

A Study of the Amputee Experience of Viewing Self in the Mirror

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Abstract

Purpose: To describe the trajectory of viewing self in a mirror after an amputation and participants' perceptions of what health care professionals should know about mirrors.

Design: Hermeneutic phenomenology

Methods: Focus groups were conducted to collect the research data.

Findings: The mirror experience had three key moments: decision, seeing, and consent. The trajectory of viewing self in a mirror had four key themes: mirror shock, mirror anguish, recognizing self, and acceptance: a new normal. Participants' recommendations for introducing the mirror after an amputation and using a mirror to avoid skin breakdown and infection, and correct gait and balance are described.

Conclusions: This study provides a unique viewpoint into the world of those who have suffered amputation of a limb.

Clinical Relevance: Rehabilitation nurses and other health care professionals are encouraged through these participants to consider the effect and value of mirrors when caring for those who have had an amputation.

Introduction

The Boston Marathon bombings sent shock waves across the nation and the American public continues to follow the victims who suffered amputation of their lower limbs (Boston Globe, 2013). Approximately two million people in the United States are living with the loss of a limb (Amputee Coalition, 2013). The lived experience of individuals with an amputated limb has been described as "endless suffering" (Liu, Williams, Hsueh-Erh, & Chien, 2010, p. 2152). Researchers have demonstrated that a visible disfigurement such as an amputation may have a profound psychological impact on individuals, including one's perception of one's

own body image (Rumsey & Harcourt, 2012). An aspect of body image that appears to be neglected in the literature is the mirror-viewing experience. Research evidence that addresses viewing one's self in a mirror after the amputation of a limb(s) is paltry at best.

In this project, mirror-viewing is defined as viewing one's own body, including viewing the affected/missing limb, in various sized mirrors (i.e., small mirror, full-length mirror). This concept is not to be confused with the mirror-viewing that occurs during *mirror therapy* for amputees. Mirror therapy is an intervention used to relieve phantom limb pain. In phantom limb pain mirror interventions, an individual views and moves his or her

unaffected hand or leg in a mirror that is in a box or blocking the view of the affected limb. The mirror box makes it appear as if, for example, an affected hand is clenching and unclenching. This may provide relief of the phantom pain (Rothgangel, Braun, Beurskens, Seitz, & Wade, 2011).

The concept of body image is defined as “the combination of an individual’s psychological experiences, feelings and attitudes that relate to the form, function, appearance and desirability of one’s own body which is influenced by individual and environmental factors” (Taleperos & McCabe, 2002, p. 971). In this research project, the individual is the person who has had an amputation of a limb and the environmental factor of focus is the mirror.

Body image anxiety in amputees has been shown to be related to increased depression and anxiety as well as lower levels of quality of life and self-esteem (Horgan & MacLachlan, 2004; Zidarov, Swaine, & Gauthier-Gagnon, 2009). The only tool to measure the perception of body image in persons who have had an amputation is the Amputee Body Image Scale. This tool has one question related to mirror-viewing: “I avoid looking into a full-length mirror in order *not* to see my prosthesis” (Gallagher, Horgan, Fanchignoni, Giordano, & MacLachlan, 2007, p. 214). Researchers using the tool have suggested that this tool does not capture body image disturbances that appear in some individuals who have suffered an amputation (Perkins, De’Ath, Sharp, & Tai, 2012). The Department of Veterans Affairs (VA) is recommending a paradigm shift in the care of individuals after an amputation, with a greater focus on body image. “Too often in the past the VA has taken a narrow view of amputation care, focusing only on managing prosthetic devices” (Smith & Reiber, 2010, p. vii).

Using literature hand-searching techniques, two anecdotal accounts of viewing self in a mirror after an amputation were located. In a study of the experience of six Army women who had lost one or more limbs, researchers noted that all six women had difficulty adjusting to their mirror image. One participant stated: “At first, I wouldn’t look at myself in mirror. Frightened to see how I really looked” (Carter, 2012, p. 1446). In another study, a male amputee stated: “Seeing me without part of a leg was very hard. . . . I even needed support from the psychologist” (Sousa, Corredeira, & Pereira, 2009, p. 246).

Study Purpose

This research study had three aims. Researchers sought to generate (a) a description of the mirror experience

following a limb amputation; (b) the trajectory of the experience over time since the amputation; and (c) sensitive and appropriate clinical mirror interventions for nursing and other disciplines (in conjunction with study participants). This article focuses on the trajectory of the mirror experience over time and participants’ perceptions of helpful interventions that could be implemented by various rehabilitation professionals.

Method

Research Design

The philosophical foundation for this study was Ricoeur’s philosophy of phenomenology and hermeneutics (1966, 1974, 1981). Hermeneutics is the interpretation of the texts and phenomenology seeks to uncover the decisions, motives, actions, feelings, and thoughts associated with an experience. Phenomenological interpretation has become increasingly common in focus group analysis. When focus groups are used as the primary source of data collection in phenomenology, the group stimulates animated enthusiastic discussions that give rise to new perspectives of a phenomenon that may not have otherwise been uncovered in 1:1 interviews (Bradbury-Jones, Sambrook, & Irvine, 2009; Palmer, Larkin, De Visser, & Fadden, 2010).

Before data collection, dual ethical approval was obtained from the University of Texas Health Science Center at Houston and Texas Woman’s University, Houston, as well as written research approval from TIRR Memorial Hermann, the rehabilitative hospital where data collection occurred. Lastly, all participants signed an informed consent form before the focus group discussions.

Participants

Snowball recruitment was used and recruitment flyers were distributed in an amputation outpatient clinic. This recruitment effort led to two local amputation organizations’ interest in providing participants for the study. Inclusion criteria included: (a) adults at least 18 years of age; (b) had an amputation of an upper or lower limb; and (c) ability to speak, read, and understand English. Of the 22 individuals who consented to be in the study, five individuals did not attend a focus group. Reasons given for not attending included: one individual felt too ill, two individuals lacked transportation, and two individuals gave no reason.

Prestudy Knowledge and Understanding

Before the first interview, the primary investigator reflected on past mirror research, mirror models, and preknowledge of the mirror experience. This self-reflection is the initial step of the audit trail and is required as it orients future readers to the researcher's history and initial comprehension of the experience under study. Ricoeur (1981) suggested that documentation of one's preunderstanding of an experience is not a form of bracketing or trying to avoid one's thoughts, rather it is a telling of one's initial notions and understandings and a way in which one enters the world of the text and orients oneself to a text. The primary investigator conducted multiple research studies on mirrors and the mirror-viewing experience. In a literature review, a synthesis of qualitative anecdotes from individuals with visible differences revealed the mirror recovery experience might be difficult (Freysteinson, 2009). A study of viewing self in the mirror for women who had a mastectomy revealed that the phenomenological interpretation of the experience had four key themes: I am unique, decision, seeing, and consent (Freysteinson et al., 2012). These themes were also found in a study of viewing self in the mirror for terminally ill women (Freysteinson, 1994).

Data Collection

Five focus groups of 3–6 individuals were conducted in a research rehabilitative hospital setting. One 1:1 interview was held in a private home for a participant who was unable to travel and indicated a strong desire to be a part of the study. The focus groups were audio-taped. Semi-structured questions were used to facilitate discussion. Each focus group had a moderator and an assistant moderator. The moderator facilitated the focus groups, asked questions, prompted discussion, and managed overly talkative participants. The assistant moderator took notes and helped manage the environment.

In the focus groups, participants were told to consider this a conversation in which anyone could initiate a discussion or ask questions. This invitation prompted abundant discussion by all members of the focus groups. Key questions asked regarding the mirror-viewing experience included: Tell us about an experience of looking in a mirror since the amputation and tell us about one of the first times you saw yourself in a mirror after your amputation. Additional prompts were used to elicit a deeper

understanding of the mirror-viewing experience: What were your feelings? What were your emotions? What was your self-talk before/during/after looking in the mirror? Questions asked to garner an understanding of the experience over time were: Tell us about the journey of viewing self in the mirror the first time to what it is like to view self in the mirror now and what might each of the stages of this journey be called? The question which provided the most information about participant perceptions of potential mirror interventions was: What would you say is really important for health care providers to know about mirrors? Focus groups lasted approximately 60–90 minutes. Data from the focus groups and individual interview were transcribed verbatim using transcription software.

Data Analysis

All participant identifiers were removed from the data, and each participant was assigned a code name. Using Ricoeur's (1966, 1974, 1981) philosophy of phenomenological hermeneutics, the following steps were used in analyzing the texts: (a) naïve reading; (b) structural analysis; and (c) phenomenological interpretation. A text is a unit which can be understood from different angles or perspectives. A naïve reading of each transcript was completed by each member of the research team, and thus, a general understanding of the text was obtained. Using Word documents, key statements in each text were highlighted. These statements were then bundled together and a structural analysis of the text began to emerge. A structural analysis (Ricoeur, 1981) is a way of interpreting an explanation of the text. It is a way in which elements with similar or related themes are bundled together under a larger unifying theme.

A phenomenological interpretation, on the other hand, is a way of understanding a text. Through this interpretation, an experience as lived is brought to light. The difference between structural analysis and understanding a text is analogous to the difference between a surface and an in-depth interpretation. "What has to be understood is not the initial situation of discourse but what points toward a possible world" (Ricoeur, 1981, p. 218). Participant statements which referred to the experience of viewing self in a mirror were brought together in several combinations until an understanding of the experience began to emerge. Through dwelling with the textual data, elements of the trajectory of the experience began to take shape.

Study Rigor

The criteria used to ensure study rigor were developed by Lincoln and Guba (1985). Credibility was enhanced by using three steps of analysis and several coresearchers. A detailed description of data collection and analysis allows for replication of the study which supports dependability. To enhance confirmability, all researchers independently completed a naïve reading and wrote a reflexive audit for all transcripts. The primary investigator continued this audit trail throughout the entire textual analysis. With each transcript, the researcher's understanding of the data shifted. Preunderstandings were merged with new thoughts, insights, and emerging themes.

A verification session which included two participants and four coinvestigators was held to verify the focus group findings. In addition, three participants who could not attend the final meeting reviewed and verified the results with the principal investigator. There was a high consensus among the participants that the final rendering of the mirror-viewing experience and trajectory over time accurately reflected their own understanding of the experience. In addition to the clinical mirror interventions suggested in each focus group, researchers together with the participants were able to further develop interventions specific to nurses, psychologists, physical therapists, and occupational therapists.

Transferability is the ability of the findings to be transferred to other settings. In phenomenological studies, transferability is determined by the reader. Another criterion used in nursing phenomenology is usefulness. Parse, Coyne, and Smith (1985) ask: does the description of the experience guide the practice of nursing in understanding a human experience? This too, is determined by the reader.

Findings

Demographics

Eight men and nine women, ages 19–68 years ($M = 42.82$, $SD = 14.34$) participated in the study. The majority of participants were female (52.9%). The majority of participants had their leg amputated (82.4%) and had complications due to their amputation (56.3%). Complications varied and included delayed wound healing, methicillin-resistant *Staphylococcus aureus* (MRSA), phantom pain, nerve pain, surgical repair of bone growth, multiple trauma at time of accident, and body image issues (see Table 1).

Table 1 Descriptive statistics of sample

	<i>n</i>	%
Sex		
Female	9	52.9
Male	8	47.1
Marital status		
Married	8	47.1
Single	6	35.3
Widowed/divorced	3	17.6
Ethnicity		
Hispanic/Latino	3	17.6
Not Hispanic	13	76.5
Race		
Caucasian	11	64.7
African American/Black	4	23.5
Other	2	11.8
Education		
High school/GED	2	11.8
Two years' college	3	17.6
Bachelor's degree	4	23.5
Master's degree	5	29.4
PhD/MD/JD	3	17.6
Income		
Less than 50K	7	41.2
51–100K	4	23.5
Over 100K	5	29.4
Amputation location		
Arm	3	17.6
Leg	14	82.4
Complications		
Yes	9	52.9
No	7	41.2
Age		
<i>N</i>	17	
<i>M</i>	42.82	
<i>SD</i>	14.34	
Min	19	
Max	68	

Frequencies not summing to 17 and percentages not summing to 100 reflect missing data.

Phenomenological Interpretation

The phenomenological interpretation yielded a description of the mirror experience after an amputation and the trajectory of that experience over time. The act of viewing self in a mirror at any time after an amputation had three key elements: decision, seeing self, and consent. The mirror trajectory of shock, anguish, recognizing self, and accepting a new normal adds to the body image literature.

There are four key reasons to decide to view self in the mirror: curiosity, appearance, care of incision or residual limb, and gait/posture assessment. One sees in a mirror with the eyes, with the mind's eye, and one sees a meaning. Seeing with the mind's eye is anticipating what the amputated limb may look like. Jake (pseudonyms are used for the participants' names) told us, "I wanted to see if what I imagined this was like was actually what it was like. . . . I was expecting a chicken bone to be sticking out." Karen found that, "because I have in my mind the way I think I look, then I go stand in front of the mirror and it's never looks as good as I thought it did." When one sees in the mirror, there is understanding of self, and that initial understanding is accompanied by powerful emotions. At some point in time, one begins to recognize the person in the mirror as self. Consent to what one sees in the mirror may range from devastation to acceptance. John talked about taking one of two paths: "In the mirror . . . you learn to accept it sooner and pick up and . . . Ok this is life now, let's move on or the other person is like. . . I just want to lay here and die. . . two different paths."

The experience of viewing self in the mirror after an amputation changes over time and each person's mirror trajectory begins when he/she initially chooses to view his/her self in a mirror after the amputation.

Mirror Shock

Participants' perspectives differed as to how they reacted to seeing themselves in a mirror during initial viewings after an amputation. For George and Danielle, the shock was so profound that initially they said they had no other emotions. When they did begin to feel other emotions such as sadness or depression, they tried to suppress those emotions. Danielle said, "It was so surreal that I was not feeling anything. . . it took me a long time to feel sad about this. I thought once I start crying I thought I would not stop."

Mirror Anguish

Feelings and thoughts about the initial mirror viewings were classified as mirror anguish and ranged from feeling revulsion, devastation, depression, discouragement, sadness, and/or hopelessness. For those participants who had lost a limb as an adult, facing a mirror after the amputation was difficult, and yet mirrors were a necessary aspect of life. Paul tells us,

My own experience, when I first had my amputation, I had never looked into a mirror because I felt discour-

aged. At times, I'd feel sad or be crying, why, you know? Sometimes you have to because you just have to use the mirror somehow. . . maybe you want to dress up or something like that.

This stage may be accompanied by visceral feelings of horror and disgust. Tom said he felt "revulsion" when he initially viewed his radically different body in a mirror. Unfortunately, for some, this initial viewing may take place in a public place where there is a full-length mirror. Jackie said,

I can remember the first time I ever looked in a mirror was probably the most memorable and profound. I remember I was doing physical therapy to learn how to start working with this hand. I was still (in the hospital). They had, uh. . . they were understaffed that day so they let me walk down to my physical therapy instead of taking me in a wheelchair and on my way back up. . . I hadn't ever really realized that there were full-length mirrors there as you walk in. As I was leaving physical therapy to go back upstairs, I finally turned and looked and was completely devastated. I remember just immediately crying and I thought wow this is horrible. This is bad, bad news. Probably to this day I'm not really crazy about. . . that kind of mirror. That was the most powerful experience of the mirror that I recall.

Recognizing Self

There appeared to be a need to look in mirrors to become familiar with the new body. Smaller mirrors were considered useful when viewing the incision site or an area of the residual limb prone to irritation, for example, from a prosthesis. The image in the full-length mirror seemed to solidify the reality of a lost limb. All participants were resolute in the belief that a larger full-length mirror was needed for viewing self to understand the change to one's body image. John and Jackie explained that a large mirror provides one with a "big picture" of one's self. Jackie insisted that you need "a big picture" of your body where you can see "everything." Danielle stated, "viewing your amputated limb in a small mirror seems to be a totally different experience from seeing your whole body, including the amputated limb, in a larger mirror." Sarah explained that looking in a large mirror is not easy, but that it was something one should do. "I mean it may not be something that somebody wants to do but the sooner you get accustomed to that (looking in a large mirror), the sooner you'll be able to get over it, and then it won't be an issue."

Participants discussed how one needs to view self in a large mirror to fully recognize the amputation as being *real*. Susan said, “I can remember being in the hospital and finally going ‘Yeah, I lost my leg. I wonder what I look like?’ I’d pull the covers back to look at it. It wasn’t the same as looking in a mirror. . . . because in a mirror you actually see it.” Mary told us, “I think for me it became real. . . . when I actually looked at myself in the mirror. . . . I looked at myself and then it hits you. You realize that my leg is no longer there. . . . and that you’re an amputee.”

Some participants believed that one’s brain had to adjust to the change. John talked about how viewing self in a full-length mirror was “almost like beating it into your head. . . . I think seeing yourself (in a mirror) like that. . . . you would be able to accept it sooner and easier as opposed to just looking down and it’s not there.” Jessica also felt the brain was important in recognizing the new self in the mirror:

I would think that would be a crucial part of it (in the mirror). . . . just identifying. . . . cause once you identify it, identify and accept it, you’re an amputee now. . . . to go ahead and start making the connection with it and letting your brain know.

Focusing on the Missing Part

Recognition of self included focusing on the missing part, positive thoughts, and then focusing on what was not missing. Initially there appeared to be greater focus on the body part that has been amputated and/or what others may think. Participants talked about how when looking in the mirror, they may purposefully look for the part that had been amputated. Words such as “it” or “that” were used as participants objectively talked about the amputated limb. Simultaneously, or at other times when looking in a mirror, participants would often focus on what others might see. Mike exclaimed: “Wow—society sees me as this. . . . then you have the self-image in the mirror but I think it extends to how society looks at it. . . . and that’s how your brain perceives your own reflection.”

Focusing on Positive Thoughts

Focusing on positive thoughts while looking in a mirror appeared to help participants get through the mirror experience with greater ease. Some participants focused on simply being alive and others felt that things could be worse. Paul explained that when he looked in the mirror he would say to himself, “I still have a life.” Jackie stated,

“I’m really actually lucky I didn’t lose both limbs.” Participants who had lost their limbs several years earlier indicated there comes a time when one stops focusing on the lost limb, and begin to focus on the rest of one’s body when viewing self in the mirror.

Focusing on the Whole Body

Participants were concerned with symmetry, clothing, and/or their physical bodies. Cathy lost her arm as an infant. She stated,

I spend a lot of time looking in the mirror. . . . seeing how I look with my clothes, I don’t want that lost limb to be the focus when I’m at work. . . . I design my own dresses. . . . But now that I have a prosthesis, I am obsessed with how it looks. . . . how symmetrical it looks.

Participants talked about how they would compensate for the lost limb by shifting focus away from the missing limb to improving the rest of the body. For many participants, this was accomplished through exercise. George indicated that he worked out to “compensate for the loss of the limb.” Danielle indicated, “I tried to distract myself by working out. . . . I would refocus my attention. . . . to my whole body when looking in the mirror.” For many, the mirror was encouragement during workouts and reflected achievements. Jackie told us, “I’ve worked on my body a lot more since my accident. I think it’s because I’m trying to compensate. So now I can look at . . . I’m starting to get biceps and my stomach is flatter.” Jackie exclaimed, “I decided well if that part of me wasn’t going to look great the rest of me was going to look friggin’ awesome.”

Acceptance: A New Normal

All participants indicated mirrors helped in the acceptance of an amputation, and that being able to look into mirrors easily was a sign of acceptance of the amputation. Jessica said: “I think one of the signs of acceptance is being able to see yourself more (in a mirror).”

The trajectory of viewing self in the mirror immediately after an amputation to a point where one integrates the amputation into one’s sense of identity takes years and is cyclic, meaning one may have anguished thoughts over and over again. In addition, one ought to choose how one is going to live with and consent to the amputation. Mike explained,

You have that initial shock and they (*you*) seem to kind of go through either of two paths—one of just complete denial and one of OK, let’s move on. This is life now. . . . let’s get it done. But you still have cyclic

issues of...it comes back. It does tend to just dwindle. Over time, it minimizes...9, 10, 12 years later... But there's triggers to it... some jerk say something out in public or someone that you thought you might care about say something negative...so usually there's some type of trigger.

The participants who had had an amputation for a few years indicated there is a time when you come to accept or at least tolerate the amputation when looking in a mirror. Many participants indicated that one should think of the amputation as "the new normal." Jake stated,

A few months later when we got home with this huge kitchen or bathroom mirror... just looking at it and it really hit me that this was gone forever and...I mean it was like, Oh Lord. This is the new me. I am not used to the new normal. So we had to work on the new normal for a while...you know, after 3 years, I'm pretty much at peace with it.

Structural Analysis

The structural analysis generated basic knowledge of mirrors available to those who have had an amputation and participant perceptions of appropriate clinical and/or educational mirror interventions. Two structural themes emerged from the data regarding mirrors in general: mirrors as an everyday occurrence except in health care, and health care providers' lack of mirror knowledge. Mirrors were found to be an everyday occurrence in that one could not help but see one's self in a mirror even if trying to avoid mirrors. Participants described large-, medium-, and small-sized mirrors in homes, hallways, prosthetic offices, shopping centers, public restrooms, and other locations. In hospitals, medium-sized mirrors were found in public and private restrooms. Full-length mirrors were found in elevators, lobbies, and in some physical therapy departments.

For the bedbound patient or for the patient wanting to view an amputated lower limb, there appeared to be a lack of mirrors in hospital patient rooms. For those individuals who did look at their amputated lower limbs in a mirror in the hospital, a small handheld mirror was provided by a family member or friend. For example, Jake used his daughter's hand mirror, Anne used her compact mirror, and George, Ted, and Mary used their mothers' small mirrors to view their incision site on the affected limb. Ted said, "I wanted to see what the end of those stitches looked like at the end of the residual limb."

In addition to a lack of mirrors, there appeared to be a lack of knowledge or indifference on the part of health care providers regarding mirrors. Sarah stated, "The hospital personnel didn't provide an opportunity to look in a mirror... I felt like they were leaving it up to me to bring it up...to say OK I want to see what I look like vs. hey... let's go ahead and prepare."

Anne was in the hospital several months after her amputation due to a recurring infection in her residual limb suture site. When the people on the wound care team were changing the dressing on her lower residual limb, she suggested that she would like to see the incision site. Anne stated,

A couple of times I made a comment... I want to get a good look at my leg. They'd laugh it off... Sometimes after they left I would get the mirror out and see but it didn't help too much until it got well cause it was well bandaged... (I would) push it (the dressing) aside and put it back in place. Not that I was concerned I would get caught. They could tell I peeked...yeah they were really good ladies.

Anne showed the researcher the small compact mirror that contained her facial foundation and sponge that she used in hospital to view her incision site.

Only two of the participants had discussed mirrors with a health care provider. Susan's physical therapist recommended a mirror. John, who has been an amputee since he was a child, began to use a mirror he had been given by his physician to assess wounds on the bottom of his remaining foot (which was at risk of being amputated due to infection). He said "recently I...learned the value of a mirror. I've been given...it looks like a golf club but there's a mirror at the very end... It was the first time ever in my life that I was given a mirror." As such, participants in the focus groups learned from each other how mirrors are used in their daily lives and how each had experienced viewing self in the mirror. This rich dialog contributed to all the study aims, including the aim to develop sensitive and appropriate clinical mirror interventions.

Therapeutic Use of Mirrors for Amputees

There are two distinct uses of the mirrors. One is to begin to recognize, adapt, and adjust to a new body which, according to participants, should begin with the initial viewing that is facilitated by a rehabilitation nurse or other health care provider. The other use of the mirror is utility in that the mirror may be used as a tool to

assess skin breakdown and to monitor gait and balance. Participants indicated support was crucial when an amputee first views self in a mirror. The essential elements of initial mirror viewings include support, offering of the mirror, and universality.

Initial Mirror Viewings

Support

Viewing self in a mirror after an amputation for the first time can be a difficult experience as one may experience severe shock or anguish. When rehabilitation nurses support an individual during this experience, their action may help to minimize these emotions. All participants indicated that viewing self in the mirror the first time after an amputation should not be left to chance or occur in a public setting such as a lobby, elevator, or during a physical therapy or occupational therapy session. Cathy stressed,

There will only be once when they look at themselves the first time... and you will want that one time special and positive, right? It's like they say your first impression is your first impression... so you can't ever get it back... it's a second impression after that.

The introduction of the mirror should be with a person who has rapport with the patient. Participants' recommendations as to who should introduce the mirror included nurses, psychologists, and/or another amputee with a similar amputation. Participants recommended that the individual (i.e. rehabilitation nurse) who assists in the mirror experience must have some level of trust and personal engagement. It cannot just be an item to check off on a list of things to do. Participants emphasized some patients may not be ready to view their bodies in a mirror. For these individuals, viewing self in a mirror may take time and encouragement. However, leaving the initial viewing until the patient is with a prosthetist or a physical therapist where mirrors are used to assess physical fit and adjustment was not considered optimal. Mike said,

It's all physical therapists...prosthetists or what have you that they're there for one purpose and one purpose only...to get you moving...not necessarily to deal or process (the amputation) so I think that's kind of after the horse is out of the barn.

The rehabilitation nurse who introduces the mirror needs to have adequate training on the mirror experience, the emotions an individual may have, how to deal with

the psychological responses that may occur, and know when to refer to a psychologist (i.e. suicidal thoughts, refusal to view self in a mirror, extreme reactions to the mirror image, or multiple limb loss). In addition to having the right attitude, these nurses need to avoid using the word *stump*. Statements to avoid included *you are still beautiful* or *the residual limb is beautiful*. Elaine explained,

I mean I hear people trying to say "you're still so beautiful" and "this is beautiful," and I don't really find beauty in it. It does look ugly to me... it's a piece of the body... don't have to use the word beautiful to speak of this.

Offering

Participants recommended introducing the mirror in two stages. First, rehabilitation nurses should offer a small mirror so that the patient may have a partial view of the affected limb (i.e. incision site). Then, the nurse should offer the patient a full-length mirror for viewing one's changed body image. In addition, the nurse should not bring a mirror into the room and say it is time to look in the mirror. Rather, John suggested: "Ease them into it like, we'll be by in an hour or two. That gives them the opportunity to say 'no hell no don't bring it in. I'm not ready.' Or they may be curious right way and say bring it in." When rehabilitation nurses offer the mirror, they should give patients an opportunity to choose whether they want privacy or if they wish to have the nurse or health care professional and/or loved one present. In addition, patients should be in a safe sitting position to ensure safety should shock occur.

Universality

Individuals who have lost a limb need to understand that having a tough time viewing self in a mirror is an experience that many individuals may have following an amputation. The rehabilitation nurse should explain that viewing self in the mirror after an amputation may be difficult and that this is a common reaction. The nurse should outline the purpose of mirror-viewing as helping the patient come to recognize and eventually accept the image in the mirror. The nurse should also let the patient know that they may have a wide range of reactions to the experience, in a matter of fact way, and that any of these emotions are normal. Elaine suggested that we should tell the patient:

You will be surprised, you may be shocked, you may not like it, you may think that it's ugly; you may think

that it's so different; you may not be willing to recognize the person that you see there. I think that preparation sometimes...can take away that shocking feeling and make it better.

Viewing self in a mirror is difficult beyond the initial viewings. Ideally the rehabilitation nurse will ensure the entire health care team, including all therapists (occupational, physical, speech, and/or others) are aware of the patient's response to viewing self in the mirror and recognize that mirror-viewing may be difficult. Therapists should ask patients if they have had a chance to view self in the mirror. Therapists should also let people with amputations know that they will be viewing self in a mirror before taking them into a room full of mirrors and other patients or during therapy interventions related to activities of daily living (such as bathing, grooming, or dressing).

The Mirror as a Tool

Avoidance of Skin Breakdown and Infection

Many participants had been taught how to change their dressings but were not taught to use a mirror to assess their wounds. Jessica cried during her focus group meeting as she realized that if she had learned to use a mirror to assess her wound that she may not have developed MRSA. She had been a below knee amputee and with two more surgeries she became an above knee amputee. Jessica said,

You know this is the first time I've actually heard of being even provided with a mirror or even incorporating it into the post recovery which I mean I think it's a great thing. After my amputation, there wasn't anyone to take care of me and I didn't want to see it. So I wouldn't unwrap it or whatever and ended up with MRSA that scarred the tissue, and it ate a lot of the tissue and the muscle away and it got pretty progressed before I knew it.

Rehabilitation nurses need to teach patients how to use a small mirror to view the suture site, and later, after healing occurs, how to monitor the residual limb for signs of skin breakdown and infection. Patients will need to be assessed to see if a magnified mirror is needed. Anne, for example, realized she needed magnification and purchased her own magnifying mirror. Some amputation sites are high on the leg and may require using mirrors with long handles, or concave mirrors that give a better three-dimensional view.

Correcting Gait and Balance

Many of the participants indicated mirrors were in their physical therapy departments and that using those mirrors helped with gait and balance. Sarah told us,

My therapist had me in front of the mirror all the time so that I could see my gait, how I was handling my balance, and there were a lot of times I couldn't tell what I was doing wrong but she pointed it out to me and...I'd get it eventually.

With the exception of one participant, therapists did not discuss or encourage the use of mirrors at home or in the community. Many of the participants indicated they used mirrors on a daily basis to help improve their gait and balance. John stated,

If I'm walking up to a big glass building, I'm watching my reflection in the window and if I'm walking down the hall, I'll move over so I can walk toward the mirror. The elevators here, they're kind of chrome, so if I go someplace, as I am walking, I look to see my reflection, to see how the leg is swinging... When I put my leg on...if it's just off one or two or three degrees one way or the other it really affects how the prosthetic swings when you are walking. If it's off a couple degrees, it makes it a little more difficult to walk. You expel more energy. So having a large mirror to walk toward and to see how the leg is swinging...helps a lot.

The mirror may act as a motivator or reinforcement. Susan related, "the mirror encouraged me to keep going. I think that's one of the things that worked for me too was that looking in the mirror, it was like, OK I'm doing it wrong but I can do this."

Study Limitations

This study is limited by small sample size and setting. The setting is unique in that all participants were from a city in the southern United States. Together with the demographic variables described above, these factors do not allow for generalizability to a larger population. In addition, participants in this study reflected on past events. Memories of those events may be influenced by other participants in the focus groups, time, and other variables.

Discussion

To our knowledge, this is the only study which has delved deeply into the mirror experience of people who

have had an amputation. The finding that mirrors are scarce in hospitals is not new. Mirror surveys of hospital rooms and skilled nursing unit rooms have also indicated a lack of mirrors, particularly for bedbound and wheelchair-bound patients (Freysteinson, 2010; Freysteinson & Cesario, 2008). A recent study (Shepherd & Begum, 2014) suggested burn patients should be orientated to where mirrors are on a unit and asked if they want help to see their injuries, which is similar to the participants' recommended interventions of support and offering a mirror. Results from that same study implied staff training and guidance were needed to improve staff confidence in helping an individual view self in a mirror after a burn injury. Two phenomenological studies have provided a foundation for the moment of viewing self in the mirror (Freysteinson, 1994; Freysteinson et al., 2012). In both of these studies, the experience of viewing self in the mirror for women who were terminally ill and for women who had a mastectomy had three moments: decision, seeing, and consent. The reasons to view self in the mirror were similar to the findings in this study: appearance, self-care, and curiosity. In these studies, consent was described as a horizon ranging from denial to hope. In this study of amputees' experience of viewing self in the mirror, acceptance of a new normal was uncovered. A randomized control study (Freysteinson et al., 2014) was conducted to study the feasibility of oncology nurse navigators educating women about the mirror to prepare women for the postmastectomy experience. Although this was a feasibility study, there was a trend noted that the intervention group's body image as measured by the body image scale (BIS) and well-being (SF-36 measure) scores improved, and the control group's BIS and SF-36 worsened. This literature supports the need for nurses to support patients in the mirror experience.

Implications for Nursing Practice and Research

Use of a mirror in assessing skin is not a new nursing intervention. However, comments from study participants indicated that the provision of a small mirror, coupled with education about the incision and skin assessment for the patient who has had an amputation, was not offered by the health care team members who cared for them.

Nurses should know the shock and anguish that may be associated with initial mirror viewings are emotions that may lead to safety issues. When rehabilitation nurses offer a mirror, patients enter into the experience with the

knowledge, at a minimum, that *my nurse seems to understand what I am going through*. When nurses share the knowledge that the mirror experience can be difficult due to the emotions an individual may have, patients know they are not alone in this experience.

The use of mirrors for those who have suffered a disfiguring injury is a relatively new and unexplored field. Additional research is needed to determine if the mirror interventions suggested by the participants in this study will provide amputees with an easier introduction to the mirror. There is a need to explore the potential relationship between mirror interventions, quality of life, and both short-term and long-term psychological indicators. Research is also needed to determine whether or not mirrors are beneficial to amputees in incisional care and in avoiding skin breakdown and infection. Furthermore, there is also a need to discern if these interventions may be generalized to other populations of patients who may have suffered a bodily disfigurement such as stroke, quadriplegia, urinary diversions, bowel diversions, or changes due to multiple trauma.

Conclusion

The findings of this study provide nurses with a new perspective and understanding of the experience of viewing self in the mirror after an amputation. With a foundational understanding of the mirror experience, rehabilitation nurses are in a unique position to transform care at the bedside for individuals who have had an amputation or other bodily disfigurement due to trauma, surgery, or disease. The participants in this study have shared the best knowledge to date regarding mirror practice interventions. There is a need for both small mirrors and full-length mirrors in private hospital rooms. Key findings are that individuals should be supported in initial viewings of their changed bodies, mirrors should be offered in the proper setting, and it is important for new amputees to understand this may be an emotionally difficult experience. Discovery of the best way to educate nurses and other health care professionals on this novel topic, and the conversations that should occur within the trusting relationship between caregiver and client, remains a focus for future research. The immediate challenge for nurses caring for people with amputations in rehabilitation settings is to determine if there is enough wisdom and common sense within this study to support advocating for improvement in initial mirror-viewing experiences.

Key Practice Points

- This qualitative study was carried out to understand the experience of mirror viewing after amputation and to learn from participants what would constitute appropriate clinical mirror interventions.
- Although mirrors are commonplace, participants reported few mirrors in health care settings and lack of support in viewing self in a mirror after an amputation.
- Viewing self in mirror is significant for individuals who have experienced amputation and provides an opportunity for therapeutic intervention by rehabilitation nurses.
- The experience of viewing self in mirror changes over time, typically progressing from initial feelings of shock, sadness, and revulsion to eventual acceptance of the amputation.

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