‘PINHOLES IN MY ARMS’: THE VICIOUS CYCLE OF VASCULAR ACCESS

ABSTRACT

AIMS

To explore the experiences of patients living with a vascular access device.

BACKGROUND

Vascular access devices are essential for delivery of intravenous therapies and are used widely in healthcare. Three devices are used for long term intravenous therapy delivery: externally situated peripherally inserted central catheters and tunneled central venous catheters and totally implanted devices which are situated under the skin. It is important to understand how living with these devices might impact on daily life, as patients often live with these devices in place for many months.

DESIGN / METHODS

This study followed an Interpretive Phenomenological Analysis (IPA) approach. A purposive sampling technique was used to identify eleven cancer patients who had a vascular access device in situ and were willing to share their experiences. One to one semi-structured interviews were performed. The interviews were digitally recorded, transcribed and analysed by the principle investigator (PI).

RESULTS

Four superordinate themes were identified:

1) The self under attack;

2) Being rescued / being robbed;

3) Protection of others / Protection of self and

4) Bewilderment and dismay at lack of staff competence.

CONCLUSION

The presence of a VAD affects the psychological, social, and personal self and impacts on self-esteem and self-image. They can result in restrictions and limitations to everyday life activities. Patients often live with distrust and fear of complications whilst living with a VAD. Despite these issues, VADs are accepted by patients and are eventually embodied.

INTRODUCTION AND BACKGROUND

Central venous access devices (CVADs) are necessary for the delivery of intravenous (IV) therapies that are damaging to the inner layer (intima) of small peripheral veins (Al-Benna, O'Boyle and Holley, 2013). They are typically used for vesicant chemotherapy agents which can cause tissue necrosis if they extravasate out of the vein (Schulmeister, 2011). CVADs are also recommended for longer term IV therapies as they can remain in place for prolonged periods of time. This reduces the need for continued, repeated cannulation allowing preservation of peripheral vessels (Gorski, 2016).

Over the years, technological advances have resulted in three main device types for the delivery of drugs into the central venous system: peripherally inserted central catheters (PICCs) and tunneled central venous catheters (TCVCs), which are both external devices and totally implanted vascular access devices (TIVADs), which are inserted under the skin. Depending on the treatment, patients can have these devices in place for periods of between a few months to many years. Currently, there are limited studies that have explored, in depth, the lived experiences of patients with CVADs and how they make sense of their experiences.

Study Aim

To gain an insight into the lived experiences of patients living with a central venous access devices.

METHODS

Methodology

The study employed interpretive phenomenological analysis (IPA) to explore how individuals ascribe meaning to their experiences of living with an external or implanted vascular access device. As a philosophy, phenomenology stresses the notion that only individuals who have experienced a phenomenon are able to communicate this experience to others (Smith, Flowers and Larkin, 2009). In addition to phenomenology, hermeneutics and ideography are major theories underpinning IPA. This approach was selected as it was deemed as appropriate to capture and explore the meanings that participants apportioned to their experiences (Smith, Flowers and Larkin, 2009).

STUDY POPULATION AND SAMPLING STRATEGY

The study population was recruited from the West of Scotland Cancer Centre. Participants were recruited purposefully to reflect their expertise in the area of study. Individuals who had a CVAD in for over a three-week period were eligible to participate. A research nurse from the cancer centre made initial contact with any patient who met the inclusion criteria (Box 1). Written information about the study was distributed to them. Patient were invited to contact the author if they required further information or if they decided to participate in the study. Six males and five females with ages ranging from nineteen to eighty responded to the participant call and all were recruited to the study. Five patients had a PICC, three patients had a TCVC and three had a TCVC. Smith, Flowers and Larkin, (2009) emphasise that IPA's main concern is with a detailed account of individual experience, and therefore recommend a small number of cases.

Box One: Inclusion / Exclusion criteria

Inclusion Criteria

- Patients who have had one of the three devices insitu for *more* than three weeks
- Patient aged 16 or over
- Patients with the capacity to provide consent.
- Males or Females

Exclusion Criteria

- Patients without the capacity to provide consent.
- Diminished understanding or comprehension, or a language other than English spoken and an interpreter unavailable
- Patient aged below 16 years of age.
- Patients deemed not well enough by the CAVA champion or PI to participate.

Table One: Participants

Name (Pseudonym)	Age	Gender	Device	Reason for device	Length of time living with device	Device inserted by
Norman	76 years	Male	PICC	Chemotherapy for colorectal cancer	18 months	Nurse
Tina	80 years	Female	PICC	Chemotherapy for colorectal cancer and liver metastases	10 weeks	Nurse
Garud	59 years	Male	PICC	Chemotherapy for colorectal cancer	Four months	Nurse
Alfred	66 years	Male	PICC	Chemotherapy for colorectal cancer	Four weeks	Nurse
Sam	84 years	Male	PICC	Chemotherapy for colorectal cancer	Six weeks	Nurse
Ruby	55 years	Female	TCVC	Chemotherapy for anal cancer	Eight weeks	Nurse
Mary Rose	63 years	Female	TCVC	Chemotherapy for colorectal cancer	Nine weeks	Interventional radiologist
Yasmin	19 years	Female	TCVC	Chemotherapy for non-Hodgkin's Lymphoma	Six months	Interventional radiologist
Anton	47 years	Male	TIVAD	Chemotherapy for colorectal cancer	18 months	Interventional radiologist
Amaya	51 years	Female	TIVAD	Chemotherapy for metastatic colorectal cancer	Five months	Interventional radiologist
John	80 years	Male	TIVAD	Chemotherapy for lung cancer	Four months	Interventional radiologist

Ethical Considerations

Participants were given a detailed written information sheet. They were then allowed at least 72 hours to consider participating in the study. Participants were informed of the voluntary nature of their participation in addition to their right to withdraw without prejudice. They were assured that all information collected would remain confidential and that anonymity would be assured by the removal of all identifying information. Recordings were securely stored throughout the study period. Ethical approval was sought and obtained from the University of the West of Scotland Ethics Committee, National Health Service Ethics committee and the Research and Development Committee. REC Reference number: 15/WS/0108.

DATA COLLECTION

After providing information about the study and gaining written consent, one to one, and semi structured interviews were undertaken by the author within the hospital setting. Undertaking the interviews personally allowed the author to gain a sense of the whole experience from each participant. Interviews lasted between 20 and 70 minutes and was guided by the participant. The semi structured nature of the interviews allowed a natural unfolding of patient stories. An interview guide was used to ensure all other relevant issues were covered.

DATA ANALYSIS

Data analysis followed Interpretive Phenomenological Analysis (IPA) (Smith, Flowers and Larkin, 2009).

- To gain an initial feel for the cases, each audio recording was listened to repeatedly by the author. This helped gained an understanding and a feeling for the ideas and statements offered by each participant (Haase and Myers, 1988).
- Each transcript was then transcribed verbatim by the author. This enabled a deeper level of immersion in the data (Guba and Lincoln, 2005).
- Each transcript was then focused on individually and in depth. Exploratory and mostly descriptive comments reflecting initial thoughts about the claims, concerns and understandings of each participant were noted. This resulted in a vast amount of data. This was reduced by working closely with both the original transcript and the notes and involved looking for connections, relationships and patterns observed between exploratory notes (Smith, Flowers and Larkin, 2009).
- Essential qualities of the account were captured, and emergent themes identified. This process was repeated for each account.
- Super coordinate themes were generated using abstraction, which is a basic form of identifying patterns between emergent themes. A table was used as a graphic representation

of the structure of the emergent themes and the development of the super – coordinate themes and sub themes (Smith and Osborn, 2008).

Throughout this process, diary entries were made by the author. Feelings and thoughts that submerged while working through the transcripts were detailed. This process aided in the reflective process and allowed the acknowledgement of previously held beliefs and biases held by the author to be considered. During data analysis, the author attempted to make sense of the statements and stories the participants shared. This type of interpretation involved the author trying to understand what this was like from the participants' point of view.

Validity and quality

The assessment of the quality of qualitative research is challenging, however the author followed guidance offered by Yardley, (2000), which includes issues of sensitivity to context; commitment and rigor; transparency and coherence; and impact and importance. Sensitivity to the data was ensured during the interview process. In addition, the use of verbatim statements ensured that the words of the participants were not altered or influenced by the preconceptions and beliefs of the author. The use of a reflective diary also enabled the author to be open and honest throughout the analysis period.

FINDINGS

Four super ordinate themes, some with related sub themes emerged from the study.

- The self under attack
    a. The violation of vascular access
    b. Accepting the ordeals of vascular access

- Being rescued / being robbed
    c. Being thrown a lifeline
    d. Device as part of self
    e. Better than the rest

- Protection of others / Protection of self and

- Bewilderment and dismay at lack of staff competence.

These themes resulted in the conceptual framework entitled the vicious cycle of vascular access (Figure one).

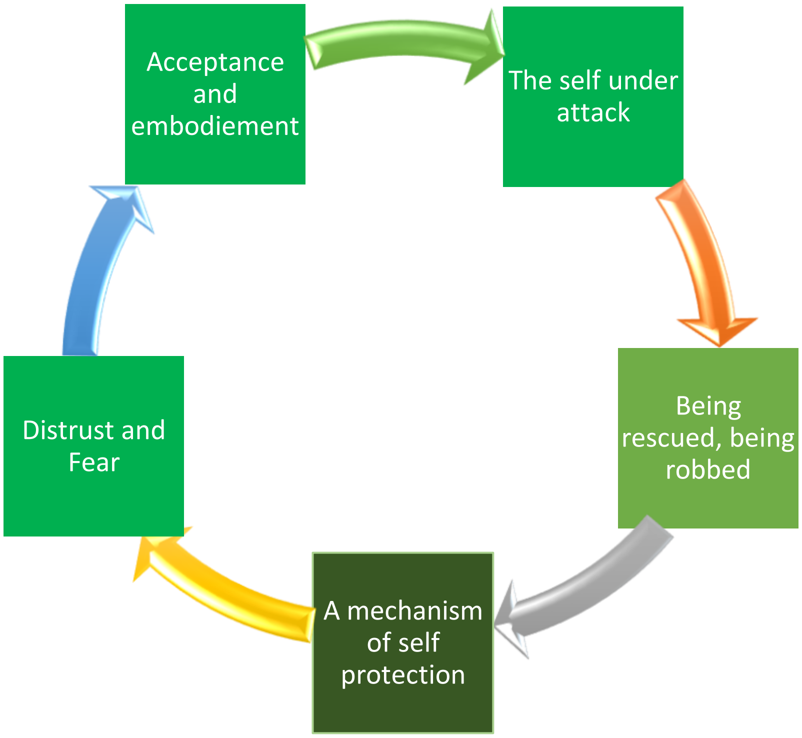

Figure one: The vicious cycle of vascular access

THE SELF UNDER ATTACK

Participants in this study shared accounts and memories of challenging repeated, painful cannulation. These descriptions were vivid, detailed and included physical as well as physiological impacts of the procedure. Interpretation of the statements made suggest that there was a degree of distress and violation associated with frequent repeated peripheral cannulation which the participants faced prior to having a long - term device inserted:

> ***‘Even taking bloods and things, sometimes they would have difficulties in finding a good vein to get bloods out of and that’s all uncomfortable, it all adds to the distress of all of this’ (Mary Rose, TCVC).***

The extent of distress was captured when participants described the procedure of peripheral cannulation as you would an act of violence. Ruby described the procedure as:

'***Being attacked by a needle***' and went on to say: ***'It felt like they were stabbing me to death'*** **(Ruby, TCVC)**.

It appeared that the longer it took to find suitable veins to cannulate the greater the suffering became for the patients. One patient recalled the use of the strategy of heating her hands in warm water to increase the success of cannulation:

> '...***you just sat there with your hands in the water praying that it would work***' *and later:*

> ***'Every time when you've to get that injection and it gets harder and not everyone does it painlessly, and it's not painless, it's not a painless procedure'*** *(Tina, PICC).*

The repetition of the words '*painless*' and '*painlessly*' emphasise the trauma that remained in Tina's memory. The statement also highlighted that, during the time taken to perform venous access successfully, resulted in a negative experience.

This theme conceptualises the lived experience prior to having a long-term VAD inserted. This experience impacted on self-esteem and resulted in a reduced sense of agency.

BEING RESCUED / BEING ROBBED

Because of the negative experiences' participants had had with cannulas they were grateful to have been offered a long – term device. This was captured in accounts from both Norman and Mary Rose.

'***It's really a wonderful thing and it's so non-intrusive that you just carry on with your life and …… you know, it's actually a real medically helpful device*** **(Norman, PICC)*'***

'I feel quite relieved that they're just attaching me to this and I have no worries, I don't have to worry about my arms being really painful which it was, it felt like it was on fire and it lasted for days. I have absolutely none of those side effects so the TCVC to me has been a life saver

> ***as far as going in and having treatment through this. I don't feel anything. I just sit back and relax. I don't feel anything at all, if I need bloods, out it comes from that. I would highly recommend it' (Mary Rose, TCVC)***

Despite the acceptance of CVADs, the devices resulted in the need for adaptations to daily life for some participants. Participants with PICCs appeared to face the most disruption to everyday life. They discussed adaptations that they had to make during daily activities such as showering, bathing and sleeping.

> ***'Showering and that is a bit of a pain. I've got one of those things that go over your arm to keep the water out, so from that point of view that's the only disadvantage'* (Sam, PICC).**

Alfred also discussed adjustments that he made to his typical sleep routine to accommodate his PICC:

> ***'Well I sleep on my right-hand side, so I changed to my left. So, at night I roll over and I wake up… It's just that you're worried you might lie on it. Just the fact that you know it's there' (*Alfred, PICC*).***

This was not such an issue for participants living with other devices. However, the presence of a TIVAD caused an issue for Amaya as this prevented her from undertaking an activity that she had always wanted to do:

> ***'I wanted to jump out of a plane, but the guys wouldn't let me do it because of the straps here'* (Amaya, TIVAD).**

This account suggests that Amaya has lost control herself and decisions she could make. Although 'the guys' that she refers to are unlikely to be medical professionals, they have taken it upon themselves to make this decision for Amaya. It could be suggested that this demonstrates that Amaya as suffered a loss of self-control.

Another participant with a terminal diagnosis described how he felt when told he would have to give up his sports if he had a TCVC inserted. The fact that he thought he would have to adapt his life and the possibility that he would lose his sense of self were difficult for him to imagine:

> ***'My whole life is sport. My whole life is swimming. I swim about a mile three times a week, I play football three times a week. It's got me through chemotherapy, it's got me through surgery. It was my goal to get back into my sport because in my head, if I'm playing a game of football I'm not dying of cancer, and if I swim a mile, I'm not dying of cancer…'*** *(Anton, TIVAD).*

Anton described how he was an active man who swam and played football regularly. Following his terminal cancer diagnosis, he used his sport to keep his spirits up, live a life with some normality and maintain his sense of self. By doing this, he could forget his situation. Anton described these activities as his '**whole life'**, highlighting their importance. Being able to continue with his leisure pursuits had a positive impact on his health. Anton stated that **'in his head'**, he was no longer dying of cancer if he could continue to play football and swim. He could adjust his mind and continue to be his old active self if he was doing the things he did before his diagnosis. The thought of no longer being able to do these things would have changed Anton, making him feel like a fragment of his former self. He may have felt that he had lost the physical expression of his persona.

This theme conceptualises the experience of and relief at getting a device could negate the requirement for repeated, painful peripheral cannulation. However, this concept also conceptualises a loss of self, due to being restricted in aspects of personal and social life activities.

A MECHANISM OF SELF-PROTECTION

The patients in this study described concealing their devices to protect others from seeing it. One reason was that because they believed their device portrayed them as someone who was sick:

> ***'I don't want anything to be seen. I don't want to be a patient, I mean I don't want people to know, I hate having cancer, so I don't want to… if someone sees that – they would know that something was wrong so for that reason, I prefer to … I do wear a top that will cover it' (Mary-Rose, TCVC).***

The other reason was to protect others from having to see the device:

> ***‘If I was away on holiday and sitting at a pool or that, then it would probably be more of an issue … even being able to go into the water and stuff like that. Just really from that point of view, how people might perceive it’ (Sam, PICC).***

This concealment appeared to be done to protect others from potentially becoming distressed on seeing the device. Participants believed that others might be alarmed at the site of their devices and therefore they went out of their way to conceal it from them. This was a perception held by many of the participants and is suggestive of anticipated stigma. Mary Rose describes one of the advantages of her device as the ability to hide it from others:

> ***‘Positives (are that) you can wear tops that hide it so that the general public… you’re not scaring them.’ (Mary Rose, TCVC)***

It is interesting to note that two of the patients who mentioned being conscious of their devices were the patients with the TIVADs in situ. This was a surprise finding as the TIVAD is the device viewed by clinicians as the least noticeable and a device that ‘allows a patient to have minimal body image changes’. This description has the potential to mislead patients as highlighted by John.

> *‘…* ***at first I thought it was worse, it’s a wee bit of a bump – when you see the diagram, there’s nothing, it’s flat there’ (John, TIVAD)***

This theme conceptualises the experience of perceived and self-stigma as well as the need to maintain a positive self-image. This is also concerned with the need to protect others from having to see the device.

DISTRUST AND FEAR

The participants highlighted issues with competence and confidence of healthcare practitioners caring for their long-term vascular access device. At the time they would either voiced their fears and concerns to the practitioner, refused the practitioner access to their devices or chose to have treatment delivered through peripheral veins rather that risking potential complications if the device was used incorrectly.

The participants appeared to be bewildered that nurses and doctors were either not competent or not confident and therefore at times where unwilling to use their devices. One relative discussing her husband’s experience explained how he refused to let staff touch his TIVAD:

> ‘*He was in the hospital with a chest infection and he wouldn’t let the doctors touch it. …. He said you can’t touch it unless you’re qualified*’ **(John, TIVAD)**

This issue was highlighted when the participants or their relatives were successfully taught to access and care for devices themselves:

> ***‘It didn’t take long to train him, I said to the nurses my husband learned in 10 mins and he’s not medically minded and yet you are nurses and you’re not willing to get trained ... My 12 year used to come and clean it.*’ (Amaya, TIVAD)**

The lack of staff competence led to anxiety for patients as they were aware of the potential complication of having a VAD. This anxiety was fueled when care of the device varied across healthcare settings. Participants became aware of variations in practices between the primary and secondary care settings. As they received care in and out of the hospital settings this variation became obvious to them. They could not understand why care would be different from one setting to another. This led to them feeling vulnerable, anxious and disloyal for questioning or highlighting issue faced.

> ‘***(Care) is different in the community, yes, you try to be loyal and you try not to be critical … you shouldn’t be caught in the middle like that’* (Tina, PICC)**

> ‘***The staff in here (hospital) are more familiar with PICC lines than the district nurses are’ (Garud, PICC)***

This theme conceptualises the experience of living with fear of device complications. This being increased due to the inability of HCPs to use the VAD. In addition, it conceptualises the loss of trust in healthcare and the experience of fear of a return to the violation of painful and repeated peripheral cannulation.

ACCEPTANCE AND EMBODIMENT

Patients in this study appeared to eventually embody their device irrespective of if it was visible or implanted under the skin. The device became part of them and at times even became unaware of it. This suggests that VADs become embodied. This was captured in some of the accounts:

> ***'You go to sleep at night, you're scared to turn in the bed in fact I turned last night, and I was playing with it, you forget you've got it and if you feel it itch at night then you remember – oh, I've got a tube in here' (John, TIVAD).***
>
> ***'I do forget that it's there, just because – you don't notice it. You don't feel it once it's already there – you just get on with it. You just forget about it' (Yasmin, TCVC).***

This final theme conceptualises that despite the negative aspects of VADs, they are eventually accepted and embodied.

DISCUSSION

This study demonstrates the effect of painful challenging peripheral cannulation on self-esteem and worth. Similarly, previous studies also highlight that adult patients are often negatively affected by the pain of repeated peripheral venous access (Robinson – Reilly, Paliadelis and Cruickshanks, 2016; Larsen *et al.*, 2017). Despite this, it is uncommon for adult patients to refuse to undergo the cannulation procedure due to the associated pain and discomfort associated with it. In fact, finding from this current study would suggest that patients feel that the pain of peripheral venous access is something that has to be endured. Subsequently, once a long – term device (PICC, TCVC or TIVAD) is inserted, patients describe relief at no longer having to endure challenging peripheral cannulation procedures. They accept and adapt to the devices readily. Cognitive dissonance (CD) appears to offer a consistent theoretical explanation for the patient's acceptance of VADs. CD occurs when events or information conflict with existing attitudes, beliefs, or behaviours, which, in turn, leads to feelings of discomfort. To reduce this discomfort, there needs to be an alteration in one of these attitudes, beliefs, or behaviours, leading to balance and the restoration of harmony. According to Ent and Gerend (2016), individuals are motivated to resolve conflicting cognitions, particularly when such cognitions involve the self. It appears that patients in this study accepted the negative aspects of their device because the alternatives would be a return to painful peripherally cannulation or the inability to be treated.

The findings from this study are in accordance with previous studies. An early study focusing on PICCs reported that patients found them to be comfortable and that they did not adversely affect lifestyle (Gabriel *et al.*, 2000). All of the patients in this study viewed the PICC as a solution to their difficult venous access problems and they felt the device improved their quality of life

(Gabriel *et al.*, 2000). Similarly, (Molloy, Smith and Aitchison, 2008) concluded that the positives aspects of having treatment through a PICC outweighed the negatives and the patients felt they had adapted and accepted their device. More recently, Sharp et al., (2014) discovered that patients adapted to their PICC and came to accept the device as it allowed convenient access for treatment. Studies focusing on TIVADs gleaned similar findings. In a study by Chernecky (2001) patients did not volunteer many dislikes with 71% stating that they had no dislikes. In this study 10 of the 11 patients stated that they had an improved quality of life following device insertion. Comparable results have recently been discovered in recent studies by Yagi et al., (2016) with patients reporting high satisfaction levels with their TIVADs and Minichsdorfer et al (2016) who in their study reported that patients would choose to have a TIVAD implanted again if needed. What this study adds is that these positive feelings applied regardless of device, a finding that has not been uncovered in previous studies. In fact, a prominent phenomenon in our findings was that the patients not only accepted their device but appeared to embody their devices and view them as part of them. In other words, the patients seemed to go beyond mere acceptance of the device as an instrument to allow them to receive treatment. Despite this, it was highlighted in the study that the presence of a VAD led to the need to adjust how patients lived their everyday lives. Adaptations had to be made to activities of daily living, particularly for patient with PICCs, who had to adjust the way they bathed or showered. Additionally patients had to refrain from certain leisure activities such as swimming or playing contact sports. This is an important finding because although these devices are a necessity for sometimes curative treatments, they are also used to lengthen live. This could result in patient living the end of their lives unable to participate in activities that aid their mental health and well – being.

Although the participants in this study said that they accepted their device, they also mentioned the attempts they took to conceal it. Previous studies have suggested that there may be a potential social stigma attached to an externally placed device. A study by Ritchie, et al (2015) also found that patients adapted to the devices by using strategies such as hiding, covering or concealing the device. However, the findings from the in-depth interviews carried out in this study suggest that the reason for device concealment was to either reduce the perceived seriousness of their illness or to shelter and protect others from it. Concealment was done to maintain privacy about illness and to avoid having to share information with others. According to Charmaz, (1983) sick people frequently experience a fragmentation of their former self – image. Over time this can accumulate in a loss of a formally sustaining self- image and result in a lower self- value (Charmaz, 1983). The presence of a device that is external and visible may act to lower a patient's self – image. A device that remains visible may change the patient's identity and place them in an illness role or in a sick role status (Parsons, 1951). This may not be the impression the patient wishes to portray. Therefore, concealment limits the social impact on the individual's identity and allows them to be viewed in a positive way by others.

VADs have many advantages, however they are also with complications including potentially fatal catheter related blood stream infections (CRBSIs), chemical or mechanical phlebitis and catheter related vein thrombosis (Moureau *et al.*, 2019). VADs are accessed on a frequent basis for reasons such as maintenance of patency or to deliver intravenous medications (Moureau, 2019). Each access presents an opportunity for complications to occur potentially resulting in device removal and subsequent delays in treatment (Loveday *et al.*, 2014). Within this study, patients were concerned about the lack of competence of some practitioners responsible for using their devices. This led to a feelings of anxiety, vulnerability and lack of trust of healthcare professionals. Additionally, the care was often varied which resulted in a distrust of staff caring for their devices and anxiety and fear of potential device complications. Healthcare workers' lack of knowledge has been described in previous studies (Chernecky, 2001; Goossens *et al.*, 2005; Molloy, Smith, and Aitchison, 2008; Alpenberg, Joelsson, and Rosengren, 2015; Ritchie, *et al.*, 2015; Ryan *et al.*, 2019). Gabriel *et al.* (2000) describe how participants who had previously had a VAD in place were concerned with the care of their device being undertaken by junior medical staff. Previous experiences and knowledge had led these patients to question the techniques and skills of this group of junior practitioners. Chernecky (2001) also describes how one patient noted that experience and knowledge of staff about TIVADs in areas that were not haematological was lacking. The patient stated: *'Some hospitals won't use it for blood draws or to give fluids through, it disturbs me that I have something foreign in my body and I can't get blood out of it'* (Chernecky, 2001, p. 1614). This was echoed by Goossens *et al.*, (2005), who also highlighted a lack of experience and knowledge of staff about TIVADs. Furthermore, Alpenberg, Joelsson, and Rosengren, (2015) and Ryan *et al.*, (2019) described feelings of insecurity and concerns about potential complications resulting from nurses' uncertainty and doubt when handling devices, performing dressing changes, and variations in practice. Finally, Alpenberg, Joelsson, and

Rosengren, (2015) go on to describe disparity in dressing skills which made patients feel insecure; patients in this study also expressed anxiety and insecurity due to lack of aseptic conditions.

Most disturbingly, this lack of knowledge of how to use long term VADs often leads to patients having to return to repeated peripheral cannulations, a situation they thought they had escaped from.

IMPLICATIONS FOR CLINICAL PRACTICE

As more and more people undergo long term treatment through a vascular access device, the findings from this study has provided an insight into the deep-rooted feelings and emotions of patients living with a device. This knowledge is important as it will allow a more sophisticated approach to caring for patients with prior to and during life with a VADs. It is possible to break the vicious cycle of vascular access with strategies to improve the experiences of patients.

Firstly, practitioner should be more aware of the negative impacts that repeated peripheral venous access can have on patients both emotionally and physically. This could be addressed with the use of anesthesia, vein visualization technology or ultrasound guidance used. Additionally, a decision to move to a longer- term device could be considered at an early stage in the patients vascular access journey.

It should be noted that patients may wish to conceal external devices to maintain a certain body image. If possible, the choice of device should be made available to patients and counselling offered to explain and deal with potential issues with self-esteem. It might be that a patient would be more comfortable with a totally implanted device rather than an externally situate device. A buddy system would also be a positive way to help individuals manage the changes that will occur once a device is inserted. Images of devices in place would help patients visualise and prepare them for the changes that will happen to their bodies with their devices. Written information about aspects of living with the device including continuation of everyday activities such as showering, bathing and sleeping would also be useful for patients. In addition to activities of daily life, patients might partake in certain leisure activities or have life dreams that they wish to achieve. If the device selected would take away aspects of a patient’s life or dreams, wherever possible an alternative device should be considered.

Education and training in the care and management of vascular access devices is crucial and should be offered to all staff responsible for looking after patients with VADs. An alternative would be dedicated vascular access teams who could provide necessary care and offer training to others if required (Moureau, 2019).

Finally, if a long-term device is used, patients will generally accept and adapt to these in a positive manner. However, it must be ensured that both the body and mind are considered when a VAD is placed.

LIMITATIONS

The themes identified in this study may have been interpreted differently by other researchers. However, early analysis has laid the foundation for the development of a conceptual framework and offers new insight into the understanding of the lived experience of vascular access. The participants in this study were recruited from a single centre and were all oncology patients receiving chemotherapy because oncology is one of the only specialties to use all three Vascular Access Devices. However, policies, practices, and care received in alternative centres might have been different, leading to different findings. Despite this, many of the findings of this study reflect findings from previous literature (Snowden and Kelly, 2020). Moreover, the method was consistent with the state of knowledge on the topic, and the evidence obtained allows for larger, hypothesis-driven studies.

This study included one set of participants, interviewed on only one occasion. A longitudinal study was considered however, according to (Smith, Flowers and Larkin, 2009) if appropriate questions and prompts are used, in-depth data can be obtained and follow up interviews are therefore not always required.

Finally, there was no member checking performed with the participants. Therefore participants did not have the opportunity to clarify or expand on the data analysis performed. A survey was subsequently carried out (Kelly *et al.*, 2019). This study confirmed the findings of this study and provided a means to test the study findings and determine the study transferability.

CONCLUSION

The findings of this current study show that the experience of living with a vascular access device entails a number of negative processes. This includes changes to self – esteem, self - control and self – image. Despite this, VADs appear to eventually be accepted and embodied by patients and they learn to live life with a changed self. This study shows that the body and mind are not equally considered when a VAD is inserted, and to break the vicious cycle of vascular access, consideration to how a VAD impacts on the self must be a priority.

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