Ethnographies of limb loss and rehabilitation

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Chapter Abstract

Amputation of a limb and beginning to use a prosthetic (artificial) limb presents major physical, psychological and social challenges. Rehabilitation following limb loss involves a multidisciplinary team of health professionals and the challenges involved encompass regaining functional abilities and reintegration to work, family and social contexts and relationships. Qualitative research has played an important role in developing an appreciation of these processes and in recommending how health professionals can improve service provision. Although a range of qualitative approaches have been used in relation to limb loss and prosthesis use, ethnography has a unique methodological contribution to make in furthering an understanding of such issues and informing service provision. While ethnography may take different forms, it usually involves collecting data in natural settings (or, the field) using a combination of data collection strategies, such as observation and interviews, and embedding and interpreting results in the local and wider socio-political and cultural systems in which participants live and the research takes place. In this chapter, I review exemplar ethnographic studies of limb loss to highlight the value that such work offers for understanding rehabilitation, and how it can be improved, following amputation. This includes a study of limb loss following war, a military rehabilitation programme for wounded soldiers, and a civilian rehabilitation ward. The meanings and experience of limb loss and artificial limb use in particular social, cultural and rehabilitative contexts are therefore highlighted, as is the importance of gender, ethnicity, religion, economics and societal beliefs.

Key Words

Amputation; artificial limb; culture; family; multidisciplinary; qualitative; prosthesis; services; social; society.

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Introduction

Across the world, limb loss is a major cause of disability. For example, in the UK there are nearly 6,000 new cases of amputation per year (UNIPOD, 2012), or, around 50,000 in total (NASDAB, 2002), and this figure is around 185,000 new amputations per year (Owings and Kozak, 1998), or around 2 million in total (Ziegler-Graham et al., 2008) in the United States. However, the causes and outcomes of limb loss differ in particular ways according to the social contexts in which those with limb loss live. For example, in the developing world, military conflict and workplace accidents result in a younger population of amputees who have mainly lost upper or lower limbs due to trauma (Esquenazi, 2004). By contrast, in developed countries, most amputations are of the lower limb (UNIPOD, 2012) and occur in older people due to diabetes and vascular disease, with poor diet and smoking contributing to these (Esquenazi, 2004).

Regardless of the causes or contexts of limb loss, the prospect and aftermath of amputation poses a number of rehabilitation challenges. Within western medical care, these challenges are encapsulated in the nine phases of rehabilitation following amputation identified by Esquenazi (2004). The first three of these relate to surgical procedures: a preoperative stage involving patient education and postoperative prosthetic (artificial limb) plans; surgery and reconstruction procedures; and a stage of wound healing, pain management and emotional support. These are followed by three phases centred on the prosthesis: a pre-prosthetic stage, in which the stump or residual limb shrinks, is shaped, and muscle strength is increased; prosthetic prescription, during which an artificial limb is fabricated; and prosthetic training during which the wearing and utilisation of the prosthetic limb is inculcated. The final three phases relate to: community integration, during which the patient resumes family roles, recreational and community activities, along with gaining emotional equilibrium and developing coping strategies; vocational rehabilitation, where future job plans are assessed and if necessary modified through education and training; and lifelong 'follow up' of prosthetic, functional, medical assessment and emotional support.

The service provision for the difficulties faced by the limb loss population identified above often involves a multidisciplinary team of health professionals (BSRM, 2018; Kessler et al., 2020). For example, in the UK, Prosthetic and Amputee Rehabilitation Centres (PARCs) for those with lower-limb amputations involve prosthetists, physiotherapists, occupational therapists, psychologists and/or counsellors, nursing support and podiatry (BSRM, 2018). Similarly, concerning Australia, Manderson and Warren (2010) note, 'in order of closeness of contact' (and with some variation) patients with limb loss work with prosthetists, physiotherapists, occupational therapists, psychologists, social workers, and rehabilitation consultants. Likewise, in the USA, Kessler et al. (2020) identify a range of related professionals working as primary and secondary team members across the rehabilitation timeline.

In working together as part of a multidisciplinary team in the care of persons with limb loss, it is important that this work is person-centred and needs-focussed ('the patient', Kessler et al. (2020, p.119) suggest, 'is the central team member). Clearly, the experiences and needs of those who undergo an amputation are shaped by the particular contexts in which their limb loss occurs. Although the causes of the amputation and the demographic characteristics of amputee populations may differ across global contexts, the loss of a limb presents major practical, economic, social and psychological challenges for the person concerned (Schaffalitzky et al., 2010). For example, amputation may mean that they have difficulty in returning to work due to loss of physical capabilities (Burger, 2010), and problems in managing personal relationships and social interaction (Murray, 2005). One key challenge following limb loss is adjusting to a different body image (Fisher & Hanspal, 1998). This may be influenced by the person’s own negative evaluations of their altered body as well as what they anticipate to be the negative responses from others (Rybarczyk et al., 1992).

A large number of quantitative research studies have detailed statistical relationships for the above and other challenges associated with limb loss (see, for example, Horgan & MacLachlan, 2004). While valuable in identifying key variables of interest at particular points of time, such approaches can produce a static picture of these variables that correspond to data collection points and contexts. Therefore, qualitative research, which tends to view experiences as in flux, and negotiated within particular contexts or personal and social relationships, has also been informative in providing an understanding of what it is like to live with amputation and prosthesis use over time (see Murray & Forshaw, 2013 for a review). Such work, which often involves collecting and interpreting non-numerical data, and instead privileges first-person accounts, has been useful in deepening an understanding of a number of complex areas. These have included factors influencing the decision to have an elective amputation (Quon et al., 2011), the experiences of prosthetic prescription by amputees (Schaffalitzky et al., 2011), the management of amputation-related pain (Dudgeon et al., 2006), and communication difficulties between the amputee and the person providing and fitting an artificial limb (Murray, 2013). In addition, as part of a move to involve service users in the planning and development of their own healthcare (Crawford et al., 2002), qualitative approaches have the potential to make a strong contribution to the design, organization and delivery of services that meet the needs of this population.

For the most part, the qualitative research referred to above has relied on one-to-one interviews with participants to generate the data for analysis (see Murray & Forshaw, 2013). Typically, these interviews are conducted using a flexible topic guide with indicative questions. Although useful in generating participants' reflections about a given issue, it has been argued that other methods of qualitative data collection are sometimes better suited in providing an in situ, contextualised exposition of particular phenomena or processes of research interest (see Suzuki et al., 2007, for example, regarding sources of qualitative data collection).

One particular approach that has a unique methodological contribution to make in furthering an understanding of such issues and informing service provision is that of ethnography. This approach often supplements one-to-one interviews with detailed observations of behaviour over a protracted period within naturally occurring contexts. In order to understand the intersubjective dimensions of particular social phenomena, participants or informants are frequently drawn from the range of relationships that surround it (for example, patients, family, health professionals, and so on). This diversity of participants and data is demonstrated in Manderson and Warren's (2010) ethnographic study of an amputation rehabilitation ward. They argue that ‘ethnographers have an important role to play’ in ‘exploring various behavioural, organisational, and social factors that shape the usual contexts of therapeutic relationships in which doctors and other health professionals negotiate with patients and with each other to minimise injury, infection, and time in hospital while maximising short- and longer-term outcomes’ (Manderson & Warren, 2010, p.1418).

Despite the advantages of ethnography for studying rehabilitation concerning amputation and prosthesis use, the approach is still largely overlooked by researchers of these topics (Hoffman, 2013). Therefore, the use of ethnography for studying rehabilitation and limb loss provides the focus for the remainder of this chapter. I begin by first expanding detail of what ‘ethnography’ is, before reviewing three exemplar studies of ethnography and limb loss.

Some First Notes on Ethnography

Ethnography (derived from the Greek ‘ethno’ to denote people of a common origin or culture and ‘graphein’ meaning ’to write’) is one branch of qualitative research that aims to gather and interpret contemporaneous, observational data about human activities and groups as they occur in natural settings over time (Bowers, 1996). It has its roots in anthropology, where early researchers would often live for lengthy periods among groups of people whose language and customs were unknown to them to develop a better understanding of these. It further developed in sociology during the early decades of the 20th century, particularly in the USA, where subcultures such as criminal gangs were the focus of study.

Bowers (1996) notes a particular development in ethnography during the post war years when it began to become associated with one form of theorising in the social sciences, that of symbolic interactionism (see, for example, Prus, 1996). This approach emphasised people as actively making meaning: they behave towards things according to the meaning they have for them; meanings are forged within social interaction; and meanings are modified through a process of praxis and interpretative activity (Bowers, 1996). Since its early beginnings, ethnography has since branched out across the human and social sciences, with researchers from a broad range of disciplines, addressing a plurality of research foci and theoretical concerns, finding utility in its foundational principles.

However, it is important to emphasise that ethnography is not a unitary approach, but rather a range of approaches drawing on different traditions and theories. Due to the diversity of ways in which ethnographic research can be instantiated, there is no single step-by-step or ‘recipe’ guide to conducting such research. Rather, ethnography is flexible enough to accommodate a variety of data collection and analysis procedures. Nevertheless, it is useful to identify what ethnographies tend to have in common. Therefore, ethnography can be characterised in the following ways (see, for example, Hammersley, 2018). It is a qualitative approach to data collection and analysis that studies social interactions within specific cultural or local contexts. It attempts to capture the point of view of those under study over an extended period (although ‘rapid ethnographies’ (see Andreassen, Christensen, & Møller, 2020, for example) may involve time-limited but intense fieldwork observations and interviews), and normally uses a combination of participatory, observational and conversational methods of data collection. In writing up the outcomes of their investigation, the researcher attempts to embed and interpret study findings within the local and wider socio-political and cultural systems in which participants live and the research takes place.

The above features and concerns mean that ethnography has proved a useful approach for studying rehabilitation in relation to a variety of health conditions across a range of settings. For example, it has been applied to hospital words (van et al., 2020), doctors' surgeries (Gabbay & Le May, 2004), and community health centres, such as children's centres (Burton et al., 2019). In this chapter, I have a particular concern with conveying the utility of ethnography for understanding rehabilitation following limb loss. In what follows, I focus on the unique methodological opportunities that ethnography provides for studying and improving the experience, organisation and effectiveness of multi-disciplinary rehabilitation service provision for people following limb loss. Having introduced what ethnography is and how it can be used, in the remainder of this chapter I turn my attention to setting out some of the major insights that key ethnographic studies have provided to understanding rehabilitation following limb loss.

Three Key Ethnographic Studies Regarding Limb Loss

Although a relatively small body of research, it is impossible to be exhaustive and do adequate justice to the available literature regarding ethnography and amputation in my overview here. Therefore, in what follows I review three key, or what I consider exemplar, ethnographic studies of limb loss to highlight the value that such work offers for understanding rehabilitation, and how it can be improved, following amputation. I have deliberately chosen three studies from very different social, historical and cultural contexts because I think that together these demonstrate well how ethnography is particularly suited to elucidating the material and social context that gives rise to certain meanings and understandings of limb loss.

The first of these is Lindsay French's (1994) consideration of the experience of amputees and those around them living in a military camp for people displaced by the war in Cambodia. This study demonstrates how limb loss was interpreted according to the unique circumstances of life in the camp and how such understandings were also filtered through traditional societal expectations of gender and religious frameworks. The next two studies focus on rehabilitation specifically. The first of these is Seth Messinger's (2010) ethnographic study of a military rehabilitation program for amputee patients in the United States, in which he contrasts the rehabilitative goals of the military with those of an injured serviceman. Here, we see that these goals may diverge resulting in dissatisfaction by the person being rehabilitated and a sense by the rehabilitation team that the desired outcomes were not achieved. The final study considers Michal Hoffman's (2013) study of prosthetic training for people with limb loss in an Israeli rehabilitation hospital. For Hoffman, the principles on which the state of Israel were formed provide an important insight into understanding the pragmatic and discursive practices of physiotherapists who teach patients how to incorporate their prostheses into their body both in how they move and appear to others, but also in how they refer to their artificial devices in anatomical terms. In what follows, I present each of these studies in more depth.

Amputation, Culture and Religion

French (1994) provides an ethnographic account of amputees living in a military camp on the Thai-Cambodia border for civilians displaced during the guerrilla war that followed the defeat of the Khmer Rouge. These amputees were primarily former soldiers, young males who sustained injuries during service for a military faction opposed to the communist government installed when the Vietnamese army ousted the Khmer Rouge command in Cambodia. The camp had been in existence for 7 years at the time of French's data collection. With a population of 180,000 people, and under military control, food rations and simple building materials of bamboo and thatch supplied by the United Nations primarily supported the camp. Inside the camp, with few opportunities to obtain cash, people exchanged goods and services, with some trading on the black market on the outside border. Within this constrained economic milieu, camp dwellers attempted to accomplish the demands of family life through traditional male/female gender roles of provider and housekeeper.

The camp provided a comparatively dense population of amputees. The conflict in Cambodia involved the extensive and indiscriminate use of landmines which, as well as causing the deaths of tens of thousands of civilians and soldiers, resulted in more than 30,000 amputees – or around one in every seventy people living in the Thai-Cambodia border. French's study drew on two years of fieldwork, incorporating observations and interviews with those who had lost limbs and other camp occupants, alongside consideration of the context and social organisation of the camp.

French's original intention was to focus on the 'psychological' (how their bodies were experienced by amputees) and 'cultural' (how the wider population is impacted by such large-scale bodily disfigurement). However, as the study developed, it became apparent to French that the responses to these questions could only be understood with reference to the political, economic, historical and religious milieu of the people and region. Initially, French had supposed that amputees would be seen as a reminder of the war that had raged there for so many years, but that they would receive a compassionate Buddhist response. What French found was that amputees did not provoke a general anxiety about the war, but more specific anxiety about personal safety. Young, male amputees in particular had a reputation for violence and theft, and were avoided. They were looked down upon and rarely received compassion. Amputees themselves felt abandoned and degraded by their families and society in general. French argued that these experiences and reactions were borne of the material circumstances of camp occupants.

Soldiers who sustained limb loss faced multiple social consequences involving the undermining and loss of reciprocal supportive relationships. Most soldiers within the camp were ill-suited or lacked opportunity for alternative work. Their decision to offer military service to their commanders was largely pragmatic rather than ideological; in exchange for their labour in the projects of war, soldiers received the protection and support of someone more powerful than themselves. When they lost a limb they lost their use and therefore entitlement to the scarce resources at their commanders' disposal: "Our commanders just need people who can do their work for them. When we cannot work anymore, they just throw us away" (French, 1994; p.79).

Limb loss also left male soldiers unable to perform the protector and provider roles within their family that social norms regarding the sexual division of labour dictated. With the absence of extended kinship networks and familiar neighbours wrought by the displacement of war, camp life was dangerous and able-bodied males were the primary form of defence from attack and robbery. The loss of these key abilities meant the amputee often felt shame and concern that they would not continue to receive their place in, and support of, their family: “If I cannot support her, maybe *she* will leave me too” (French, 1994; p.80).

Contrary to French’s expectations, the prevailing Buddhist beliefs did not result in either self-compassion or compassion from others. Key here was how the concept of karma, or destiny, was interpreted in light of people’s material circumstances. Although Buddhist teaching posits that a person’s karma (and therefore any current suffering) is the sum result of their good and bad actions accumulated through multiple reincarnated lives, it also stresses that karma can be improved through meritorious actions in the present. French explains that, traditionally, Cambodians had used karma to explain and accept negative circumstances that were beyond their control, such as crop failure or the death of a member of the family. Karma performed a soothing function for them. However, in the context of the war and their impoverished, precarious existence in the camp, the sudden loss of a limb signalled a ‘rapid downturn in one’s fortune, a sudden and inauspicious ripening of one’s karma… [that] does not bode well for the future’ (French, 1994, pp.81-82). The original interpretation of karma was therefore re-interpreted: and karma became seen ‘as irrevocable rather than open and subject to change’ heralding ‘a much more difficult life in the present for the amputee and his family as well’ (French, 1994, pp.82-83). Amputees were viewed as a ‘bad risk’ and avoided by others in order to prevent being embroiled in their unfolding misfortune.

French describes her study as phenomenological in that it is concerned with lived experience and its meanings. However, these meanings are located within the intersubjective domain of social relations and cultural signs. For French, the understanding of subjective experience requires the taking into account of the person’s involvement in relations of production and power. The social nature of the life-world means that, while we experience as individuals, the ‘what’ of experience is constituted through complex interwoven subjectivities. French, therefore, skilfully articulates the way in which the meaning and experience of amputation for both the person who experiences it directly and those around them is a product of the socio-political context within which they are embedded.

Rehabilitation in a Military Centre

As French’s study demonstrates, ‘rehabilitation’ is constrained and shaped by social contexts and relationships. However, even where these contexts seem well disposed to the needs of limb-loss populations, problems may still arise. Messinger’s (2010) ethnographic study of a military rehabilitation program for amputee patients in the United States provides a detailed exposition of how such programmes do not always align with the rehabilitative goals of individuals. Messinger collected data over an 18-month period, using a combination of interviews, conversations and observations in occupational and physical therapy clinics with a soldier with limb loss, and rehabilitative professionals (including physiatrists, occupational and physical therapists). His primary focus was on Robert, who became a below-elbow and below-knee amputee as the result of stepping on an explosive device while on military deployment in Iraq. Data was collected directly through interviews with

Robert (beginning 9 months after the explosion), conversations with the rehabilitation team during clinics, and observing interactions and conversations between Robert and these professionals during rehabilitation activities (such as when learning to improve walking gait with a prosthesis). This combination of data collection strategies and informants over a protracted period enabled Messinger to build up a detailed picture of the way in which the programme was instantiated and experienced by all parties.

One of the outcomes of this study was the identification of two models of rehabilitation. The first of these was that of the programme, in which physical functioning is emphasized via a sports model of rehabilitation. The second of these was that of the amputee patient, whose rehabilitative goals were anchored in the interests and concerns he had regarding a future life he wanted to develop. Messinger identified how these two models were often in conflict, and argued that rehabilitative programmes for people with limb loss should consider and address both the physical body of the patient and 'the social world that patients have inhabited and will inhabit' (Messinger, 2010, p.281).

For professionals involved in delivery of the rehabilitation programme, optimal physical functioning was paramount as research indicates that strength and good balance are required for optimal prosthesis use. In particular, sport had both symbolic value and practical utility for these professionals in attaining rehabilitation goals. Not only was sport activity expected to help improve strength and balance, but it was anticipated to echo and continue patients' experiences of endurance training and requirements for a high level of physical activity that characterised life in the military before limb loss. However, Messinger argues that the focus on functionality in the military amputee rehabilitation programme, in which patients were able ‘to perform many of the symbolic markers of their military group’ (Messinger, 2010, p.284), was to the detriment of the rehabilitative goals of those patients whose primary identity was no longer forged through their service in the military.

The values that reflected the sports model of rehabilitation, with its focus on physical functioning, was evidenced in the interactions Messinger had with staff involved in the programme. For example, a physical therapist told him, “If you can walk without canes or even run on a prosthetic leg, then you can see that you can pretty much do anything you want. You can meet the challenges you face as an amputee” (Messinger, 2010, p.282). Where patients’ own level of commitment to these rehabilitative goals appeared to wane, the goals did not change but the therapist instead looked to work with patients whose goals continued to be aligned with those of the programme: “He’s going to work on this when he’s ready. We can’t make him, and in the meantime, I have other patients I can work with” (Messinger, 2010, p.297).

Initially committed to achieving a high level of function using artificial limbs, Robert’s own rehabilitation goals diverged from those of the programme over time. As he made sense of the changes resulting from his injuries and his perceptions and desires for his future, Robert’s goals were transformed. In contrast to his care team, who expressed that the best patients were “ex-high school, athletes who just do whatever it is that their coach tells them to do” (Messinger, 2010, p.289), Robert wanted to plan his own goals to fit an anticipated or desired future: “I see much more of what’s going on in my life looking ahead… I want to decide about law school or try to find a career job. And, compared to the rest of my life... running [is] just not high on my list of priorities” (Messinger, 2010, p.204).

As Robert’s own concerns became more distant from those of the programme and his desire to be more involved in planning his rehabilitation challenged the more compliant patient valued by the care team, so Robert grew increasingly dissatisfied with the amputee rehabilitation programme. This in turn was accompanied by a perception by his care team that his recovery fell short of how successful his recovery could have been: as one physical therapist stated, “[He] wants to be able to do things, but isn’t as interested in going through the steps of what he has to do” (Messinger, 2010, p.293). What is clear from Messinger’s study is that the content and methods of the rehabilitation programme continued to be informed by the values of the military and aimed to continue a service personnel identity.

Rehabilitation in an Israeli Orthopaedic Ward

In contrast to Messinger’s study of a military rehabilitation programme, Hoffman (2013) provides an ethnographic study of prosthetic training for civilians with limb loss, set in an Israeli rehabilitation hospital. She situates her study within the socio-historical background of the Zionist foundations of the Israeli state, which she argues modelled a national identity based on ‘the strong, active soldier, a conqueror and defender of the land’ that was ‘a mirror image of the weak and persecuted Diaspora Jew’ (Hoffman, 2013, p.230). Within this climate, Hoffman highlights immigration policies that excluded people who were unable to perform productive tasks (e.g., the sick, old and disabled) from being considered as citizens within the fledgling state. It is within these particular features of the Israeli context that Hoffman frames her findings of the meaning of rehabilitation.

Data for Hoffman’s ethnographic work came from observation of sessions between physiotherapists and amputees in a physiotherapy hall on an orthopaedic ward, using the ‘close and unmediated observation of the participants’ words and actions in their natural setting’ (Hoffman, 2013, p.233). The hall was a large room and included beds, athletic equipment such as weights, gym balls and practice mattresses, along with a walking track, 5 metres long, with bars on each side. Through this work, Hoffman found that rehabilitation was comprised of pragmatic and discursive teaching strategies that together worked to transform the prosthetic limb from a technological aid into an integral part of the body. Hoffman’s work is informed by theory that stresses not only the functional properties and lived experience of the body, but how bodily comportment is a product of socially accepted values and aesthetics. These concerns are reflected within the observational data of the study in several ways.

First, Hoffman notes therapists’ emphasis on the exclusivity of prostheses in regaining the familiar look and expression of bodily movement that characterised life before amputation. For example, in one exchange with his therapist, a patient suggests “Maybe we’ll work with crutches today; I don’t have the energy for the effort” (Hoffman, 2013, p.234). However, the therapist objects to this: “No, you’d better not, crutches won’t give you anything for now… You need to stand on both legs and practice walking” (Hoffman, 2013, p.234). In another exchange, a therapist asks another patient, who comes to physiotherapy leaning on a cane, “What’s with the cane? Come, walk toward me without the cane”, imploring him, “you have to try” and “Don’t walk crookedly” (Hoffman, 2013, p.235). The patient’s own explanation for his use of the cane, namely to aid his balance, is delegitimised by the therapist because it is contrary to accepted practice: patients are expected to only use a prosthesis. A similar observation is noted in regards to a woman sitting in a wheelchair waiting for her session who is told: “We’re working here; we’re getting you out of this chair” (Hoffman, 2013, p.235).

A second broad observation by Hoffman concerns how successful prosthesis use is achieved. Exhortations to use the prosthesis are insufficient for conveying how this should be done properly. Rather, physiotherapists must teach compensatory motor skills that help improve the usage of a prosthetic limb. This might involve paying attention to physical indicators in order to receive feedback on progress in reaching a goal, such as in the following: “bend your knee harder and lift… feel how your back hip muscles tighten [the therapist is grabbing Debby’s hip muscles]. Here, feel how your muscles tighten” (Hoffman, 2013, p.236). In another example, the therapist provides instruction regarding how to sit down properly: “The chair is right behind you, now reach out backwards and lean to catch the chair” (Hoffman, 2013, p.236). However, when the patient leans back, fails to reach the chair, and then ‘crashes down’ on the seat, the therapist’s response is, “Don’t get nervous, you don’t have to throw your body like that, practice … You have to learn how to catch the chair properly so that you can sit down comfortably” (Hoffman, 2013, p.236). Hoffman notes that the therapist emphasises the need to practice in order for these skills to be learnt and performed fluently. That is, the purpose of inculcating such compensatory skills goes beyond providing improved functionality, and is designed to eliminate visible behaviours - limping, bending or dragging one’s prosthesis - that detract from the desired aesthetic of the normative able body and therefore disclosure of prosthesis use.

A third observation is that pain is a normalised feature of training to use a prosthesis; it is to be expected and endured. Pain and discomfort were ‘constantly present’ in Hoffman’s observations of prosthetic training and were ‘handle[d] as part of the therapeutic routine’ (Hoffman, 2013, p.238). For example, in answer to the therapist noting that they had heard adjustments had been made to one patient’s prosthesis by a technician, the patient responds, “Yes … But it’s still sore … I’ll show you” (Hoffman, 2013, p.238). In answer, the therapist notes no new changes in swelling or discolouration to the residual limb. However, when the patient continues, “it [the prosthesis] has left marks on the skin”, the therapist states, “It should take time …you need to carry on practising … It will take its course and get better but now we have to work” (Hoffman, 2013, p.238). In such interactions, staff conveyed a perception that pain was an integral and accepted aspect of rehabilitation in the pursuit of normalcy through prosthetic training.

A final analytic observation by Hoffman is the way in which therapists’ talk fostered the use of anatomical terms to refer to prosthetic technology. In some interactions, this tendency could confuse patients. For example, when one therapist instructs a patient with a left above-knee amputation, “Now stand up on both your legs with your knees straight, left and right”, the patient asks, “What’s ‘the left’?”. The therapist’s response is, “Your left leg … Straighten up your knees, I want both your legs parallel at the same line”. The patient’s uncertainty is continued by his response, “The prosthesis, too?” and then clarified by the therapist: “Prosthesis, too; when we say left we mean prosthesis” (Hoffman, 2013, p.239). In other interactions observed by Hoffman this uncertainty had dissolved during the rehabilitative process through therapists’ continued use of anatomical terms to refer to the prosthesis: the hinge became the ‘knee’; the plastic base of a prosthetic became a ‘foot’. Hoffman argues this discursive practice meant therapists were not only teaching patients how to ‘walk the walk’ but also how to ‘talk the talk’. The result of this was to ‘silence the spoken expression of disability since we no longer hear of the ‘deviant’ bodily condition – prosthesis and stump. Disability now disappears not only from the public eye but also from the public ear’ (Hoffman, 2013, p.240).

Taken together, Hoffman argues her findings evidence how physical therapy following amputation is comprised of a set of practices that work to regain and re-cultivate bodily competences through prosthetic limbs. The conventionality of these practices and aids is challenged by Hoffman, who notes patients from non-western cultural backgrounds often resist them. However, Hoffman’s own suggestion for the compliance of the patients in her own study is two-fold: that such medical staff have the power (‘professional authority’), knowledge and expertise to guide their treatment; and that they share the ideals of these staff regarding the treatment of such altered bodies. Hoffman argues that this latter, shared understanding - although a widespread feature of western society – has a particular resonance with ‘the Zionist call for a collectivist, thoroughly able-bodied society, supported by medical practice’ (Hoffman, 2013, p.242).

Discussion

Within this chapter, I have sought to convey the particular benefits of ethnography in bridging a gap in research regarding rehabilitation and amputation. I began by first explaining how qualitative research, more broadly, had proved useful in informing and elaborating on quantitative studies regarding limb loss. However, despite the benefits that have accrued from qualitative research, I also explained that ethnography provided unique benefits for studying a variety of rehabilitation processes and contexts surrounding amputation. Whereas qualitative research in general has allowed for exploration of experience, meaning and understanding for limb loss populations, I argued that ethnography had certain advantages and contributions to make. Foremost of these is ethnography's concern with observing social interaction within specific cultural or local contexts. These make it well suited to studying the different phases of rehabilitation following limb loss identified by Esquenazi (2004). However, to date the application of ethnography to these contexts has been limited.

I provided a summary of three exemplar studies in order to illustrate the unique strengths of ethnography for studying rehabilitation and amputation. French's (1994) study of soldier amputees living with their families in a military camp on the Thai-Cambodia border demonstrates how the meaning and experience of amputation for both the person with limb loss and those who encounter them is a shaped by the socio-political context in which they are embedded. Here, the material and economic consequences of amputee bodies are paramount. Similarly, Messinger (2010) and Hoffman's (2013) studies of the work of patients and rehabilitation teams elucidate the role of military and cultural values, respectively, in structuring the content and activities of therapeutic interventions. These studies are part of just a small body of ethnographic work on limb loss, limb difference, prosthetics and rehabilitation.

While Messinger (2010) and Hoffman's (2013) work focusses on 'prosthetic training', this is just one of the nine rehabilitation phases identified by Esquenazi (2004). Many of these stages are focussed on education of the patient, behavioural adherence to medical regimens, and providing emotional support as well as developing coping strategies that facilitate reintegration into valued social roles and activities. Yet, the overview of ethnography here highlights how the effective accomplishment of these milestones involve an appreciation of the social contexts in which these rehabilitative goals are put into practice. There is clearly much more scope for ethnography in contributing to a better understanding of these. Such further work has the potential to make a strong contribution to the effective design, organisation and delivery of rehabilitation services for limb loss populations.

Conclusion

In conclusion, the present chapter has focussed on the utility of using ethnography for studying and informing therapeutic interventions following limb loss. The strengths of ethnography include the utilisation of multiple informants (e.g., patients, family members and health professionals) and data sources (interviews, naturally occurring conversations and observations) over protracted periods of time when participants are reciprocally engaged in the phenomena of research interest (e.g., teaching/being taught how to walk with an artificial limb). The exemplar studies presented here are illustrative of the unique potential of ethnography in making particular insights and understandings available than are possible using alternative methods of data collection and analysis. I hope that the detail provided here regarding what such research can 'look' like and what it can achieve encourages others to conduct similar work in a number of hitherto neglected areas of amputee rehabilitation.

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