

Addiction Recovery Through Photovoice: Qualitative Study

Gretchen Hope Miller Heery*

Doctorate of Nursing Practice, Drexel University

*Corresponding author: Gretchen Hope Miller Heery, Sirona Family Health Careo, 154 Semmels Hill Road, Lehigh, PA 18235, USA, Tel: 610 533 8115; E-mail: heerychr@ptd.net/ghh27@drexel.edu

Received date: June 29, 2017; Accepted date: July 20, 2017; Published date: June 28, 2017

Citation: Heery GHM (2017) Addiction Recovery Through Photovoice: Qualitative Study. J Addict Behav Ther Vol 1 Iss 2: 07.

Copyright: © 2017 Heery GHM. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Drug addiction is a major public health problem and relapse is common. Addiction relapse rates are higher than some chronic illnesses like diabetes and slightly better than others including hypertension and asthma. The focus of this study was to illuminate the recovery experience from the unique perspective of the recovering addict, to identify what helps one choose recovery and avoid relapse. A flexible platform was created in cyberspace, using photovoice, an empowering participatory action research strategy, often used in marginalized and stigmatized populations to promote change. Six recovering addicts voluntarily captured in photos the story of their recovery process and met online to discuss the significance of the pictures to their recovery experience. Confidentiality was guarded through the use of a webmaster, on a secured encrypted server. Identities of participants were unknown to the researchers and each other. All selected their own pseudonyms.

The recovery process was described as a journey with a series of phases including: initiation into recovery, self destructive behaviors, impaired control, stigma and the need to change dysfunctional thinking. This recovery journey evoked multiple emotions triggered by experiences with a recognized need to change over time. Two themes were identified: 1- Recovery as an emotional journey away from dysfunctional thinking, impaired control and destructive behaviors. 2- The journey toward recovery as initiated by self and supported by others to change over time through reflection, realization and reduction of chaos. Limitations and recommendations for the future are discussed.

Keywords: Photovoice; Recovery; Addiction; Opioids

Introduction

Drug addiction is a major public health problem [1-3]. Almost seven million Americans are abusing a prescription drug, a rise of 13% from 2004 to 2007 [4-6]. From 2001 to 2013, there has been a 2.5 fold increase in the total number of prescription drug deaths and a 3-fold increase in deaths from prescribed opioid pain relievers [3].

Drug addiction treatment strains health and welfare services, contributes to reduced worker productivity, increased rates of domestic violence, criminal behavior, premature death, morbidity and health care costs secondary to adverse reactions and disease [4,6]. Addiction relapse rates are greater than chronic illnesses like diabetes, and slightly better than others including hypertension and asthma [6-8].

Brain Effects of Addiction

The neurochemical and molecular changes in the brain are characteristic of addiction. These contribute to the chronic relapsing aspects of the illness and compulsive drug seeking behaviors [3,9-11]. Research shows that those who misuse substances have diffuse cortical damage [10,12], primarily in the frontal and temporal lobes [2,12] leading to limitation of executive function and misinterpretation of actions of the addict.

Thereby, the addict presents as generally apathetic, indifferent, emotionally liable and lacking initiative and spontaneity. They also show failure to organize or schedule work activities and lack sensitivity in social situations including caustic remarks and outbursts of anger [10,13] which can contribute to recovery failure. Drug abuse is a disorder of the whole person, not the drug. Addiction is the symptom of the disorder [14].

With response to controlling the brain effects of drugs, in addition to cognitive and behavioral therapies, medications are used to balance the dopamine response with effects on the mu receptors. Newer relapse prevention medications are assisting addicts in maintaining sobriety as they work on the brain's neuroreceptors.

These are antagonist medications that prevent opioids from activating their receptors. Drugs such as Naltrexone, opioid agonist methadone, levo-alpha acetyl methadol (LAAM) and Suboxone act on the mu receptor within the brain chemistry to reduce the desire to use drugs, as well as other non-addictive medications to reduce anxiety or depression that are also triggers for relapse [15].

Recovery definitions

Recovery has been described as the process of learning to live a comfortable and meaningful life as a sober person [16-17]. It

has also been described in stages (Darbo, 2005); a continuous process of lessons learned [18]; or a dynamic fluid state [19-21].

Others suggest, recovery is an opportunity to begin abstinence, change both dysfunctional thinking and behavior, regain health and in general reduce chaos of substance abuse in their lives [10,17,20]. Recovery chances are improved by understanding the person and their relationships, problems and struggles. It is often four to six years before recovering addicts show return to acceptable responsibilities or stable lifestyles [2,10,22].

Recovery Initiation

Reasons cited for recovery include motivation to change, positive influences of family, strength of religion and spirituality and help from drug treatment [3,22-23]. Conventional lifestyles, better psychological support, relocating to different area with limited drug availability, developing meaningful relationships, replacing the addiction self-motivators also contributes to long-term success.

Mindfulness, compassion, observing fears and anxiety must happen before recovery begins [22]. Using the Drug Abuse Reporting Program (DARP) and Drug Abuse Treatment Outcome Study (DATOS) information, Joe, Simpson and Broome (1998) found indicators of intrinsic motivation especially readiness for treatment were not only significant predictors of engagement and retention, but were more important than socio-demographic, drug use and other background variables.

Research Purpose

We identified a need to learn from the recovering addict what is critically important to them in the recovery process. We believe it is beneficial for the recovering addict to be engaged in the research process while learning and teaching the research team about pattern recognition and problem avoidance in their own recovery, as such findings have the potential to inform supportive interventions for this challenging process.

The focus of the study is to illuminate the recovery experience from the unique perspective of the recovering addict, to identify what helps one choose recovery and avoid relapse utilizing photovoice methodology.

In the nursing studies that included Photovoice and substance abuse, none were identified that addressed only the recovery process [20,25-31].

Photovoice

A gap in the research of understanding recovery through the eyes of the recovering addict remains. Photovoice, a participatory action research strategy, involves providing cameras to those participants who are instructed to capture in photographs the meaning of recovery from their personal experience.

Through group discussion and using a series of questions (Figure 1), individuals select from the multiple pictures the six photos that best describe their recovery experience [33-36].

Its philosophical orientation has its origins in critical consciousness, feminism, documentary photography and Paulo Freire's empowerment education [37-39].

It provides the ability to shift the power of research from the researcher to the participants [20,38,40], providing voice to those marginalized populations [35-36,41], while embodying a thematic framework.

It provides a sense of ownership and empowerment that can stimulate social action [38-39,42], assisting development of personal and social identities of the participants.

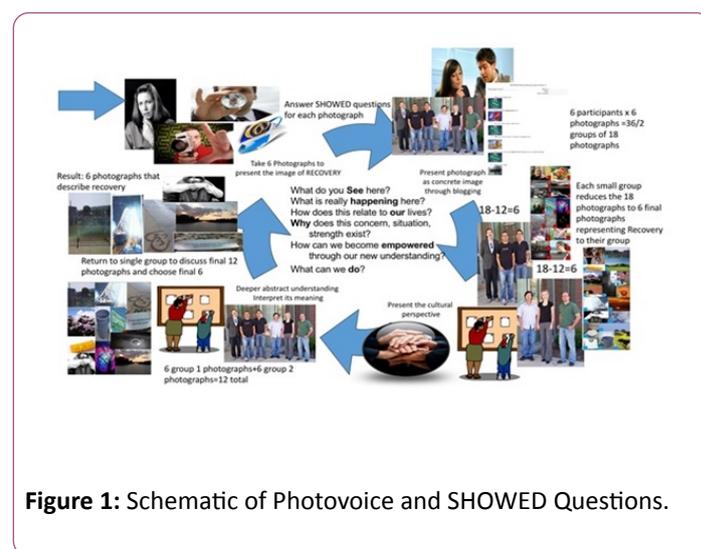


Figure 1: Schematic of Photovoice and SHOWED Questions.

Study Setting and Use of Technology

This study was conducted in cyberspace, using a secure website, through a webmaster protecting the identity of participants. Technology use has exploded in the last half of the 20th century. Using web-based communication within a familiar format, such as social media, increases access and flexibility for the participant and researcher to enhance participation [42-43].

Some Addiction Recovery Centers are utilizing social media to keep in contact with patients such as reminding them to attend meetings, etc. and they are finding that they are maintaining sobriety longer [45]. The passage of the Telecommunications Act of 1996 codifies the long-standing commitment by United States policymakers to ensure universal telecommunication service [46].

As of 2012, only 1.7% of Pennsylvanians were without access to a fixed broadband. Online sharing, on a security encrypted website, allowed reflection, fostered creativity, encouraged advice and counseling for both self and others in community and allowed for openness and comfort.

Study Overview

With the unique application of utilizing cyberspace as a setting and the marginalized population of those with opioid addiction, there were many ethical consideration and protections build into the study creation. Visual sources raise special questions related to three pivotal areas such as ethics, evidence and academic politics [30,47].

Ethical concerns included privacy, confidentiality/stigma, consent, misrepresentation, safety, access of computer/online, fatigue, vulnerable population, ownership of the actual photographs and the potential for voyeurism [25,35,48]. These are listed in following table (Table 1).

Table 1: Ethical Considerations & Protections.

Recruitment of Population	<p>Approval by the University's IRB in June 2010</p> <p>Individuals signed informed consent for participation in the study and recorded in internet files on a secured encrypted server</p> <p>Participants signed the document from their Suboxone provider approving the ability to be contacted for the study,</p> <p>Postcards were mailed to 80 potential Suboxone-user patients with information of how to enroll in the study.</p> <p>Instructions of how to log-on, obtain and change his/her password and use their camera phones to take six photographs which best described their recovery process.</p>
Participation of Vulnerable Population	<p>Others obtained by snowball sampling.</p> <p>Total of eight people contacted the researcher to join the study, one by phone who then declined to participate seven through the webpage, one of which did not participate.</p> <p>Screening through the demographic questionnaire after login and acceptance of informed consent.</p> <p>Inclusion Criteria: currently in recovery from drug addiction, 20 years of age or older, willing to use camera to describe recovery, have access to secure computer or camera phone.</p> <p>Exclusion Criteria: exhibiting drug use, intoxication, psychiatric or cognitive instability/ impairment or severe mental illness per DSM-IV TR (2000)</p>
Consent	<p>Data were protected per Institutional Review Board (IRB) guidelines and core principles of the Belmont Report</p> <p>maintaining files on a security encrypted website</p> <p>computer protected passwords</p> <p>obtaining consent to be photographed</p> <p>informing participants that participation is voluntary</p> <p>free to stop participating at any time without repercussions.</p> <p>When uploading the webpage from a security encrypted webpage, the participant requested access.</p> <p>Videos on the webpage described the study and reviewed the webpage including ethics, camera use, process of the study, and consent.</p>
Confidentiality	<p>The webmaster emails password and log-in.</p> <p>Participant is advised to change password as an acceptance of the informed consent</p> <p>Informed consent can be read by the participant as well as an audio file.</p> <p>Each participant signed an ethical agreement and confidentiality agreement. Rigorous procedures, including use of a web master as third party, were incorporated</p> <p>Individual participant's pseudonyms throughout completion of the study to shield identities in cyberspace.</p>
Ownership of Photographs/ Privacy	<p>Once logged in, each participant is given his/her own blog thread to choose six photographs describing what recovery is to them.</p> <p>Each participant owns their photographs.</p> <p>With each photograph the participant described the photograph using SHOWED questions.</p> <p>This level of blogging is only visible to the participant and the researcher.</p> <p>The researcher evaluated the photographs for common themes and divided into two groups based on themes combining into 18 photographs per group</p> <p>Only visible to researcher and the particular group. The photographs are mixed and numbered.</p> <p>The participants are advised to discuss through blogging about the photographs and their meaning as pertained to recovery.</p> <p>Over the next 10 months, each group narrows down the photographs to a group consensus of six photographs that represented their experiences with the recovery process.</p> <p>The two groups are reunited into a single blog group with a total of twelve photographs which are re-numbered and mixed.</p> <p>This blog can be seen by all participants and the researcher.</p> <p>Further discussion continued as they choose the final six photographs that best illuminate recovery to the group.</p> <p>Themes are derived from comments.</p>
Safety/ Stigma/ Potential for Voyeurism/Fatigue	<p>The online environment provides the opportunity for flexibility of the participants to work at different times to gather the same information and comment in their words at their convenience.</p> <p>Minimize participant risk:</p>

	Use of a secured server
	Giving the individual control over the data (s)he creates and shares about their perceived stigma and frustration related to substance abuse issues.

Population Demographics

Demographic data was collected. Half chose recovery because it was court mandated and the rest because of others (new baby, girlfriend, student in nursing school, sponsor) (**Figure 2**). Relationship problems and high cost of use where the most precipitating events but arrest or legal trouble, loss of job, desire to improve life, spiritual rebirth and fear due to death related to drugs were also factors.

Number of participants	1	2	3	4	5	6
Caucasian					X	
Male					X	
Ages			X			
20-25						
26-33	X					
34-42	X					
43-50	X					
Level of Education High School			X			
Some College		X				
College	X					
Criminal Activity			X			
Religious Affiliation			X			
Dual Addiction with Alcohol			X			
Nonsmoking					X	
Precipitating Event for recovery			X			
Recovery influenced by			X			
court			X			
others			X			
Years of Drug use						
6-10		X				
11-15			X			
20-25	X					
Drugs used						X
Opioids						X
Marijuana				X		
Cocaine				X		
Heroin			X			
Benzodiazepine/Amphetamine/Crack	X					

Figure 2: Population Demographics.

Data Analysis

Data were collected in various forms including interviews, documents, and reflection journaling guided by preprocessing questions via blogging, and field notes, while building coherent justification for the themes, through the presentation of the participant’s voices under each stage and providing detailed descriptions obtained through the preprocessing questions and photographs chosen. Notes were taken throughout the process in all stages.

Data were analyzed by two researchers over four months, following independent coding of 95 blog post through reflection, judging relevance and meaning to develop themes that depict the experience and noted observations through 100 hours of review individually and eight hours jointly until consensus was reached.

Categories were created based on selected photographs of the participants, and organized based on similar types of photographs. Comments were referred back to the participants for clarification (member checking), similarities and differences were recorded and evaluated. Because a web based blog format was used and time stamped within the security encrypted website, members verified their own documentation and characterization.

The dominant themes was recurrent throughout three discussion boards and explained in the participant’s words below alongside the six photographs selected by participants as reflecting key aspects of their recovery journey.

Validation strategies, including triangulation, thick rich description, peer debriefing and researcher reflexivity, helped achieve dependability, authenticity and credibility for this study. These values determine trustworthiness. Authenticity was maintained by the participants documenting their chosen words and expressions and helped determine the accuracy of findings.

In following the methods of Photovoice, the participants took six photographs that described recovery best to them and answered the question, “Tell me the story of what you’ve gone through, from being an active drug user to being where you are in this recovery process.” From this process, 36 photographs were created and further described by the photograph’s owner through SHOWED questions (Figures 3 and 4).

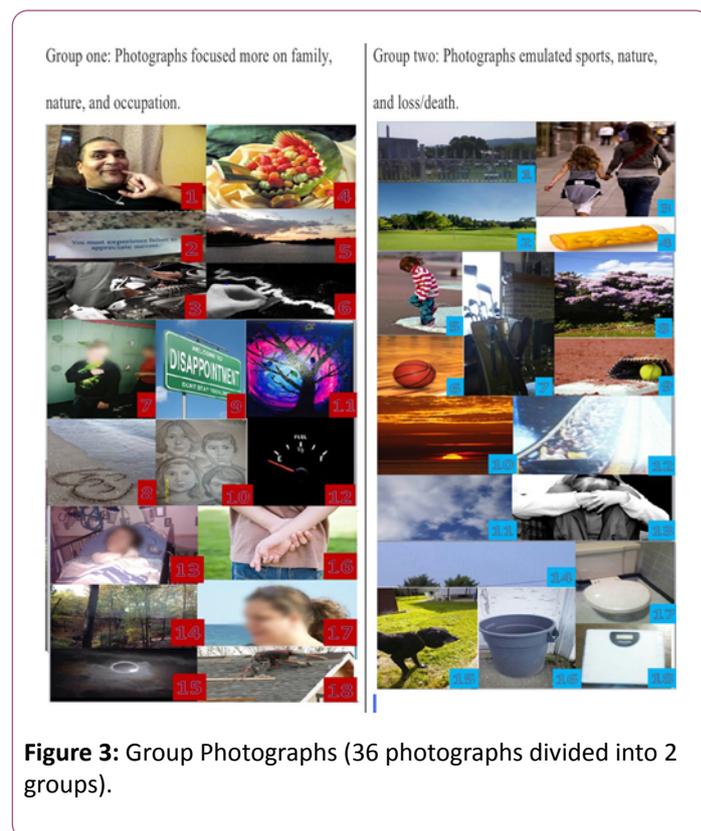


Figure 3: Group Photographs (36 photographs divided into 2 groups).



Figure 4: Photographs of Choice.

Evaluation by the researcher combined the six participants into two groups based on similarity of their photographs. Taxidriver3 seemed to be searching for peace, displaying and discussing ideas of washing away or coming clean.

He expressed being a disappointment, missing out on family and relationships and breaking promises. He stated each day he had more ups than downs, and felt fortunate for a future but embarrassed by his past. Basil described personal growth, found peace, higher power and rebuilding. He expressed hopefulness with color and finding peace with disappointments.

Basil, the longest participant in recovery, expressed helping others is important to recovery. He is comfortable with himself and less egocentric. CAH is more hopeful describing facing failure, peace, never ending line of addiction, disappointment (loss and loneliness), love lost and a greater plan.

CAH talked about being scared, happy, and caving to peer pressure, as well as shame, emptiness and needing to face reality. He stated he missed life just to get high. He acknowledged a higher power, stating "I'm not sure if they find God or if God finds them, but God has something to do with it."

This group described loss but moving forward, disappointment but finding peace and not allowing the addiction to control them and become their destiny. Dman noted shame, choices made, outcomes, lack of success in work, hitting rock bottom, family and pills telling his story and the reality that addiction is a constant.

He described his friends and his motivation, his girlfriend and daughter. He described sobriety was the hardest thing he had to do but worth the future. Heatherg11 noted feelings of out of control, pills ruling her life, and changing appearance indicating body image issues.

She stated the cemetery and shame were the two photographs affected her the most. Ckunkle21, in recovery only three years, noted feeling down and out, feeling like garbage (low self esteem), stigma of addiction, fear of death and highs and lows of life. He stated the cemetery summed up recovery and closeness to death and his life is a roller coaster of ups and downs.

Between Group Comparison

The stories of the photographs were also interestingly similar. Group 1 discussed their experiences with addiction instead of allowing their addiction to control them or become their destiny. They describe a peace and a future.

(Figure 5: child painting) Group 2 focused on shame, disappointment and stigma without an expression of coming to terms with their addiction, being in control or at peace.

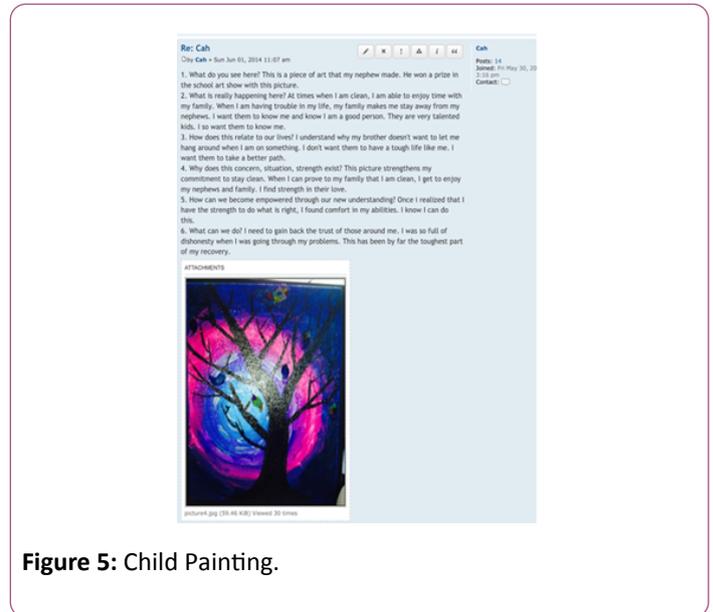


Figure 5: Child Painting.

(Figure 6: photograph of a toilet) Group 2 expressed concern about how others perceived them (stigma) as opposed to how group 1 viewed the self. Group 2 are not controlling their addiction, it is still fresh. Group 2 have not come to terms with their addiction as they allow the addiction to define their lives.



Figure 6: Photograph of toilet.

The only female in the group noted body image concerns (Figure 7: Photograph of a scale). Shame is part of recovery, hopefulness and ability to make change makes a difference. There was an awareness that recovery was still a struggle requiring a daily choices. All participants mentioned some aspect of higher power, family (relationship) changes, clean

slates, ups and downs, emptiness, regret, shame, acceptance and appreciation.

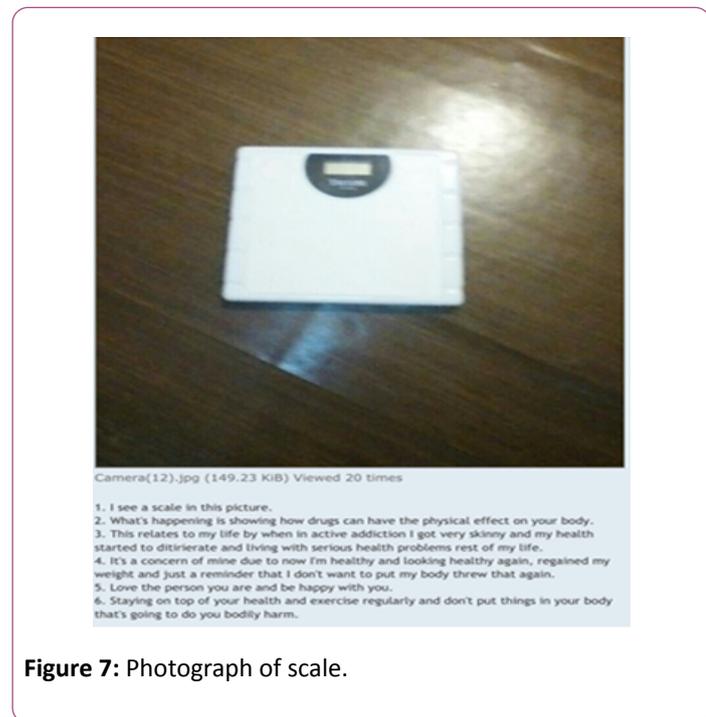


Figure 7: Photograph of scale.

There were two different perspectives related to losing people to drugs in relation to their recovery. Taxidriver3 described a best friend who died from bad coke and contemplated that it could have been him yet still did not cause him to become sober. It was not until he found his wife and new daughters that he had a new realization of life. He still had an egocentric outlook and in denial that it could have happened to him. Where as, Heatherg11 had a retrospective perspective viewing life as a fight worth fighting and glad she did not die.

Length of their recovery time

On further review and comparison of their "stories" group 1 had been in recovery greater than 10 years and group 2 less than 5 years. The researcher anticipated that the differences in these choices of photographs was related to the length of their recovery time and expressed their perception to recovery.

Research Description

As per the photovoice method, based on further discussion via online discussion, each group had to narrow down the 18 photographs in each group had to choose 6 photographs that best elicit the themes that describe what recovery is to them.

Table 3: Themes Extracted.

Themes	Subcategories	Basil	CAH	Taxidriver3	Heather11	Ckunkle21	Dman
Category	Group	1	1	1	2	2	2
	Recovery time	Longest				Shortest	
Journey		Process	Plan for future		Getting to the plate,	Turning point	Path

Each of the final 6 photographs were then grouped into a combined or reunited group, resulting in the photographs noted in Figure 8: Final 12 Photographs (6 photographs from each group, chosen by participants) Recovery is a journey recognizing the addictive nature and need for change.



Figure 8: Discussion was then organized into common themes and definition of recovery.

Basil "intended to express the growth of a man who stays steadfast in recovery." "This started with me working on myself then to working on others." Revealed in blogged discussions and captured in photographs is a perspective of recovery as a process or journey, with this in mind, two themes have developed within this study. Two categories were also identified in the development of these themes: Addictive Nature and Change.

First, recovery is an emotional journey away from dysfunctional thinking, impaired control and destructive behavior. Second, the journey is one of discovery and included individual change, required a process of reflection on past events and relationships, included relapses and served as an important reminder of where they had been and the need to avoid complacency in how far they had journeyed thus far.

The category of Addictive Nature was developed from their stories of what brought them to recovery and include: initiation into recovery, self destructive behaviors, impaired control, stigma, and dysfunctional thinking. Change was identified through the description of the photographs that were chosen and categorized into Emotion, Realization and Involvement. Six photographs were chosen by the group to represent this journey and are described next. (Table 3: Themes Extracted)

		Growth of a man	Process			Bridge old to new	Hardest thing I've ever done
		Tree sprouting from same foundation	Footprints in sand			Don't want to go back down that road	Journey
		Timeliness	Journey		striking out, up to her to swing	Recover different stages the same	
		Playing marbles with	Systemic change				
			Rebirth				
			Hardest thing to do				
Addictive Nature							
	Initiation in Recovery	Alone	Didn't feel connected	Discovered opioids	Tough upbringing	Sick everyday	Closed myself off
			Going back	Make me feel good	Always obstacles	Prescription pain killers	Bad time
			Constant challenge	Friend died of overdose	Ups & Down days		Loss of family
			Alone	Bad supply			"I was great"
			Hard	So bad			Chasing the high
				Kicking me out			Alone
	Destructive Behavior	No compass	Didn't seem to care	High	Legal trouble	Committing crimes	High in life
		Runaway	Fighting with parents	Lost respect of family	Taken away	Arrested	Walking away
		Mundane	Nothing to show for it	Jail	In & out jail	Violating parole	Struggles
		Aggressive	Something bad	Tough time	Thinking was all clouded	Good & Bad days	Death
		Struck	Bad choices	Never really felt like I was good at anything	Bad decisions	Roller coaster	Loneliness
		Skeletons in closet	Always reacting	Bad news	Bad path	Up & down	
		Loneliness	Hurting other people	Everything like a joke	Solitude	Running	
			Up & down	Telling a fib	Physical effects of body	Throwing everything down	
			Death	Lifestyle of lies	Skeleton of self	Flushed away	
			Wash away	Mistrust	Deteriorate	Garbage	
			Failure	Roller coaster	Serious health problems	Where I should be	
			Stealing	Ups & Down			
		Lying					
	Impaired Control	Crutch	Things to snort	Dependent	Highs & lows	Downhill spiral	ROCKY
		Not able to cope	Couldn't understand	Life in shambles	Bumps on track	Rock bottom	"I was great"

		Bend with needs	Bad times	Destroying others	Put self at risk	Cloudy with tough situations	Thrown off the team
		End of road	Trouble	Chase the high	Daughter taken away	Struggle	Not enough
		Relapse	Caved to peer pressure	Getting worse	Out of control	Unexpected things	Pills don't really work
			Missing life	Do together	Passion replaced by drug	Complacency	Tolerance
			Next rush	One became three	Multiple relapse	Terrible cycle	Ups & downs
			Chase	Broken promise	Looking for bathroom for pills	Roller coaster	Out of control
			Falling	Never long enough		Relapse	Rock bottom
			Roller coaster	Relapse			Roller coaster
			Relapse				Relapse
							Addiction took everything
	Stigma	Minority	Outcasts	Terrible	Not want anything to do with me	Fit in	My past has bad stuff in it
		Racist	Didn't judge	Average	Ashamed	Socially accepted	Shame
		Stigma	Bad one	Druggie disappointment vs		Alone	
			Judgement of others	Prejudice		Peer pressure	
			Alone			Cancer sickness vs	
			Peer pressure				
			Wanted to fit in				
	Dysfunctional Thinking	Young	Common ground	Never appreciated	Cover up all feelings	Lying & cheating	Drugs are not the problem, I am the problem
		Immature	Future not worth anything	Nothing in my life	Facing all situations	Lost all interest	
		Depression	Anytime life got hard	Killing time	Passing away	Drained dry with no meaning	
		Emotionally difficult experience	Never seems to have enough	Couldn't do anything right	Miss it	Day in & day out	
		Roadblocks	Trouble finding	Sank deeper	Used to be	Lose all passion	
		Selfish remain blind	Dark places	Broken promises	Different life	Death	
		Being false	Selfish	Washing away	Life for granted		
			Stay away		Lost passion		
			Out of the grave				
			World keeps turning				
			Surviving not living				

			Emotions frozen				
Change	Emotions						
	Positive	Give meaning to life	Happy	Truth	Happiness	Trust	Happy ending
	Hope	Happy	Build trust	Strength	Started to open	Stay strong & positive	Pride
	Starting over	Laugh	Peace	Pride	Confident	Open minded	Strength
	Acceptance	Trust	Calmness	Acceptance	Strength	Teachable	Hope
	Optimism	Truth	At ease	Peace	Change	Growth	Change
	Happiness	Honest	Comfort in abilities	Supportive	Small steps	Passion	Accepting
	Peace	Honor	Commitment	Fighting my past	Teachable	Relax	Grateful
		Responsibility	Strength		Fix	Some easy & clear days	Appreciate
		Commitment	Hope		Appreciate		Thankful
		Take stand	Appreciate		Love self		Lucky person
		Self dignity	Love		Connected		
		Proud	Promise		Passion		
		Strength	Good person		Clear mind		
		Strong individual	Learn from past		Potential		
		Share/flexible			Mistakes cleansed		
		Hope			Thankful		
		Self actualized					
		Leap of faith					
		Love & Compassion					
		Enjoy life & love					
		Peace					
		Embrace					
		Sound mind					
		Forgiveness					
		Success					
		Humility					
	Negative	Emotional	Emotional	Disappointment	Emotions	Emotions	Let myself feel
	Ups & Downs	Taxing physically, mental, & spirituality	Feelings	Empty	Hurt	Fear	Hurting
	Turmoil	Hurt	Fear	Loss	Scary	Scary	Fear
	Fear	Fear	Scary		Afraid	Shame	Disappointment
	Shame	Disappointments	Mad		Afraid of change	Ashamed	Depression
	Emptiness	Powerlessness	Angry		Fear	Empty	Sadness
	Loneliness	Overwhelming	Shame		Ashamed	Loss	Angry (very angry)

	Meaninglessness		Empty		Angry	All the effort	Ashamed
	Unworthiness		Anxious		Emptiness	Unworthy	Empty
	Powerlessness		Still hate me		Hopeless	Fear of dying	Bargain for survival
	Loss		Hard		Loss	No meaning	Anxiety
	Disappointment		Dishonesty		Sorry	Unworthy	Loss
			Lost future		Confused		Risk
					Mistakes		Fight
							Tired
							Worry
	Realizations						
	Recognizing past mistakes	Trying to change	Realized	Wish I would have appreciated relationship	Dead	Wasn't worth throwing life away	Sent away
	Reflection	Right thing	Life slowly coming back	Never get back years	Started to open	Work on recovery	Progress
	Moving forward	Compass	Challenge	Dependable	Think clearly	Fresh day	Missed daughters life
	Second chances	Growth	Another chance	Second chance	Fighting for life	Peace of mind	Feel like he can do it
	Stigma	Respectfully & care yourself	Toughest part	Make good choices	Rewards	Stop focusing on negatives	Completely stopped
	Finality	Comfortable in own skin	Face own reality	Fail before success	Valuable lessons	Face & handle them	Don't want to lose it again
	Outcomes	Allow mistakes	Only person can make it better	Washing away	Stand ground	Continue to blossom	Landed on my feet
		Work out fears	Envision future	Recover differently	Fight for what you believe	Comes in waves	Fought like crazy
		Courage to change	Saw things in a different light		Member of society	Make progress	Hardest thing
		Accept faults	Change		Place could have ended up	Keeping things simple	I've ever done
		Compassionate care	Clean		Live it to the fullest	Getting involved	Recognizing mistakes
		Find something good	Enjoy time		Hold onto important things	Moved away	Death
		Learning difficult lessons	Better path		Good decisions	Turning in point	Washing away
		Lesser carbon footprint	Brightness behind the darkness		Thinking through	Cemetery	
		Keep simple	Natural beauty		Exercise		
		Less chaotic	Struggle		Starting over		
		Uncomplicated	Cemetery		Worth fighting		

		World of color behind the darkness			Take time		
		Rebuild heal			Growth		
	Involvement						
	Higher Power	Relate	Don't want to be alone	Family	Moved away	Sponsor	One person in particular
	Others	Recovery nurses meeting	Special person	Fuel with things that love & cherish	Asked for help	Help of resources or others people	Think about her
	Self	Giving of love to others	Stuck with me	Helping people out	Advise	Plugged into the network	Love of others
	Faith	Witness	Stay true	Keep his memory alive	Influenced by others	Reach out	Family
	Support	Help	Reaching out	Miss him		Never take life or family for granted	Driving force
	Loving others	Get along with others	Love of my life	Support		Support of others	Motivation
		Loving wife & family	Can't imagine life without her	Family, friends, community, God			
		True love springs from honestly	Faith				
		Belief in God	Greater plan				
		Importance of love	God				
		Extend to others	Journey needs to be with God, like the footprints in the sand				
		Empowered to others					
		Connections					
		More than human beings					
		Self worth					
		Love ourselves					
		First take care of ourselves					
Overall	All		Group 1			Group 2	
	Higher power		Peace			Struggle	
	Family/relationship changes		Experience with addiction			Shame	
	Clean slates		Future			Disappointment	
	Ups & Downs		Self view			Stigma	
	Emptiness					Out of control	
	Regret					Concerned how perceived by others	
	Shame					Allow addiction to define them	
	Acceptance						

	Appreciation						
	Hope						
	Repair mistakes						

Category: Addictive Nature

Initiation into recovery

Basil stated, "When I finally started my recovery process and having a compass of who I am and what I want to be, it became clear to me that this was the missing place that helped me." "The only thing that would give meaning to my life would be the giving of love to others." These comments indicate direction and purpose for recovery. Heatherg11 states, "You get many times at the plate. I may have struck out a few times, but I am still in the game. It is up to me if I want to swing or not." Ckunkle21 states "Everyone recovers differently, but I think the stages are the same." CAH describes, "The choices I make, make me." Heatherg11, Ckunkle21 and CAH's comments elicit ideas of repeat intentions and purposeful direction to change. CAH also states, "Recovery is one of the hardest things I have ever had to go through." This was also expressed by Dman, Heatherg11, Ckunkle21 and Taxidriver3. CAH states "I can make a plan for my future. Instead of always reacting to the mess I have made for my life, I can envision my future the way I want it to turn out. I need to figure out what makes me happy." Heatherg11 states, "It's up to me and only me to do the right thing." A description of the difficulties of recovery and accepting change is developed from these comments, creating an understanding of the need to change but the conflict involved with change.

Self destructive behaviors

Basil describes a "very aggressive and emotionally difficult experience" and issues with racism and inability coping. CAH, Heatherg11, Taxidriver3 and Ckunkle21 note feelings of being an outcast and not accepted, constant challenges, parental strain and loneliness. Ckunkle21, Dman and Heatherg11 also describe issues with criminal activity, lying, cheating and downhill spirals. These are common issues in recovery as evidenced in previous research making recovery difficult.

These behaviors and emotions are constant fall backs with failure. CAH states "I don't plan on hurting other people, especially someone I love so much. It just happens. When I get the selfish feeling to do something I know is bad, I try so hard to resist." Chunkle21, Heatherg11, Taxidriver3, and Dman describe similar feelings. Taxidriver3 describes a lifestyle of lies. These comments indicate the non-purposeful actions within addiction that may be related to the brain function destruction of the frontal brain or executive function of the brain, supported in the literature.

Impaired Control

Dman describes relapsing multiple times, anger and hurting others, a rocky road and drugs being a constant in his life. He states, "Addiction took everything from me. Drugs are not the problem, I am the problem." Heatherg11 describes the drugs

causing physical effects on her body and living with serious health problems.

Dman and Heatherg11 describes loosing family and her daughter. She states "I would find myself looking in their bathroom for pills." Taxidriver 3 stated, "No matter how long the line was, it was never enough." All participants describe feeling empty and difficulty controlling their impulses.

Stigma

Ckunkle21 describes the stigma of addiction with his statement, "If I had cancer, people would feel bad for me but because I have this sickness, I am garbage." Taxidriver3 also makes mention to the stigma of addiction, "Did I become a druggie because I was a disappointment or did I become a disappointment because I was a druggie?" Basil states, "I know that everyone has skeletons in their closet. I keep mine out because I can look at them squarely.

This is my cross to bear." Dman states, "One of my biggest challenges has been dealing with the shame. My past has some bad stuff in it." Taxidriver3 states, "If they don't want me, then it's because I would not be in a place where I would be happy. I use their prejudice to my benefit." Shame and stigma are a constant throughout this research. Some are affected by others perceptions of them and seem to live on past events, whereas others (those in recovery longer) use it as a way to evaluate where they came from and plan for the future.

Change Dysfunctional thinking

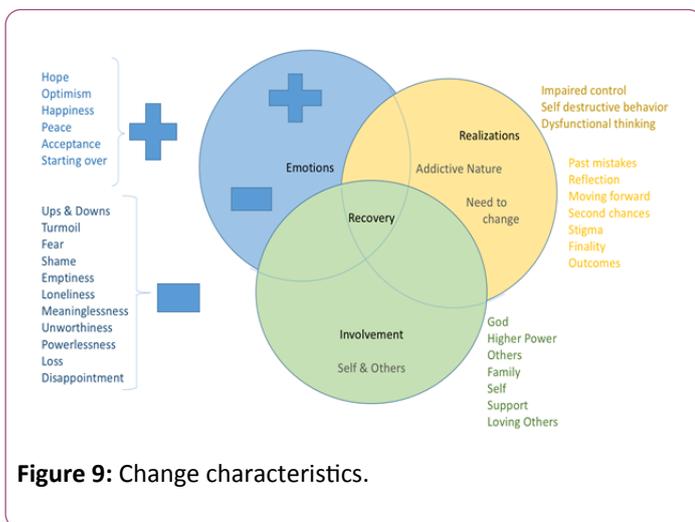
Basil states, "The definition of humility is not to think LESS of yourself, but to think of yourself LESS." "Keeping things simple leads to an uncomplicated life." "We can grow to love others by being there and knowing that we are not alone." "It's about personal growth." Ckunkle21 states, "It is because of my past that I am now who I am. Unlike some of the others, I do not hate my past. I just don't want to go back." "I need to learn from our mistakes but can't focus on the negatives." Taxidriver3 also states a similar concept in stating, "I use their prejudice to my benefit. We can be honest with who we are and not hide in turmoil of being false."

These comments indicate the understanding for the need to change and what was, was not healthy. Ckunkle21 also states "Just as water evaporates to the sky and then rains to support the plants. We need others to support and guide us. We need to ask for help. We must trust that each day will be anew." "We need to take each day at a time and learn from our past." Dman states, "Drugs are not the problem, I am the problem." "I have been lucky enough that another day gave me another chance. The sunset offers me hope." Heatherg11, "Each new beginning gives increased confidence even if it is just a ripple." "The passion is lost and my light is dim, but as the earth rotates and

change occurs, brightness returns, changing the tides offering new potentials.” Taxidriver3, “I feel fortunate that I have been offered more chances and was caused many broken promises, but with work and cleansing, these can be washed away and I have the ability to be clean.” There is an understanding or presence of hope and change, that the end is not the end but an opportunity to grow.

Category: Change

Change involved three characteristics described throughout the photographs: Emotions, Realizations and Involvement. The following schematic describes change characteristics and are further described with the six photographs. (**Figure 9:** Change Characteristics).



Words in the Sand [Others]

This photograph represented change, a clean slate or a washing away. Heatherg11 states “Everything changes with each wave, mistakes can be cleansed,” suggesting themes of hope or starting anew. The actual words “Luv u” in the sand represented hope for and challenges in loving others (Figure 10), (i.e. parent, child, sibling, friend), self, or God, as Taxidriver3 stated “one of the hardest things to do is share life with another person.” CAH stated, “My journey needs to be with God, like the footprints in the sand” referring to the poem Footprints.

Dman stated, “I risk watching my love wash away with every wrong step I took.” These comments acknowledged faith and recognizing past mistakes, in addition to love of self and/or another. The words in the sand represented a concept of others.



Figure 10: Words in the Sand.

Roller Coaster [Emotional, Impaired Control, Transition, Chaos]

This photograph represented the turmoil in the journey i.e. the ups and downs, pace, keeping on track and a vicious cycle. Ckunkle21 noted, “Life has highs and lows, my life was a ride that I felt with every high there was a fall, I kept drugging to go higher for the fear of falling.” (Figure 11) Dman describes “Life is one big roller coaster, even now still feeling ups and downs.” CAH stated, “When I look at the people on the ride, I see emotional people. Some are scared, some happy, some mad that they caved into the peer pressure to get on the dumb ride. Of all the pictures, this says addiction to me.” These and similar comments of the other participants describe their journey as fearful, up and downs, and the path of addiction. The roller coaster represented concepts of emotionality, impaired control, transition and chaos.



Figure 11: Roller Coaster.

Fortune Cookie [Past to Present, Realization]

The fortune cookie photograph indicated hope, optimism, change, process and learning from one’s mistakes on their recovery journey. CAH states, “We need to take each day at a time and learn from our past” suggesting reflection and learning.

Taxidriver3 describes acceptance and moving forward saying, “the fortune cookie talks about failing before you can succeed really hits home to me. I do think I am stronger for it.” Basil adds, (Figure 12) “We can grow to love others by being there and knowing that we are not alone,” also pointed to the journey

process as recognizing you are not alone on this journey and require the support of others. It suggests that the past has the opportunity to change with recognition and effort.



Figure 12: Fortune Cookie.

Girl on the Step [Addiction, Destructive Behavior]

Although the researchers looked at this photograph as hopelessness, the majority of the participants described it as shame, including other themes like emptiness, stigma and loneliness which were also depicted in other photographs which did not make the final round, of a trash can and toilet. Basil described this photograph as being “comfortable in your own skin.” Heatherg11 states the photograph was a “reminder to me of how I feel.” (Figure 13) “It hits home to me.”

As the only female in the group she states “the girl on the step could be me, a skeleton of what I once was, I lost passion and drive to replace it with the drug.” Body image was a consistent theme in her responses. Most responses correlated the impression of shame or loss, indicating towards the emptiness and destructive behavior of addiction.

This photograph spoke more towards addiction than recovery but acknowledged that recovery was a journey away from behavior.



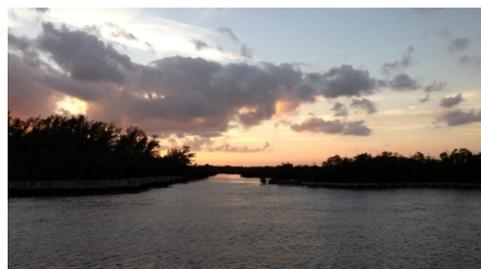
Figure 13: Girl on the Step.

Sunset (Change)

There were many environmental types of photographs, but the most popular was the sunset. Heatherg11 states “The passion is lost, the light is dim, but new potential is possible.” CAH notes “at night comes darkness, each day I make promises.”

Dman notes “I feel lucky enough that another day has given me another chance; the sunset offers me hope.” Heatherg11 states “Each new beginning gives increased confidence even if it is only a ripple.” These quotes indicate a journey, hope and change. Other quotes indicate faith, higher power and acceptance. Basil advises, “By knowing that the world revolves around more than just the addict/alcoholic, it effects the entire family (Figure 14). We can grow into being more than just ourselves.

We have to offer up our powerlessness and embrace the things in life we can control, love and support.” CAH states, “I’m not sure if they find God or if God finds them, but I know that God has something to the journey.” Faith hope, second chances, growing confidence in one’s ability to stay on the recovery journey were all important to all participants in the study. These indicate a moving away from addiction into recovery, that change is possible.



Figur 14: Sunset.

Cemetery [Reflection, The End]

Themes noted with this photograph include outcomes or finality, the end of the journey. In selecting and discussing this photo, concepts of loss, disappointment, stigma, fear, meaninglessness, unworthiness, and powerlessness were evident.

Surprising to the researchers, this photo was also associated with discussions of gratitude, recognition, change and confronting the risk taking behaviors accompanying drug use.

Ckunkle21 comments, “Others view me as a loss and unworthy, some days are tough, I was throwing everything away, yet I had a fear of dying and life had no meaning.”

Taxidriver3 “wonders why some get a second, third chances and others don’t.” Ckunkle21 states “The cemetery reminds me of where I should be but for some reason I am not.”

Dman states “Death is a possibility.” CAH expresses “I felt anger related to choices I made and outcomes that resulted. I felt like I lost my future and unable to offer value, I am the only person that can make it better.”

Heatherg11 is “thankful the story did not end here.” CAH states, “In order to change, you first have to face your own reality, like the picture of the cemetery.” These suggest reflection and understanding of the potential to continue one one journey (addiction) or another (recovery), but each has finality, one more positive than the other (Figure 15).

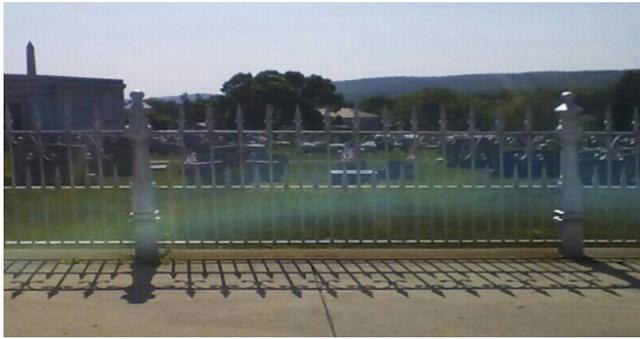


Figure 15: Cemetery.

Recovery

Recovery is a process, “a journey” that evokes multiple emotions including fear, loss unworthiness, anger, shame, darkness, stigma, and brutal honesty. It also includes feelings of hope, faith, happiness, appreciation and love of self, others and God.

For participants in this study, it was triggered by experiences of hitting rock-bottom, finding faith, a critical event (e.g. ultimatum) or turning point where the individual recognized the need to change and took steps to begin their journey through commitment to self and/or others.

Some participants spoke of the timeliness of recovery as a long process where one learns about self and then how to “play” or interact at a healthier, more mature way with others. Basil states “Most change starts in the first 5-10 years. That is when we really find out who we are. It takes the first five years to find your marbles then another 5 years to learn how to play with them.” CAH states “I was surviving, not living.

The drugs froze my emotions and I didn’t feel anything... I am scared that I will fall again... I want to make choices to keep love in my life, not chase it away.” The need to reflect was apparent in most statements as a reminder of where they had been, but for at least one participant focusing only on the future was most important on their recovery journey. Overall two themes developed. Recovery is an emotional journey away from dysfunctional thinking, impaired control and destructive behaviors. This journey toward recovery is initiated by self and supported by others to change over time through reflection, realization and reduction of chaos.

Limitations

Table 4: Limitations

Photographic data	· Objectifying as specific time & place under specific circumstances
	· May not be ideal for capture essences of what is to be represented
	· Single direction angle
Internet	· Digital images potentially contain more than analog photo

Participants	· Subject to reliability & calculation of size
	· Viewer dependent on quality and capabilities of the website
	· Quality of monitor
	· Generating interactive conversation difficult in artificial setting
	· Phantom participants occurred secondary to phishing but was limited by the webmaster by requiring participants to change their password followed by a confirmation email that helped discover true participants from phantom participants.
	· Remaining on task reminders needed through email
Sample size	· Follow through difficult secondary to drug effects on frontal lobe of brain
	· Trust issues
	· Disbelief in confidentiality within web-based design
	· Drug addiction is a very private issue with potential legal repercussions
	· logging in issues, multiple episodes of forgotten password, and some participants who changed their login name creating multiple accounts
Subjectivity of design method	· Difficulty in the generalizability of the subject matter
	· Trust issues
Subjectivity of design method	· Difficulty in the generalizability of the subject matter
	· Other Photovoice study sample sizes ranged from 4-45, with most obtaining data saturation ranging around 15 (Bader, Wanono, Hamden & Skinner, 2007; Chilton, Rabinowich, Council & Breaux, 2009; Grosselink & Myllykangas, 2007; Leven, Scott, Borders, Hart, Lei & Decanini, 2007; Vengris, Glen & Mackenzie, 2008; Wang, Morrell-Samuels, Hutchinson, Bell & Prestronk, 2004; Wilson, Dasko, Martin, Wallerstein, Wang and Minkler, 2007).

Discussion

The results created were the perspectives of recovering addicts talking about their journey and are important to consider in identifying/planning approaches in support of recovery process as the Photovoice method provides voice to marginalized populations like those in addiction. This study supported much of the research related to initiation of treatment, chronic illness, outcomes of the effects of drugs on brain chemistry and the need for a fluid concept of recovery with the understanding that recovery is a chronic disease and relapses that must be cared for similar to other relapsing type of diseases such as diabetes, hypertension and asthma.

Initiation of Recovery

Consistent with Weisner, et al, employment, legal, medical and family ultimatums encouraged the initiation of recovery (2010), as well as this study also supported studies where motivation to change were important factors for recovery [7,17,49]. Flynn et al (2003) viewed recovery as a continuous process containing benefits from lessons learned in treatment. This study supports the definition of recovery as an opportunity to begin abstinence, change both dysfunctional thinking and behavior, regain health and in general reduce chaos of substance abuse in their lives [10,17,20].

Initiation into recovery is becoming more difficult as addiction treatment centers are coming under the same scrutiny as hospitals, for example, in being denied payment if a heart failure patient is readmitted to the hospital in less than 30 days. Treatment for drug addiction requires minimal thirty days but funding is being limited to 11-15 days and then funding is not being supported if relapse occurs as drug addiction is not considered a life threatening disease. This makes successful recovery difficult and does not support addiction as a chronic illness.

Chronic Illness

This study lends support to research findings that drug addiction is a chronic relapsing illness that impacts all racial, cultural and economic groups, where the addict engages in self-destructive and criminal behaviors to get his or her fix [7,9-10,50-51]. In understanding that addiction is a chronic disease, it cannot be cured but must be managed. Treatment for addiction, similar to those chronic, incurable diseases requiring lifestyle changes, works as well, or better than, most other therapies [52].

Effective treatment in a continuum of care includes ongoing, less intensive, and tapered contact with treatment systems, much like other chronic disease [53]. The chronic relapsing nature of substance use disorders often means that individuals may remain in this level of care for many months or years, relapse, return to outpatient treatment, regain abstinence and return to continuing community care [54].

“When managing and treating a long term, chronic illness the patient is often involved in varying levels of care for an extended period of time in order to give them the highest possibility of success, defined as an effective management of symptoms that recur and remit over the course of a person’s lifetime”.

Brain Chemistry and Impaired Control

The study findings identified the challenges and difficulties encountered along the recovery process such as impaired control, stigma, self-destructive behaviors and the risk of relapse. The participants also described impaired control over drug use, compulsive use, continued use despite harm and cravings [3,10,51]. These aspects can be correlated to the dysfunctional brain activity also supported in the literature. The Dopamine release in the brain is a critical mediator towards reinforcing effects of stimuli [3,9-11]. Kalivas (2004) suggests that dopamine underlines the development of addiction but permanent changes result from sensitization and reinstatement with protein changes regulating glutamate transmission. By further understanding the drug’s effect on the brain to cause dysfunctional thinking processes and behaviors and the utilization of medications on the dopamine effects of the brain, further progress can be made to the continuum of care for the chronic disease of addiction.

Recovery Models of Care

Today’s treatment has graduated steps designed to meet the differing needs of each patient and each phase of addiction or recovery. The subjects of this study support a continuum of care with descriptions of their process or journey. Treatment

intensity can be matched through the continuum by allowing patients to “step-up” or “step-down” based on recovery needs. In viewing recovery as a continuum of care, persons with substance abuse disorders can remain in recovery, with individuals need to be tracked in an ongoing manner.

The American Society of Addiction Medicine has established five main levels for substance abuse continuum of care. These levels include: early intervention services, outpatient services, intensive outpatient/partial hospitalization services, residential/inpatient services and medically managed [9,53-54].

These levels are further divided into stages: treatment engagement, early recovery, maintenance and community support. Treatment should include a plan of ongoing care but also the transition through one stage to the next. It involves a movement through the continuum back and forth depending on the need of the addict.

The participants in the study discuss their flowing life between sobriety and addiction as well have the description of different levels of recovery. One, Ckunkle, is still early in recovery whereas, Basil is involved in the community support stage. Goals of care include achieving abstinence, fostering behavioral change, facilitating active participation in community support activities, identifying and addressing psychological problems, developing a positive network and improving problem-solving skills and coping strategies.

All of the participants describe these goals using their own language. This method allows complex information to be broken into small increments and modified to the appropriateness to client’s cognitive and psychological functioning and stage of readiness. All participants describe the idea of feeling overwhelmed and taking it in small increments more tolerable.

Conclusions

Recovery from drug addiction was a journey for these participants involving understanding their addictive nature and need to change. Through the methodology of photovoice, they were able to reflect on prior negative and positive times, while describing the “toughest” journey in life they’ve encountered thus far.

Participants were able to envision a different future and looked forward with both trepidation and hope towards the future. They also described factors that motivated them towards this journey, times when they relapsed, struggled, (i.e. a series of ups and downs), destroyed and re-built relationships, and discovered trust/love in self and others. Clear throughout this journey was the recognition of the need for honesty, change, and ability to accept support for self and from others.

They were able to recognize their emotional journey away from the characteristics of addictive nature and over time. The journey required personal insight and self-support, the support of others, God, faith and or a spiritual nature that assisted in changing their behaviors and thought processes to a healthier future.

Nursing Impact

Services offered within a continuum of care model suggests: sponsorship of alumni meeting, providing checkup counseling, periodic contact through telephone contacts and involvement in community resources such as vocational training, recreational therapy, family therapy or medical care [53,55]. Further research is needed as well as social action to encourage the chronic illness aspect of addiction and appropriate length of treatment to decrease relapse potential and increase healthy lifestyles.

Research continues to yield new information on biological predisposition, brain chemistry and behaviors. Treatment will need to continue to change and improve. Treatment providers must create trusting, open and caring relationships with the person struggling with substance use disorder.

Further research is recommended for both photovoice as a research methodology in order to identify triggers that might potentiate relapse and more importantly how to prevent relapse and maintain sobriety. Based on such research newer interventions based on such evidence can be implemented to assist clients in maintaining sobriety.

The use of Photovoice and technology can contribute to the care of individuals in the recovery process. Photovoice can help the individual on pattern recognition and problem avoidance, by asking the individual to record what (s)he perceives as important in his or her personal recovery process.

Although Photovoice was used as a methodology in this study, it was found to express many emotions, growth and healing and create a supportive network and should be considered for an interventional study or a potential supportive recovery intervention for this type of population.

In addition, due to the creativity of photovoice, future studies should consider incorporating the Creative Arts Therapies, as art therapy has been a long standing intervention in addiction, the component of photovoice can be future impacted with their understanding of spacial design and unconscious impact of the art.

Although there were issues secondary to follow through within the online format that required frequent contacts to remain on task, the opportunity of utilizing social media and telemedicine can create increased access of care within a safe security encrypted server cyberspace environment for communication and openness. Individuals with addiction experienced shame and have concerns around trust, memory and following-up on appointments.

Telemedicine can provide a venue for reaching individuals with addiction. Future research can include computer technology to increase access and awareness to the needs of recovering addicts and the ability to connect with others to envision future change allowing for reflection and observation.

Reference

- Denisco RA, Chandler RK, Compton WM (2008) Addressing the intersecting problems of opioid misuse and chronic pain treatment. *Exp Clin Psychopharmacol* 16: 417-428.
- Lui Y, Han M, Liu X, Ding Y, Li Y (2013) Dopamine transporter availability in heroin-dependent subjects & controls: Longitudinal changes during abstinence & the effects of Jitai tablets treatment. *Psychopharmacology (Berl)* 230: 235-244.
- Tai B, Volkow ND (2013) Treatment for substance use disorder: Opportunities and challenges under the Affordable Care Act. *Soc Work Public Health* 28: 165-174.
- Ciero TJ, Surratt H, Kurtz S, Ellis Ms, Inciardi JA (2012) Patterns of prescription opioid abuse and comorbidity in an aging treatment population. *Journal of Substance Abuse Treatment* 42: 87-94.
- Price AM, Ilgen MA, Bohnert ASB (2011) Prevalence and correlates of non medical use of prescription opioids in patients seen in a residential and alcohol treatment program. *J Subst Abuse Treat* 41: 208-214.
- Substance Abuse & Mental Health Services Administration (SAMHSA). (2008). Results from the 2007 National Survey on Drug Use & Health: National Findings, Substance Abuse & Mental Health Services Administration (SAMHSA)
- NIDA.
- Smyth B, Fan J, Hser Y (2006) Life expectancy and productivity loss among narcotics addicts thirty three years after index treatment. *Journal of Addictive Diseases* 25: 37-47.
- Mee-Lee D, Shulman GD (2003) The ASAM placement criteria and matching patients to treatment. In: Graham AW, Schultz TK, Mayo-Smith MF, Ries RK, Wilford BB, Principles of Addiction Medicine Chevy Chase, MD: American Society of Addiction Medicine 453-465.
- Bowler JL, Bowler MC, James LR (2011) The cognitive underpinnings of addiction. *Substance Use & Misuse* 46: 1060-1071.
- Canadian Associates of Neuroscience (2014) Investigating the pleasure centers of the brain: How reward signals are transmitted. *Science Daily*.
- Winters KC, Arria A (2011) Adolescent brain development and drugs. *Prev Res* 18: 21-24.
- Robles E, Huang BE, Simpson PM, McMillan (2011) Delay discounting, impulsiveness, and addiction severity in opioid-dependant patients. *Journal of Substance Abuse Treatment* 41: 354-362.
- DeLeon G (1996) Integrative recovery: A stage paradigm. *Substance Abuse* 17: 51-63.
- Center for Substance Abuse Treatment (2005) Medication-Assisted Treatment for opioid Addiction in Opioid treatment Programs. *Pharmacology of Medications Used To Treat Opioid Addiction*.
- Betty Ford Institute Consensus Panel (2007) *J Subst Abuse Treat* 33: 221-228.
- Kirby M, Keon W (2006) Out of the shadows at last. Transforming mental health, mental illness and addiction in Canada. Final report of the standing committee on social affairs, science and technology.
- Flynn PM, Joe GW, Broome KM, Simpson D, Brown BS (2003) Looking back on cocaine dependence: Reasons for recovery. *Am J Addict* 12: 398-411.
- Boyarsky BK, McCance-Katz EF (2000) Improving the quality of substance dependency treatment with pharmacotherapy. *Subst Use Misuse* 35: 2095-2125.
- Clements K (2012) Participatory action research and Photovoice in psychiatric nursing clubhouse collaboration exploring the recovery narrative. *J Psychiatr Ment Health Nurs* 19: 785-791.

21. Davstad I, Stenbacka MA, Leifman A, Beck O, Karkmaz S, Et al. (2007) Patterns of illicit drug use & retention in methadone program: A longitudinal study. *Journal of opioid management* 3: 27-34.
22. Nordfjaern T, Rundmo T, Hole R (2010) Treatment and recovery as perceived by patients with substance addiction. *J Psychiatr Ment Health Nurs* 17: 46-64.
23. Vakili S, Currie S, el-Guebaly N (2009) Evaluating the utility of drug testing in an outpatient addiction program. *Addictive Disorders & Their Treatment* 8: 22-32.
24. Stewart J (2004) Pathways to relapse: Factors controlling the re initiation of drug seeking after abstinence. *Nebr Symp Motiv* 50: 197-234.
25. Castleden H, Garvin T, Nation HF (2008) Modifying photovoice for community based participatory indigenous research. *Social Science and Medicine* 66: 1393-1405.
26. Killion C, Wang CC (2000) Linking African-American mothers across life stage and station through photovoice. *J Health Care Poor Underserved* 11: 310-325.
27. Killion C (2001) Understanding cultural aspects of health through photography. *Nurs Outlook* 1: 50-54.
28. LeClerc CM, Wells DL, Craig D, Wilson JL (2002) Falling short of the mark: tales of life after discharge. *Clin Nurs Res* 11: 242-266.
29. Lorenz LS, Kolb B (2009) Involving the public through participatory visual research methods. *Health Expect* 12: 262-274.
30. Riley RG, Manias E (2004) The uses of photography in clinical nursing practice and research: A literature review. *J Adv Nurs* 48: 397-405.
31. Strack RW, Magill C, McDonagh K (2004) Engaging youth through photovoice. *Health Promot Pract* 5: 49-58.
32. Wang CC, Burrell M (1994) Empowerment through photovoice: Portraits of participation. *Health Educ Q* 21: 171-186.
33. Wang CC (1999) Photovoice: A participatory action research strategy applied to women's health. *J Womens Health* 8: 185-192.
34. Chilton M, Rabinowich J, Council C, Breaux J (2009) Witnesses to hunger: Participation through photovoice to ensure the right to food. *Health Hum Rights* 11: 73-85.
35. Ozanne JL, Moscato EM, Kunkel DR (2013) Transformative photography: Evaluation & best practices for eliciting social and policy changes. *Journal of Public Policy & Marketing*. 32: 45-65.
36. Sharma M (2010) Photovoice in alcohol and drug education. *Journal of Alcohol & Drug Education* 54: 3-6.
37. Carlson ED, Engebretson J, Chamberlain RM (2006) Photovoice as a social process of critical consciousness. *Qual Health Res* 16: 836-852.
38. Hergenrather KC, Rhodes SD, Cowan CA, Bardhoshi G (2009) Photovoice as a community-based participatory research: A qualitative review. *Am J Health Behav* 33: 686-698.
39. Pearson S, Ralph S (2007) The identity of SENCos: Insights through images. *Journal of Research in Special Educational Needs* 7: 36-45.
40. Gaventa J, Cornwall A (2006) Power & knowledge. In: *Handbook of Action Research*. Sage Publications: Thousand Oaks 72-82.
41. Marinas BA, Strickland MJ, Keat JB (2010) Using photo-narration to support all learners. *Young Children* 65: 32-36,38.
42. Goodhart FW, Hsu J, Baek JH, Coleman AL, Maresca FM, Et al. (2006) A view through a different lens: Photovoice as a tool for student advocacy. *J Am Coll Health* 55: 53-56.
43. Gandhi D, Welsh C, Bennett M, Carreño J, Himelhoch S (2009) Acceptability of technology-based methods substance abuse counseling in office based buprenorphine maintenance of opioid dependence. *Am J Addict* 18: 182-183.
44. Moore BA, Fazzino T, Garnet B, Cutter CJ, Barry DT (2011) Computer-based interventions for drug use disorders: A systematic review. *J Subst Abuse Treat* 40: 215-223.
45. Carroll KM, Ball SA, Martino S, Babuscio TA, Et. al. (2008) Computer-assisted delivery of cognitive-behavioral therapy for addiction: A randomized trial of CBT4CBT. *Am J Psychiatry* 165: 881-888.
46. Kruger LG, Gilroy AA (2013) Broadband internet access and the digital divide: Federal assistance programs. *Journal of Current Issues in Media and Telecommunications* 5: 303-329.
47. Davidson J, Dottin J, James W, Robertson SP (2009). Visual sources and the qualitative research dissertation: Ethics, evidence and the politics of academia – Moving innovation in higher education from the center to the margins. *International Journal of Educational & the Arts* 10:
48. Cook K, Buck G (2010) Photovoice: A community-based socioscientific pedagogical tool. *Science Scope* 33: 35-39.
49. Van den Brink W, Haasen C (2006) Evidence based treatment of opioid dependent patients. *Can J Psychiatry* 51: 635-646.
50. Cicero TJ, Kuehn BM (2014) Driven by prescription drug abuse: Heroin use increases among suburban and rural whites. *JAMA* 312: 118-119.
51. Weisner C, Hinman A, Lu Y, Chi FW, Martens J (2010) Addiction treatment ultimatums and U.S. health reform: A case study. *Nordisk Alkohol Nark* 27: 685-698.
52. McLellan AT, Meyers K (2004) Contemporary addiction treatment: A review of systems problems for adults and adolescents. *Biol Psychiatry* 56: 764-770.
53. Center for Substance Abuse Treatment (2006) Intensive Outpatient Treatment and the Continuum of Care. *Substance Abuse: Clinical Issues in Intensive Outpatient Treatment*. Substance Abuse and Mental Health Services Administration.
54. Millette S, Cort B (2013) Treatment for substance use disorders: The continuum of care. *National Partnership on Alcohol Misuse and Crime*.
55. McKay JR, Lynch KG, Shepard DS, Pettinati HM (2005) The effectiveness of telephone-based continuing care for alcohol and cocaine dependence: 24-month outcomes. *Arch Gen Psychiatry* 62: 199-207.