived uncertainty and stress in illness. *Research in Nursing and Health, 7,* 163 – 171.
- Rein, D. B., Smith, B. D., Wittenborn, J. S., Lesesne, S. B., Wagner, L. D., Roblin, D. W., Patel, N., Ward, J. W., & Weinbaum, C. M. (2012). The cost-effectiveness of birth-cohort screening for hepatitis C antibody in US primary care setting. *Annals of Internal Medicine, 156,* 263 – 270.
- Shermen, K.E., Flamm, S.L., Afdhal, N.H., Nelson, D.R., Sulkowski, M.S., Everson, G.T., Fried, M.W., Adler, M., Reesink, H.W., Martin, M., Sankoh, A.J., Adda, N., Kauffman, R.S., George, S., Wright, C.I., &Poordad, F. (2011). Response-guided telaprevir combination treatment for hepatitis C virus infection. *The New England Journal of Medicine, 365,* 1014 – 1024.
- Sgorbini, M., O'Brien, L., and Jackson, D. (2009). Living with hepatitis C and treatment: the personal experience of patients. *Journal of Clinical Nursing, 18,* 2282 – 2291.