

ORIGINAL ARTICLE

Identifying Motivators, Facilitators, and Barriers to Tobacco Cessation in Older Adults - A Qualitative study

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ABSTRACT

Background: Tobacco use is the single largest preventable cause of premature death and disease in the world and in the United States and is associated with diseases of nearly every organ system. Tobacco cessation is considered the single most important factor to improve the health of older adults who use tobacco. However, minimal research has focused on the process of tobacco cessation or factors influencing this process. This qualitative study aimed to identify motivators, facilitators, and barriers to tobacco cessation and prolonged cessation in older adults aged 50 years and older.

Methods: This qualitative research study explored tobacco cessation in community dwelling older adults after receiving Institutional Review Board approval. The Transtheoretical Model of Behaviour Change was the conceptual framework used to guide this study. Snowball sampling was used to recruit 20 older adults who had ceased using tobacco products for one year or more and remained tobacco free. Semi-structured audio-recorded interviews were conducted in each participant's home. Data were analysed using content analysis and constant comparison techniques. Demographic data were described using descriptive statistics.

Results: Participants were from three southern states and included 11 males and nine females with 18 Caucasian and two African American. The average age of participants at the time of the interview was 71.5 years, and the average quitting age was 60.5 years. Four global themes related to tobacco cessation in older adults emerged from the analysis: (a) motivators, (b) facilitators, (c) barriers, and (d) life after tobacco. These older adults attribute their successful tobacco cessation to self-motivation, accountability to self and others, and finding replacements for tobacco. Barriers to tobacco cessation included tobacco triggers/temptations and addiction/withdrawal symptoms. Participants described themselves as proud, strong, and independent after quitting.

Conclusion: Information gained from older adults who have ceased using tobacco products can be used to develop tobacco cessation interventions that health care providers can use to assist older patients who desire to quit.

Keywords: Tobacco; Tobacco Cessation; Qualitative Research; Transtheoretical Model (TTM); Older Adults.

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Background

Tobacco use, the leading preventable cause of death and disease in the United States (U.S.) leading to cardiovascular disease, pulmonary disease, and cancer, kills approximately 480,000 annually in this country (World Health Organization [WHO], 2014; Centers for Disease Control & Prevention [CDC], 2014; U.S. Department of Health and Human Services [USDHHS], 2014). Tobacco related illnesses account for \$289 to \$333 billion in direct health care costs and lost productivity in the U.S. every year (CDC, 2014; USDHHS, 2014). The U.S. Department of Health and Human Services (USDHHS, 2008) estimates that a minimum of \$9.7 billion could be saved annually if all tobacco users covered by Medicaid and Medicare quit using tobacco.

According to the CDC (2014), approximately 18% of adults aged 50 years and older and 8.9% of adults aged 65 years and older in the U.S. use some form of tobacco product. Older adult tobacco users are generally daily users with a history of use for 30 years or more (Hall et al., 2008). These tobacco users typically began using tobacco products in an era when it was considered attractive and the social norm (Morgan et al., 1996). Because of the immediate and long-term health benefits of tobacco cessation even after long-term tobacco use, cessation could increase the average life expectancy as well as improve quality of life (Flatt, Agimi, & Albert, 2012; Jha et al., 2013; Kerr, White, Watson, Tolson, & McFayden, 2011; Warner & Mendez, 2010). Immediate benefits occur within several weeks of quitting and include improved blood pressure, oxygenation, lung function, sense of smell, and circulation (Andrews et al., 2004; Huber & Mahajan, 2008). Results of several studies indicate a decrease in cough, sinus/respiratory infections, shortness of breath, and overall fatigue within one month of cessation (Andrews et al., 2004; Huber & Mahajan, 2008).

There are biological and physiological differences in older adults compared to younger adults that should be considered with tobacco cessation interventions. The aging process produces cognitive changes, increases in body fat, and decreases in: (a) lean body tissue, (b) liver size, and (c) blood flow to the liver (Kleykamp & Heishman, 2011). These changes can also affect treatments, nicotine clearance, and medication clearance. Continued tobacco use by older adults reduces the effectiveness of commonly prescribed medications for arthritis, hypertension, and diabetes (Kerr et al.,

2006). They are more likely to have additional comorbidities along with tobacco related illnesses making treatment interventions more difficult to manage (Prochaska, 2008).

However, few research studies have focused on tobacco cessation in older adults, and very little research has looked at the process of cessation or factors in continued cessation success from the older adult perspective. Only five qualitative studies on tobacco cessation in older adults were found, in Sweden, Norway, Iceland, and two in Scotland (Jónsdóttir & Jónsdóttir, 2011; Kerr, Watson, Tolson, Lough, & Brown, 2006; Lundqvist, Weinehall, & Öhman, 2006; Medbø, Melbye, & Rudebeck, 2011; Schofield, Kerr, & Tolson, 2007). These studies included participants ranging in age from 47 to 80 years.

Older adults tobacco users with chronic obstructive pulmonary disease (COPD) were the primary focus of two studies conducted in Iceland and Scotland (Jónsdóttir & Jónsdóttir, 2011; Schofield et al., 2007). The Iceland study found women with COPD continued to have the temptation to use tobacco, were unable to quit even after a COPD diagnosis, and were not willing to admit tobacco dependency (Jónsdóttir & Jónsdóttir, 2011). Schofield et al. (2007) interviewed 22 older adult participants who perceived a knowledge gap for Health Care Provider (HCP) understanding of older adult health beliefs. This knowledge gap is believed to impact how HCPs assist older adults with tobacco cessation and relapse prevention.

The study by Kerr et al. (2006) was conducted in Scotland and included nine male and 11 female participants who were current and former smokers. The majority of the participants who continued to use tobacco (9 out of 13) believed the negative effects of tobacco were irreversible while four of seven participants who quit perceived health related benefits after cessation. Lundqvist et al. (2006) researched seven female current and former smokers in Sweden while Medbø et al. (2011) conducted a study in Norway with five female and 13 male current and former smokers. Lundqvist et al. (2006) found those participants who quit experienced positive health benefits while those who continued to use tobacco stated the following reasons for not quitting: (a) the cost of cessation aids, (b) weight gain, and (c) mistrust of health services. The Norway study found there were internal and external influences that impacted tobacco cessation.

There are numerous benefits of tobacco cessation outweighing negative effects, but the most common adverse effect is weight gain influenced by an increase in food intake and lipo-protein lipase activity and a decrease in metabolism and physical activity (Filozof, Fernández Pinilla, & Fernández-Cruz, 2004). Weight gain of 4 to 5 kg within the first year occurs in 80% of adults who quit using tobacco with 20% of that group gaining more than 10 to 15 kg (Clair et al., 2013; Fiore & Baker, 2013). Approximately 50% of females and 25% of males are concerned about weight gain after tobacco cessation (Claire et al., 2013).

The U.S. Department of Health and Human Services (2008) discussed 12 intervention research studies associated with tobacco cessation in older adults, aged 50 years and over. These research studies demonstrated tobacco cessation effectiveness with use of: (a) the "5 A's", (b) individual and telephone counseling, (c) HCP advice, (d) social support programs, (e) age-tailored self-help materials, and (f) pharmacologic nicotine patch therapy (Andrews et al., 2004; Boyd, 1996; Burton et al., 1995; Kviz, Crititendon, Clark, Madura, & Warnecke, 1994; Miller et al., 2005; Morgan et al., 1996; Orleans et al., 1994; Ossip-Klein, Carosella, & Krusch, 1997; Rimer & Orleans, 1994; Rimer et al., 1994; Tait et al., 2007; Vetter & Ford, 1990). The "5 A's" include: (a) ask about tobacco use, (b) advise to quit, (c) assess willingness to make a quit attempt, (d) assist in quit attempt, and (e) arrange follow-up (USDHHS, 2008).

Two of these 12 studies focused on the effectiveness of the "5 A's" in the older adult population, aged 50 years and over (Andrews et al., 2004; Boyd, 1996). Two other studies found that 20% of older adult participants sustained tobacco abstinence after one year or more after receiving HCP assistance combined with nicotine replacement therapy (Rimer & Orleans, 1994; Tait et al., 2007). Another study with 34,090 participants showed increased cessation rates at 6 months, 47% for older adults, aged 65 years and older who used nicotine replacement therapy (Miller et al., 2005). One other study showed statistical significance for older adults who received HCP assistance as compared to no HCP assistance, $p=0.005$ (Orleans et al., 1994). An additional two studies showed tobacco cessation improvement with tailored support of a cessation guide developed for older adults and telephone calls to encourage cessation (Rimer & Orleans 1994; Rimer et al., 1994). All 12 studies were completed from 1994 through 2007 in the U.S. with participants aged 50 years and older.

The Transtheoretical Model of Behavior Change (TTM), which suggests a continuum of motivational readiness for change through tobacco cessation staging and a broad foundation for understanding the tobacco cessation process of change, underpinned the development of the study interview guide and portions of the demographic questionnaire (Prochaska, Wright, & Velicer, 2008). The core concepts of TTM include (a) stages of change, (b) processes of change, (c) pros and cons of change, (d) self-efficacy, and (e) temptation (Prochaska, Johnson, & Lee, 2009). The stages of behavior change include (a) precontemplation, (b) contemplation, (c) preparation, (d) action, (e) maintenance, and (f) termination (Prochaska et al., 2009). These core concepts provided the framework for this study and was useful in identifying motivators, facilitators, and barriers to achieving and maintaining tobacco cessation in older adults. This study focused on the action, maintenance, and termination stages of change and other core concepts. TTM served as the overarching theory to guide this qualitative research process and to assist the author in clarifying the research findings.

Most often, individuals go back and forth between the stages of behavior change so change does not always reflect linear progression through the stages (Prochaska et al., 2008). Individuals typically have multiple lapses and relapses prior to successful tobacco cessation because of the addictive nature of nicotine in tobacco products (Murthy & Subodh, 2010). Tobacco addiction is a chronic disease and typically requires a minimum of three attempts prior to successful cessation, defined as no tobacco use for one year or longer by the USDHHS (2008). Therefore, to better understand tobacco cessation in older adults, this study aimed to investigate motivators, facilitators, and barriers to achieving successful tobacco cessation and maintaining tobacco cessation in U.S. older adult former tobacco users.

Design Methods

Participants

This qualitative study explored tobacco cessation in community dwelling older adults after receiving Institutional Review Board (IRB) approval. Snowball sampling was used to recruit 20 older adults who had ceased using tobacco products for one year or more and remained tobacco free beginning with the author's acquaintances at a large university health care center in the south. These acquaintances contacted possible participants and received verbal assent to provide the author

with potential participants' names and phone numbers for an initial telephone contact. Individuals selected as participants had first-hand experience with successful tobacco cessation and were willing to share their personal experiences. Snowball referrals were used to locate other participants. Each participant was encouraged by the author to contact other potential participants.

Inclusion criteria for the study were (a) no self-reported tobacco use for one year or longer, (b) age 50 years or older at the time of cessation, (c) no self-identified cognitive impairment, and (d) ability to speak and understand English. Exclusion criteria were (a) inability or difficulty communicating or understanding, (b) severe hearing loss, or (c) tobacco relapse with any continued tobacco use. The study was approved by the overseeing IRB, and participants provided informed written consent.

Data Collection

Data were collected first through demographic questionnaires followed by participant interviews and author-constructed field notes. The demographic questionnaire administered to participants included questions on age, race, gender, education level, employment status, area of residence, and additional tobacco questions. The tobacco questions were modified from the Heaviness of Smoking Index (HSI) to measure each participant's HSI score to determine the level of addiction at their heaviest time of tobacco use (DiFranza et al., 2013). The author conducted all interviews and followed the same interview guide with similar probe questions for each participant between September 2013 and January 2014. Interviews lasted between 30-60 minutes.

To initiate the audio-recorded interview, each participant was asked to describe the experience of quitting use of tobacco products. Probe questions were used to gain additional knowledge on the process of quitting. At the completion of each interview, the author recorded field notes to capture observations or additional information gathered from the interview process. No follow-up interviews were required.

Data Analysis

Data collection and analysis occurred concurrently. Demographic data were analyzed using descriptive statistics. An experienced transcriptionist transcribed all interviews, and transcription accuracy was verified by the author by replaying each interview re-

coding and comparing it to the transcript. Once each transcript was verified for accuracy, it was entered into the Ethnograph v6.0 program a data management program used to store and manage qualitative data by numbering lines and allowing the assignment of multiple codes to segments of data to assist with data searching, sorting, and organizing ("The Ethnograph 6.0," 2014). Field notes were also transcribed. All transcribed interviews were reviewed a minimum of three times.

Interview data were analyzed using content analysis and constant comparison techniques. Content analysis, a systematic method of coding and analyzing qualitative data, was used to explore clear and hidden meanings within the text (Bernard & Ryan, 2010). A code book with precise definitions for each code was developed and continually re-evaluated for coding accuracy. This process occurred after the third interview was completed and transcribed. Two expert qualitative researchers reviewed the codes and definitions to enhance dependability.

Constant comparison was used to compare and contrast codes and themes between interviews and group content into sub-themes and global themes. Participants' direct quotes were used to describe the phenomenon.

Results

Participant Characteristics

Participants were from Arkansas (n=15), Louisiana (n=3), and Texas (n=2). All were either Caucasian (n=18) or African American (n=2) with 11 male and nine female participants. The participants ranged in age from 54 to 84 years, with an average age of 71.5 years at the time of the interview. The age at which the participants quit using tobacco ranged from 50 to 69 years, with an average of 60.5 years. Total years of tobacco use ranged from 29 to 52 years, averaging 42 years. At the time of the study, participants had been tobacco free from 1 to 30 years, with an average of 11.2 years. Participants had previously used cigarettes, cigars, or pipes (n=18) and smokeless tobacco (n=2). The education level ranged from 9th to 11th grade (n=1) through college graduates (n=4). Others completed high school with a diploma or general educational development [GED (n=9)] or had some vocational or college courses (n=6).

Of the 20 participants in this study, 17 participants described more than one previous failed tobacco quit attempt, and three participants successfully quit on

the first try. Participants described trying to quit from one to ten times, either trying to quit “cold turkey” or by using nicotine gum, nicotine patches, varenicline, wellbutrin, or being hypnotized. In previous quit attempts, participants remained tobacco free from one day to three years before resuming tobacco use.

All 20 participants were aware that tobacco use was not good for their health. Several made the statement, “I knew it was bad for my health.” Thirteen communicated personal health issues caused by tobacco use, describing shortness of breath, emphysema, chronic obstructive pulmonary disease, and pneumonia. Six participants described cardiac implications from tobacco

use, including coronary artery blockage, carotid artery occlusion, chest pain, coronary artery bypass surgery, stroke, and peripheral artery disease. Three participants had been treated for cancer of the tongue, lung, or colon prior to cessation.

Findings

Demographic questionnaire findings are shown in Table 1 including the HSI modifications, HSI scores for the study participants, and tobacco cessation methods used by participants. Most participants (18 out of 20) were moderately or highly addicted to tobacco with over half (11 out of 20) quitting “cold turkey” without

Table 1. Modified Heaviness of Smoking Index/Participant HSI Scores

On the days that you used tobacco, how soon after you woke up did you first use tobacco? A. Within 5 minutes (3 points) B. 6-30 minutes (2 points) C. 31-60 minutes (1 point) D. After 60 minutes (0 points)						
How many times daily did you use tobacco products during your heaviest time of use? A. 10 times or fewer (0 points) B. 11-20 (1 point) C. 21-30 (2 points) D. 31 or more (3 points)						
HSI Scoring	All Participants (n=20)		Males (n=11)		Females (n=9)	
	n	%	n	%	n	%
0-2: Low addiction	2	10	1	9	1	11
3-4: Moderate addiction	10	50	5	45.5	5	56
5-6: High addiction	8	40	5	45.5	3	33.33
Cessation Method	All Participants (n=20)		Males (n=11)		Females (n=9)	
	n	%	n	%	n	%
Cold turkey	11	55	8	73	3	33.33
Nicotine patches	5	25	2	18	3	33.33
Nicotine gum	3	15	0	0	3	33.33
Varenicline (Chantix)	1	5	1	9	0	0
HSI Addiction Level	Cessation Method		Cessation Method Males		Cessation Method Females	
Low addiction (n=2)	Cold turkey (n=2)		1		1	
Moderate addiction (n=10)	Cold turkey (n=6)		5		1	
	Nicotine gum (n=3)		0		3	
	Nicotine patch (n=1)		0		1	
High addiction (n=8)	Nicotine patch (n=4)		2		2	
	Cold turkey (n=3)		2		1	
	Varenicline (Chantix) (n=1)		1		0	

Table 2. Perceived Motivators for Tobacco Cessation Behavior Change (n=20)

Motivators	Number (n)	Raw Data Quotes	Related Transtheoretical Model Concepts
Internal motivator • Self-motivation	20	“I just had to make my mind up that I was ready” “It was easy to do once we made up our minds” “I was mentally ready”	<i>Self-efficacy</i> -Confidence in self to make and maintain the behavior change without relapse
Internal motivator • Personal accountability	10	“It is just pure gut determination” “It really takes commitment and follow through” “It boils down to a personal commitment”	<i>Self-liberation</i> -commitment to behavior change
External motivator • Accountability to others	9	“Sometimes it helps to be accountable to someone” “We did it together, and we were committed to doing it”	<i>Helping relationships</i> -Accepting assistance from others to change behavior
External motivator • Health care provider	5	“My doctor was after me to quit” “He said, you need to quit smoking” “My doctor decided I was quitting because of my heart”	<i>Helping relationships</i> -Accepting assistance from others to change unhealthy behavior

the use of medication cessation aids. Since some of the study participants quit up to 30 years ago, medication assistance was not yet available for tobacco cessation assistance. Both males and female participants with low to moderate addiction levels were able to quit “cold turkey”. Females with a moderate addiction level were successful with nicotine gum. Six out of eight participants with high addiction levels required medication assistance.

Participant raw data quotes were clustered to identify sub-themes that were then grouped into four global themes for older adult tobacco cessation and prolonged maintenance. The global themes were motivators, facilitators, barriers, and life after tobacco. The sub-themes internal and external motivators comprised the global theme motivators while tobacco replacements and support from others were the sub-themes that comprised the global theme facilitators. Triggers/temptations and addiction/withdrawal symptoms were sub-themes used to address the global theme barriers. Sub-themes cessation benefits, perceived-self, and personal accountability made up the global theme life after tobacco. All participants noted that self-motivation and personal accountability were fundamental keys for tobacco cessation behavior change. Lastly, participants provided advice for others who want to quit.

Motivators

Motivators are personal influences leading to tobacco cessation behavior change. Both internal and external motivators led participants to cease tobacco use. Internal motivators included self-motivation and personal accountability, while external motivators included accountability to others and assistance from a health care provider. Raw data associated with motivators as well as related TTM concepts are found in Table 2.

Internal motivators

Self-motivation

All participants made statements similar to these two male participant quotes: Once I put my mind to it, I just refused to have a cigarette and Will power that is the only thing that will work is will power. One female participant said it best with I found out the only way you can quit, you’ve got to want to. All 20 participants discussed self-motivation as the key to successful tobacco cessation. The importance of mental preparedness and willpower was touched on by every participant. The primary motivating factors for quitting tobacco use ranged from health issues to family influence, but the participant had to make a conscious decision to quit. Family, friends, and HCPs facilitated the quitting process, but internal motivation was paramount to success-

ful cessation.

Personal accountability

During the interview process, ten participants pointed to personal accountability depicted as determination and commitment. Six participants used the word determination during the interview. A female participant stated, I really, really wanted to quit so I was very determined. Other personal accountability comments included two female comments: You have to stay ever vigilant and There are times where you slip and fall, but you’ve got to not be so hard on yourself if that happens and start over. Participants recommended setting personal goals and holding oneself accountable for the quitting process. One female participant explained it this way You are defending your own goal.

External motivators

Accountability to others

Nine participants mentioned accountability to family, friends, HCPs, and support groups as beneficial to tobacco cessation. One female participant said, Sometimes it helps if you’re accountable to someone. Three participants who had a quitting partner felt having a partner or friend to hold them accountable was beneficial.

Health care providers.

Eleven participants said their HCP did not discuss tobacco use or cessation during health care visits. The other nine participants mentioned a HCP either asking about their tobacco use on a questionnaire or recommending quitting tobacco use. Only five participants had a HCP who recommended tobacco cessation. Two female participant comments were My doctor had

been telling me all the time that I did need to quit and the other remembered her doctor saying, You know I really don’t like to preach no smoking to people, but you really need to quit. Although five HCPs encouraged participants to quit, none of the participants had a tobacco cessation plan initiated by a HCP. Anxiety and withdrawal symptoms after tobacco cessation led two participants to make a health care appointment to request tobacco cessation medication aids. Since nicotine gum and nicotine patches are sold over the counter, seven participants purchased medication aids without consulting a HCP.

Facilitators.

Facilitators were defined as anything that assisted the participant to make the behavior change. The two sub-themes that emerged from the raw data quotes were tobacco replacements and support from others. Participants discussed accountability to others separately from the support they received from others during the cessation process. These two sub-themes comprise the global theme facilitators. Table 3 shows the raw data associated with facilitators as well as the related TTM concepts.

Tobacco replacements

Fifteen participants used various types of replacements for tobacco as an avenue for initial cessation and maintenance. Frequently discussed replacements for tobacco were medication assistance (9 participants), staying busy (9 participants), oral replacements (9 participants), and exercise (4 participants). Staying busy included keeping the mind, body, and hands busy. One female participant commented I kept myself as busy as possible especially keeping your hands busy because it’s a hand and mouth fixation. Activities to stay busy in-

Table 3. Perceived Facilitators to Tobacco Cessation Behavior Change (n=20)

Facilitators	Number (n)	Raw Data Quotes	Related Transtheoretical Model Concepts
Tobacco replacements	15	“The patch helped me” “Find something to satisfy the craving” “Gum, candy, or maybe mints” “I have to be busy in my head and with my hands” “I think exercise”	<i>Counter conditioning</i> -Finding substitutes or alternates to unhealthy behaviors Stimulus control-Findings replacements for triggers
Support from others	9	“I had encouragement from the family” “We had friends that quit at the same time” “I went to my doctor to get help” “I have to give it to God”	<i>Helping relationships</i> -Accepting assistance from others to change unhealthy behavior

Table 4. Perceived Barriers to Tobacco Cessation Behavior Change (n=20)

Barriers	Number (n)	Raw Data Quotes	Related Transtheoretical Model Concepts
Triggers/temptations	20	“You miss the cigarette after dinner” “Whenever I get nervous” “Liquor or any kind of cocktail” “Drinking coffee and smoking a cigarette” “It is hard to give up your friends”	<i>Temptation</i> -Desire to use tobacco during emotional stress, social interactions, or addiction or cravings Cons of Change-disadvantages of behavior change
Addiction/withdrawal symptoms	14	“It’s a true addiction that is both physical and psychological” “I really had an emotional relationship with my addiction” “Everything in the world agitates you” “You have no focus, no concentration”	<i>Temptation</i> -Desire to use tobacco during emotional stress, social interactions, or addiction or cravings Cons of Change-disadvantages of behavior change

cluded reading, using computers, and cross-stitching. Three female participants’ oral replacements included nicotine gum initially, then switching over to gum or hard candy. Others used food, gum, hard candy, or mints as oral replacements. Several continued to use hard candy years after quitting. The participants who used exercise as a tobacco replacement discussed running, walking, and weight lifting. One female said, I didn’t want a cigarette after I really got to jogging. According to the participants, the hardest aspect of tobacco addiction was to replace its use to cope with stress or anxiety. Learning how to cope in a new way was a challenging experience, though this improved with time especially with exercise, staying busy, and faith in God.

Support from others

Fourteen participants noted support from others that included support from family, friends, HCPs, support groups, and God. Types of family support varied as indicated from the following two participant quotes the first from a male participant and the second from a female: My wife was there for me and They were supportive in the fact that they didn’t smoke around me. One female made the following statement in regards to her deceased husband As hard as he worked for me to quit there was just no way I would disgrace his memory by starting back. One male participant made the comment, I have to give it to God because he helped me.

Barriers

Barriers were defined as obstacles that hindered tobacco cessation behavior change, making the cessation process difficult for the participants. The sub-themes included triggers, also known as temptations,

and addiction/withdrawal symptoms. The raw data comprising the global theme barriers and the related TTM concepts are shown in Table 4.

Triggers/temptations.

All 20 participants described a variety of triggers/temptations leading to the desire to use tobacco during and after quitting. The most common triggers were being around other tobacco users (9 participants), morning coffee (8 participants), stress or anxiety (8 participants), consuming alcohol (6 participants), with or after meals (6 participants), driving (3 participants), and self-rewarding (3 participants). One female participant described coping with triggers in the following way: The things that would trigger my smoking I had to either stop doing or change how I did things so that I wasn’t in that pattern anymore.

Addiction/withdrawals symptoms

Tobacco was described as an addiction and withdrawal symptoms were identified by 14 participants. A female participants stated, I was totally addicted while a male added Within a few seconds, it goes straight to the pleasure center of the brain, so you are reinforcing that over and over for many years. Smokeless tobacco use was described by one male participant as it’s a drug, it’s a habit, a nasty filthy habit. Withdrawal symptoms identified included agitation, lack of focus or concentration, anxiety, and an overall body ache or feeling bad. Two male participants stated, I was cross, you know I wasn’t pleasant to be around and I mean you’d almost think you have to shoot yourself to feel any better, and time just stops.

Table 5. Perceived Life after Tobacco Cessation (n=20)

Life after Tobacco	Number (n)	Raw Data Quotes	Related Transtheoretical Model Concepts
Cessation benefits	20	“I know that my lungs are a lot better” “You do have more energy” “Everything, everything is better” “You wouldn’t stink anymore”	<i>Pros of Change</i> -Advantages of behavior change
Perceived self	10	“I am proud of myself” “I am not tied to anything anymore” “I am strong enough now to say be gone” “Declaring my independence”	<i>Self-efficacy</i> -Confidence in self to make and maintain the behavior change without relapse
Weight gain	6	“I gained 30 pounds” “With it came the extra pounds” “I gained extra weight”	<i>Cons of Change</i> -disadvantages of behavior change

Life after Tobacco

Life after tobacco is how the participants described their lives after quitting tobacco. The sub-themes included cessation benefits, perceived self, and weight gain. Table 5 shows the raw data quotes and related TTM concepts for each sub-theme.

Cessation benefits

All 20 Participants spoke of numerous benefits after tobacco cessation. The most common benefit was improved overall health (20 participants), improved breathing (12 participants), improved energy/endurance (7 participants), elimination of tobacco odor (5 participants), improved appetite/taste (4 participants), cost savings (4 participants), traveling ease (2 participants), and improved sense of smell (2 participants). One female participant said, My skin is better, my hair, my nails every part of me is better since I quit. A male participant spoke of cost savings: And financially I saw the impact.

Perceived self

Pride in successful cessation was evident in every interview. Participants discussed their personal experience with tobacco cessation. Common descriptors were proud (4 participants), strong (4 participants), and independent (2 participants). Several participants made the statement, I am proud of myself. One participant said, I am not tied to anything anymore. Participants experienced freedom or independence from tobacco. One male stated, I no longer had to live my life around tobacco.

Weight gain

The only complaint from participants after tobacco cessation was six participants mentioned weight gain. There were five females and one male participant who mentioned weight gain. A female stated, I think I eat more, hungry more. Participants commonly attributed this weight gain to replacement of tobacco with food and improved appetite and sense of taste after cessation.

Cessation Advice for Others

Participants provided advice for other older adults who want to quit. All agreed that a personal desire and internal motivation are essential to quitting. They recommended setting goals for quitting including a quit date and knowing tobacco triggers in advance, to plan for replacements. Participants advised that tapering off of tobacco products is not an option. A male participant commented You can’t ease out of it, and a female stated, This thing about cutting back smoking, it doesn’t work, it just doesn’t work. Finding replacements for tobacco was highly recommended including nicotine replacements and other HCP recommended medications if needed in the early stages of quitting. One female participant said, First make up your mind, then second decide on the form of help you are going to get.

Participants advised getting rid of everything around such as ashtrays, lighters, and tobacco products. They even advised changing friends if they are tobacco users and become a barrier to cessation. Participants recommended seeking support from HCPs, family, friends, and even support groups. They also suggested calculating money spent on tobacco and thinking of rewards to replace tobacco use. Lastly, a common rec-

ommendation was stated by a female participant as: If you give them up, stop, don't ever buy anymore. One female participant said it best: People don't die from quitting smoking. All participants felt better overall after quitting and felt pride at overcoming the addiction of tobacco. They felt a new found freedom, no longer being tied to tobacco.

Discussion

This study was designed to provide a detailed description of how older adults described their tobacco cessation process. The findings suggest one major gap for older adult tobacco cessation: none of these 20 participants had a tobacco cessation plan initiated by their HCP despite research that indicates older adults are considered a subpopulation that require tailored cessation interventions and treatment due to age-specific traits (Kleykamp & Heishman, 2011). This gap is supported by other literature. For instance Kerr et al. (2011) concluded that HCPs are less likely to encourage tobacco cessation and provide cessation resources and guidance to older adult patients, aged 50 years and older, as compared to younger adult patients, aged 18 to 49 years. According to Cataldo (2007), HCPs do not fully understand what comprises successful tobacco cessation in older adults.

This study found tobacco cessation information that could assist HCPs to develop individualized cessation plans. In this study, males were more likely to quit cold turkey, eight out of 11 participants, as compared to three out of nine females. Males were also more likely to describe extreme withdrawal symptoms with cessation that could be minimized with HCP assistance. There were more male participants with a high level of tobacco addiction, five out of 11, than females, three out of nine. These 20 participants were able to quit using tobacco long-term without a HCP cessation plan and follow-up, but numerous other older adults could be successful with HCP assistance. Individualized tobacco cessation plans are most effective when they include brief HCP interventions, behavioral counseling, and pharmacological support (USDHHS, 2008). A Cochrane Review found a trend in increased cessation rates when HCPs used motivational interviewing to individualize the tobacco cessation plan (Lai, Cahill, Qin, & Tang, 2010).

Implications

Practice implications

For HCPs, the results of this study indicate that some older adult tobacco users do want to quit and can successfully quit after long-term tobacco use. The tobacco cessation process described by these 20 participants correlated with the gold standard for tobacco cessation clinical practice guidelines in the U.S. Public Health Service's Treating Tobacco Use and Dependence: 2008 Update (USDHHS, 2008). The participants were motivated to quit, set a quit date, prepared for that quit date, and changed their daily routine as well as finding nicotine replacements. Tobacco cessation needs did vary by tobacco dependence level, which supports tailored approaches to quitting. Health care providers should assess and assist in developing this tobacco cessation plan and follow up.

Every older adult tobacco user should be screened by a HCP for tobacco use and intention to quit and provided therapeutic interventions as indicated by individual intent (Riesco Miranda, Jiménez Ruiz, & Serrano Rebollo, 2013). It is essential for the HCP to comprehend the individual's degree of motivation to quit along with the level of physical and psychological addiction. The "5 A's" model for treating tobacco use and dependence is recommended by the U.S. Department of Health and Human Services (2008) for HCP tobacco assessment and intervention development. This model was developed to take less than three minutes of the HCPs' time and has shown increased tobacco cessation rates compared to no HCP intervention (Riesco Miranda et al., 2013; USDHHS, 2008).

Since weight gain after tobacco cessation is a concern in older adults, HCPs should recommend integrating exercise and avoidance of replacing tobacco use with food to minimize weight gain during and after tobacco cessation (Clair et al., 2013). Other ways to minimize weight gain for the older adult tobacco user are to adhere to a 30 day quit date with a plan to keep a food journal, diet/exercise modifications as well as dietician referrals as needed, and nicotine replacement medications to suppress weight gain (Filozof et al., 2004; Fiore & Baker, 2013).

Research implications

The U.S. Department of Health and Human Services (2008) recommends additional research in the-

se areas: (a) tailored tobacco cessation interventions for older adult tobacco users, (b) effectiveness and side effects of tobacco cessation medications in older adults, and (c) effective tobacco cessation methods to motivate older adults to quit. This qualitative study focused on describing the diverse cessation needs and demands of older adults, which may be used to develop age-specific interventions. Other ethnicities need to be included in future research. Additional research is needed to understand HCP perceptions and cessation practices in regard to older adult tobacco cessation. Lastly, further research is needed to minimize post cessation weight gain so that HCPs can address this major concern prior to initiation of a cessation plan.

Limitations

A number of study limitations need to be noted. Participants were recruited from a limited geographic area of three southern states Arkansas, Louisiana, and Texas. People from others areas of the U.S. may have varied results. The sample was 90% Caucasian and 10% African American with all participants speaking English; therefore, lacking diversity. Also, participants' chronic illnesses were not fully explored and those with or without chronic illness may report different experiences. Lastly, the majority of participants had quit using tobacco for a long-term period so portions of the quitting experience may be lacking in detail.

Conclusions

Despite its limitations, this study provides useful information to help HCPs care for older adults who desire to quit using tobacco. It is never too late for HCPs to assist older adults with tobacco cessation attempts. It is never too late for the individuals who quit to encounter the positive health effects of cessation. The information the participants provided can assist in developing and testing tobacco cessation interventions for older adults, which can in turn be disseminated to HCPs for use in practice.

References

Andrews, J. O., Heath, J., & Graham-Garcia, J. (2004). Management of tobacco dependence in older adults: Using evidence-based strategies. *Journal of Gerontological Nursing*, 30(12), 13-24.

Bernard, H. R., & Ryan, G. W. (2010). *Analyzing Qualitative Data: Systematic Approaches*. Thousand Sands, CA: SAGE Publications, Inc.

Boyd, N. R. (1996). Smoking cessation: A four-step plan to help older patients quit. *Geriatrics*, 51(11), 52-57.

Burton, L. C., Paglia, M. J., German, P. S., Shapiro, S., Damiano, A. M., Steinwachs, D., Kasper, J., ... Zebly, J. (1995). The effect among older persons of a general preventive visit on three health behaviors: Smoking, excessive alcohol drinking, and sedentary lifestyle. *Preventative Medicine*, 24(5), 492-497.

Cataldo, J. (2007). Clinical implications of smoking and aging: Breaking through the barriers. *Journal of Gerontological Nursing*, 33(8), 30-34.

Centers for Disease Control and Prevention. [CDC (2014)]. Best practices for comprehensive tobacco control programs. Retrieved from CDC Web site: http://www.cdc.gov/tobacco/stateandcommunity/best_practices/pdfs/2014/overall-fact-sheet.pdf

Clair, C., Rigotti, N. A., Porneala, B., Fox, C. S., D'Agostino, R.B., Pencina, M.J., & Meigs, J.B. (2013). Association of smoking cessation and weight change with cardiovascular disease among adults with and without diabetes. *Journal of the American Medical Association*, 309(10), 1014-1021. doi: 10.1001/jama.2013.1644

DiFranza, J. R., Wellman, R. J., Savageau, J. A., Beccia, A., Sanouri, W. W., Ursprung, S. A., & McMillen, R. (2013). What aspect of dependence does the Fagerström Test for Nicotine Dependence measure? *ISRN Addiction*, 2013, 1-8. doi: <http://dx.doi.org/10.1155/2013/906276>

Flatt, J. D., Agimi, Y., & Albert, S. M. (2012). Homophily and health behavior in social networks of older adults. *Family Community Health*, 35(4), 312-321. doi: 10.1097/FCH.0b013e3182666650

Filozof, C., Fernández Pinilla, M. C., & Fernández-Cruz, A. (2004). Smoking cessation and weight gain. *The International Association for the Study of Obesity*, 5(2), 95-103.

Fiore, M. C., & Baker, T. B. (2013). Should clinicians encourage smoking cessation for every patient who smokes? *Journal of the American Medical Association*, 309(10), 1032-1033. doi:10.1001/jama.2013.1793.

Hall, S., Humfleet, G., Gorecki, J., Munoz, R., Reus, V., & Prochaska, J. (2008). Older versus younger treatment-seeking smokers: Differences in smoking behavior, drug and alcohol use, and psychosocial and physical functioning. *Nicotine & Tobacco Research*, 10(3), 463-470. doi:10.1080/14622200801901922

Huber, G. L., & Mahajan, V. K. (2008). Successful Smoking Cessation. *Disease Management & Health Outcomes*, 16(5), 335-343.

Jha, P., Ramasundarahettige, C., Landsman, V., Rostron, B., Thun, M., Anderson, R. N., McAfee, T., ... Peto, R. (2013). 21st-Century hazards of smoking and benefits of cessation in the United States. *New England Journal of Medicine*, 368(4), 341-350. doi:10.1056/NEJMs1211128

Jónsdóttir, R., & Jónsdóttir, H. (2011). "This is your own doing"--An addiction narrative of smoking relapse in women with COPD. *Nordic Journal of Nursing Research & Clinical Studies*, 31(1), 25-28.

Kerr, S., Watson, H., Tolson, D., Lough, M., & Brown, M. (2006). Smoking after the age of 65 years: A qualitative exploration of older current and former smokers' views on smoking, stopping smoking, and smoking cessation resources and services. *Health and Social Care in the Community*, 14(6), 572-582. doi: 10.1111/j.1365-2524.2006.00659.x

Kerr, S., Whyte, R., Watson, H., Tolson, D., & McFayden, A. K.

- (2011). A mixed-methods evaluation of the effectiveness of tailored smoking cessation training for healthcare practitioners who work with older people. *Worldviews on Evidence-Based Nursing*, Third Quarter, 177-186. doi: 10.1111/j.1741-6787.2011.00219.x
- Kleykamp, B. A., & Heishman, S. J. (2011). The older smoker. *The Journal of the American Medical Association*, 306(8), 866-867. doi:10.1001/jama.2011.1221
- Kviz, F. J., Crititendon, K. S., Clark, M. A., Madura, K. J., & Warnecke, R. B. (1994). Buddy support among older smokers in a smoking cessation program. *Journal of Aging Health*, 6(2), 229-254. doi: 10.1177/089826439400600206
- Lai, D. T., Cahill, K., Qin, Y., & Tang, J. L. (2010). Motivational interviewing for smoking cessation. *Cochrane Databases Systematic Review*, Jan 20(1), 1-38. doi: 10.1002/14651858.CD006936.pub2
- Lundqvist, G., Weinehall, L., & Öhman, A. (2006). Attitudes and barriers towards smoking cessation among middle aged and elderly women: A qualitative study in family practice. *Internet Journal of Health*, 5(2), 8p. doi: 10.1111/j.1365-2702.2007.01701.x
- Medbø, A., Melbye, H., & Rudebeck, C. E. (2011). "I did not intend to stop. I just could not stand cigarettes any more." A qualitative interview study of smoking cessation among the elderly. *Bmc Family Practice*, 12(42), 1-10. doi: 10.1186/1471-2296-12-42
- Miller, N., Friedan, T. R., Liu, S. Y., Matte, T. D., Mostashari, F., Deitcher, D. R., Cummings, K. M., ... Bassett, M. T. (2005). Effectiveness of a large-scale distribution programme of free nicotine patches: A prospective evaluation. *Lancet*, 365(9474), 1849-1854. doi: 10.1016/S0140-6736(05)66615-9
- Morgan, G. D., Noll, E. L., Orleans, C. T., Rimer, B. K., Amfoh, K., & Bonney, G. (1996). Reaching midlife and older smokers: Tailored interventions for routine medical care. *Preventative Medicine*, 25(3), 346-354. doi: 10.1006/pmed.1996.0065
- Murthy, P., & Subodh, B. N. (2010). Current developments in behavioral interventions for tobacco cessation. *Current Opinion in Psychiatry*, 23, 151-156. doi: 10.1097/YCO.0b013e328336653f
- Orleans, C. T., Resch, N., Noli, E., Keintz, M. K., Rimer, B. K., Brown, T. V., & Snedden, T. M. (1994). Use of transdermal nicotine in a state-level prescription plan for the elderly: A first look at 'real-world' patch users. *Journal of American Medical Association*, 271(8), 601-607. doi: 10.1001/jama.1994.03510320041027
- Ossip-Klein, D. J., Carosella, A. M., & Krusch, D. A. (1997). Self-help interventions for older smokers. *Tobacco Control*, 6, 199-193. doi: 10.1136/tc.6.3.188
- Prochaska, J. O. (2008). Multiple health behavior research represents the future of preventative medicine. *Preventative Medicine*, 46, 281-285. doi:10.1016/j.ypmed.2008.02.001
- Prochaska, J. O., Johnson, S., & Lee, P. (2009). The Transtheoretical Model of behavior change. In *The handbook of health behavior change* (3rd ed., pp. 59-83). New York: Springer Publishing.
- Prochaska, J. O., Wright, J. A., & Velicer, W. F. (2008). Evaluating theories of health behavior change: A hierarchy of criteria applied to the transtheoretical model. *Applied Psychology*, 57(4), 561-588. doi: 10.1111/j.1464-0597.2008.00345.x
- Riesco Miranda, J. A., Jimenez Ruiz, C. A., & Serrano Rebollo, J. C. (2013). Smoking cessation: Update. *Clinical Pulmonary Medicine*, 20(3), 129-136. doi: 10.1097/CPM.0b013e31828fda4c
- Rimer, B. K., & Orleans, C. T. (1994). Tailoring smoking cessation for older adults. *Cancer*, 74(7 Suppl), 2051-2054.
- Rimer, B. K., Orleans, C. T., Fleisher, L., Cristinzio, S., Resch, N., Telepchak, J., & Keintz, M. K. (1994). Does tailoring matter? The impact of a tailored guide on ratings and short-term smoking-related outcomes for older smokers. *Health Education Research*, 9(1), 69-84. doi: 10.1093/her/9.1.69
- Schofield, I., Kerr, S., & Tolson, D. (2007). An exploration of the smoking-related health beliefs of older people with chronic obstructive pulmonary disease. *Journal of Clinical Nursing*, 16(9), 1726-1735. doi: 10.1111/j.1365-2702.2007.01701.x
- Tait, R., Hulse, G., Waterreus, A., Flicker, L., Lautenschlager, N., Jamrozik, K., & Almeida, O.P. (2007). Effectiveness of a smoking cessation intervention in older adults. *Addiction*, 102(1), 148-155. doi:10.1111/j.1360-0446.2006.01647x
- The Ethnograph 6.0. (2014). Retrieved from <http://www.qualisresearch.com/features.htm>
- U.S. Department of Health & Human Services. [USDHHS (2008)]. *Treating tobacco use and dependence: Clinical practice guidelines, 2008 update*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service.
- U.S. Department of Health & Human Services. [USDHHS (2014)]. *The health consequences of smoking-50 years of progress: A report of the Surgeon General*. Atlanta, GA: National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health.
- Vetter, N. J., & Ford, D. (1990). Smoking prevention among people aged 60 and over: A randomized control trial. *Age Ageing*, 19(3), 164-168. doi: 10.1093/ageing/19.3.164
- Warner, K. E., & Mendez, D. (2010). Tobacco control policy in developed countries: Yesterday, today, and tomorrow. *Nicotine & Tobacco Research*, 12(9), 876-887. doi:10.1093/ntr/ntq125
- World Health Organization. [WHO (2014)]. *Tobacco free initiative (TFI)*. Retrieved from World Health Organization Web site: <http://www.who.int/tobacco/economics/en/>