



JÖNKÖPING UNIVERSITY

School of Health and Welfare

Exploring Transtibial Prosthesis User's Satisfaction and Experiences regarding the Appearance of their Cosmesis

A Qualitative Study

PAPER WITHIN *Prosthetics and Orthotics*

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Sammanfattning

Bakgrund: Kosmetik har visat sig påverka protesanvändarnas kroppsuppfattning. Därför spelar tillfredsställelsen av kosmetiken en viktig roll i en protesanvändares mentala hälsa och kroppsuppfattning. Huvuddelen av den kosmetik som finns på marknaden har ett mer naturligt utseende, även om mer futuristiska alternativ har blivit mer vanliga på marknaden. De flesta av de tidigare redovisade studierna har genomförts med hjälp av kvantitativa forskningsmetoder. Det saknas ännu forskning som undersöker erfarenheterna när det gäller kosmetik hos transtibialt amputerade protesanvändare utförda med kvalitativa metoder. Studien förväntas belysa potentiellt oupptäckta områden och faktorer kring patientnöjdhet.

Syfte: Syftet med denna studie är att utforska transtibialt amputerade protesanvändares tillfredsställelse med utseendet på deras kosmetik och få en djupare förståelse för deras erfarenheter av kosmetik.

Metoder: I denna avhandling är ett kvalitativt fenomenologiskt tillvägagångssätt med ett interpretivistiskt förhållningssätt. Erfarenheter från 5 manliga transtibialt amputerade protesanvändare med avseende på proteskosmetik och deras tillfredsställelse med användandet kosmetik undersöktes. Detta genomfördes genom att ha djupgående halvstrukturerade intervjuer som analyserades med ett tematiskt förhållningssätt.

Resultat: I resultaten framkom i huvudsak 5 huvudtema: Tillfredsställelse, kosmetik med naturligt utseende, funktion, svårigheter med material och medvetenhet. Resultaten av dessa teman visade att deltagarna har stora variationer när det gäller erfarenheter och användandet av kosmetik.

Slutsats: Denna studie fann en betydande variation när det gäller tillfredsställelse av utseendet bland ensidiga användare av transtibiala proteser. Likheter inom tillfredsställelse och erfarenhet kunde noteras i deltagarnas respektive åldersgrupper. På grund av att mättnad (saturation) inte uppnåddes helt finns ett fortsatt behov av ytterligare studier inom området.

Nyckelord: amputation, transtibial, under knäet, kosmetik, tillfredsställelse, utseende, tematisk analys, kvalitativ

Abstract

Background: Cosmesis has been found to have an impact on prosthesis users' body image. Therefore the satisfaction of the cosmesis plays an essential role in a prosthesis user perception of themselves. Most cosmeses on the market are natural-looking, although more futuristic options are coming to the market. Most of the previous evidence has been conducted using quantitative methods. There is a lack of research investigating the *experiences* of cosmesis in transtibial prosthesis users through qualitative methods. This is expected to elucidate potentially undiscovered areas and factors surrounding patient satisfaction.

Purpose: The aim of this thesis is to explore transtibial prosthesis user's satisfaction with the appearance of their cosmesis and gain a deeper understanding of their experiences regarding cosmeses.

Methods: The method in this thesis is a qualitative phenomenology approach with an interpretivist view. The experiences of 5 male transtibial users regarding their cosmesis and satisfaction towards it were explored. This was done by having in-depth semi-structured interviews that were analyzed with thematic analysis.

Results: The results five main themes arrived: Satisfaction, Natural-looking cosmesis, Function, Difficulties with the material, and Awareness. The results of these themes showed that the participants have different experiences regarding cosmesis.

Conclusion: This thesis found a variation regarding satisfaction of the appearance among unilateral transtibial prosthesis users. Similarities in satisfaction and experience were found in the respective age groups of the participants. However, due to saturation not being fully reached, there should be further investigations.

Keywords: amputation, transtibial, below-knee, cosmesis, satisfaction, appearance, thematic analysis, qualitative

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Definitions

Natural	In this thesis, `natural` is used to describe the cosmesis looking similar to the anatomical human leg.
Futuristic	The term `futuristic` refers to the appearance of the cosmesis that deviates from the human anatomical look.
Cosmesis	Cosmesis refers to the material that covers the prosthesis.
Embodiment	In this thesis, the word describes how a person experiences their own body (Murray, 2008).
Body image	The body image is one's self-concept of one's look.
Satisfaction	Satisfaction is seen as when a person has a sense of fullness of their need and wishes (McIntosh, 2013).
Appearance	In this thesis, the term relates to the external look of the prosthesis.

1 | Introduction

A prosthetic device is meant to replace a missing limb both functionally and aesthetical and impact a person's body image (Cairns et al., 2014; Sansoni et al., 2016). Considering the positive effects a cosmesis when can give a person, there is very little research on the area as the functional aspects are researched more (Cairns et al., 2014; Sansoni et al., 2016). This thesis aims to investigate the patient's satisfaction with cosmesis and their experiences of cosmesis. The method used to investigate this is a phenomenological approach with an interpretivist point of view. 5 participants were interviewed by in-depth semi-structured interviews and analyzed with thematic analysis. The findings in this thesis show that participants possibly have to contradict the opinions in relation to satisfaction and cosmesis features, indicating that not all participants are happy with the available cosmesis options.

2 | Background

2.1 | An amputations effect on body image and the role of cosmesis on the body image

A limb amputation is known to be a lifechanging event for an individual, not only does it have a significant impact on the person's physical abilities, but it also affects their psychological state, which may cause feeling such as depression, anxiety, and negative opinions towards their bodies (Luza et al., 2020; Wegener et al., 2008). These new physical limitations and their effect on the individuals' psychological state have been shown to have a negative impact on prosthesis users' body image and quality of life (Holzer et al., 2014; Luza et al., 2020). A lowered sense of positive body image can lead to individuals feeling changes in their self-identity, subsequently leading them to become more aware of their 'impairment'. Additionally, this can cause them to experience social discomfort, which results in them avoiding taking part in social gatherings or face difficulties in relationships with partners. The social stigma that comes with an amputation plays a important role in how a person with an amputation believes others perceive their impact. Studies have shown that people with impairments develop strategies to physically hide it in environments such as social gatherings (Donovan-Hall et al., 2002; Liu et al., 2010; Manero et al., 2019; Rybarczyk & Behel, 2008; Senra et al., 2012). With these perceptions and standers in the current society of how you should look in a globalized world, there can be even more environmental factors affecting how a person wants to be perceived (Holzer et al., 2014).

A prosthetic device can give a sense of normalization concerning attaining function and a natural-looking appearance (Murray, 2008; Murray, 2009; Rybarczyk & Behel, 2008). The appearance of the prosthesis can operate as a tool to encourage people with amputations to feel good about themselves. Today the most used way to alter and give a more natural appearance to a prosthesis is by adding material over the mechanical limb, thus creating a cosmesis cover (Cairns et al., 2014). Therefore, becoming satisfied with the appearance is essential as it may become a vital part of increasing or decreasing the individual's body image. As satisfaction is individual, it becomes essential to note that this needs to be applied in cosmesis as every person has different wishes and needs concerning cosmesis (Cairns et al., 2014).

2.2 | Cosmesis options

Today's most used cosmesis options are natural-looking cosmesis that imitates the appearance of the contralateral limb in shape, color and feel (Sansoni et al., 2016). The cosmesis is created by covering the pylon with a surface material chosen by the certified Prosthetist & Orthotist (CPO). The most common cosmesis is a form that can vary in densities that's has some form of skin like covers such as nylon stockings, pull-up skin, custom spray skin, laminated covers, and silicone covers (Cairns et al., 2014; DeWees, 2020; Highsmith et al., 2016). The less traditional options for cosmesis are hard coves produced with three-dimensional technology, thus allowing more personalized design possibilities such as the inclusion of art, which may result in a more 'futuristic-looking cosmesis'. Allowing the prosthesis to become more artistic and personal can give some prosthesis users more confidence in their appearance (Manero et al., 2019). However, it should be considered that the cosmesis options available on the market today is quite restricted and lacks diversity regarding cosmesis feature such as skin color (Murray, 2008).

2.3 | Process of receiving cosmesis

In the current clinical practice, there is not a standardized process of receiving cosmeses due to cosmesis being dependent on the patient's shape, length, and preferences. The option of receiving cosmesis is individual, and not everyone chooses to have cosmesis. To the authors' knowledge, there is no register as of today available that contains data of to what extent transtibial prosthesis users use cosmesis. The national amputation and prosthesis register in Sweden, called SwedeAmp, has no data about cosmesis covers but data about the type of functional componentry that prosthesis users receive (SwedeAmp, 2018). Thereby, the authors reflect a lack of importance and focus. Furthermore, the reimbursement policy in place is another factor playing a role in the available options to the individual when receiving a cosmesis (Highsmith et al., 2016; Mohd Hawari et al., 2017). As this decision is individual, the appearance and function should be discussed with the patients, as they usually have a preference in both important features that play a role in their satisfaction (Mohd Hawari et al., 2017; Murray, 2009; Rybarczyk & Behel, 2008; Sansoni et al., 2016).

2.4 | Factors affecting patient satisfaction regarding cosmesis of the prosthesis

Several factors are affecting the patients' satisfaction with the appearance of the cosmesis, such as "color", "shape", "feel", "appearance under clothing", "maintenance", "cosmesis features" and "looks" (Baars et al., 2018; Cairns et al., 2014; Gallagher & MacLachlan, 2000; Luza et al., 2020; Mohd Hawari et al., 2017). Choosing a cosmesis cover should include considerations of the patient's cultural and social background, which should be considered because of its importance to gain access to a social network (Hussain, 2011). Patients also place value on the type of material being used for the cosmesis, thereby making it a factor that is important when discussing satisfaction with the prosthesis's appearance. Evidence also found a difference in the most critical factors regarding the devices' appearance between different age groups; Young people are found to be more attracted to the more futuristic type of cosmeses. They found that more young people find the traditional 'natural' design uninteresting as they valued the ability to customize their prosthesis with personalizing graphics and it being less human-like. In contrast, the older generations prefer the natural look with a high likeness to the contralateral limb (Mohd Hawari et al., 2017). Support for these findings can be seen in Cairns et al. (2014), which further states that the younger generation is wearing prosthesis cover less than the older generation.

The statements above further specify to the authors that satisfaction is relative and dependent on the individual's personal experiences and references. Previous studies investigating the correlation between satisfaction and demographic factors such as socioeconomic background, ethnic background, age, gender, and educational level have found the findings of the research to be contradicting. Therefore it could not be excluded (Al-Abri & Al-Balushi, 2014).

2.5 | Methods of measuring patient satisfaction regarding the appearance of the prosthesis

Validated questioners have an instrument commonly used when investigating patients' satisfaction regarding the appearance of their device though appearance is usually a minor part of the questionnaires. Examples of these are the Trinity Amputation and Prosthesis Experience Scales (TAPES). TAPES cover overall patient satisfaction, the areas within the function, aesthetics concerning color, noise, shape, and general appearance weight (Gallagher & MacLachlan, 2000). Another commonly used questionnaire is The Prosthesis Evaluation Question (PEQ) that assesses function, mobility, physiological factors, and wellbeing (Baars et al., 2018; Kaluf & Stevens, 2016; Legro et al., 1998). PEQ only briefly touches upon appearance with "how it looks", clothing damage, and how it looks with clothing (Baars et al., 2018; Legro et al., 1998). Cairns et al. (2014) found that there was not sufficient discourse about the appearance aspect of the satisfaction in previous questionnaires and chose to develop their own. Based on the limited information on the appearance in these studies, Cairns et al. (2014) develop their questionnaire with a higher focus on the cosmesis and design features. Additionally, Mohd Hawari et al. (2017) measured patient satisfaction with the socket and, within this exploring patients' satisfaction with the appearance of the overall device. The authors of this thesis project mean that the findings from these questionnaires may oversee the factors that could affect participants' satisfaction with the appearance as it does not investigate is tough.

2.6 | The focus of this thesis project

The above suggests that there is typically little focus on appearance as a factor of importance regarding prosthesis acceptance in previous satisfaction studies. However, this is essential in accepting the prosthesis and enhancing the patient's mental health and body image (Mohd Hawari et al., 2017). Therefore, improving transtibial prosthesis users' body image by understanding what makes them satisfied with the cosmeses becomes essential, and as previously mentioned, satisfaction about the appearance is highly individual (Sanson et al., 2016). This thesis project aims to bridge the existing gap by gaining a deeper understanding of their individual experience and satisfaction concerning the appearance of the cosmesis. Using qualitative data collection methods such as semi-structured interviews gives space for participants to more descriptive data factors related to patient satisfaction regarding the appearance.

3 | Intention

The aim of this thesis is to explore transtibial prosthesis user's satisfaction with the appearance of their cosmesis and gain a deeper understanding of their experiences regarding cosmeses and

In order to attain this aim of the thesis, the authors developed two research questions:

1. What is the satisfaction among transtibial prosthesis users regarding cosmeses?
2. What is the *lived* experience of transtibial prosthesis users regarding cosmeses?

3.1| Method

3.1 | Research design

The thesis project was conducted with an interpretivist point of view using a qualitative phenomenology approach to investigate the phenomenon of patient's satisfaction with the appearance and experience of their cosmesis. This decision was made due to the nature of the thesis project as it aims to investigate the *lived* world of the participants governed by the participants' experiences rather than using other methods with precise descriptive measures and concrete answers to the phenomenon (Brinkmann & Kvale, 2015; Richards & Morse, 2013; Valge, 2018). Secondly, the authors' objective of using an inductive approach to the data is to ensure that the participants' experiences dictate the findings and the result (Brinkmann & Kvale, 2015).

3.2 | Researcher characteristics and reflexivity

The thesis is conducted by two Prosthetic and Orthotic students, in their 3rd year, from Jönköping University, who are interviewing transtibial prosthesis users regarding cosmeses, thus making the findings transferable only within our field. The authors have some clinical knowledge of the prosthesis prescription process to the patients, including that of cosmesis for a prosthesis. The interviews were conducted with Swedish participants. The native Swedish-speaking author was the primary interviewer, and the Danish author, with a moderate understanding of Swedish, asking follow-up questions. Furthermore, the authors' background being Swedish/Somali and Danish gave the understanding of cultural meaning to what is being said and the social construction of Sweden, giving them an advantage.

3.3 | Participants

The inclusion criteria for the participants were: to be over 18 years old, having a transtibial amputation, using a prosthetic device, currently living in Sweden, and being comfortable being interviewed in either Swedish or English, and have the cognitive ability to understand and participate in the study. The recruitment of the participants was through a gatekeeper, thus making it purposive sampling as the subject of the thesis project was clearly stated. Furthermore, participants were sampled with the aid of social media platforms like Instagram and Facebook.

The gatekeeper allowed the authors to contact participants that the gatekeeper had access to (Bengry, 2018). Through Instagram, public figures were found using a hashtag showing 15 public figures seemingly fitting the inclusion criteria. They were contacted via the chat function of Instagram and asked if they would want to participate in our thesis and get back to us if they desired so. Several Facebook groups for people with amputations were posted describing the purpose and information of the study. The authors wished to respect that these forums are for people with amputations and are a space where they can discuss experiences regarding their amputation without feeling exposed. Considering this, the authors contacted a group admin who functioned as a gatekeeper and asked if they felt it was appropriate to search for participants in their groups. One Swedish group, "vi som är amputerade", allowed us to post two times through a contact person. The group had a number of 733 members, but not all of these persons had a transtibial amputation, to the author's knowledge. Therefore, it can be hard to determine how many in the group fitted our inclusion criteria.

Five participants consented to participate in our study. Three of the participants were found by the gatekeeper. Two of our participants were contacted through Instagram and Facebook. All participants received both written and oral information about the study and how their answers would be used in data analysis and signed a consent form. All the participants who agreed to participate in the thesis project were informed in both written and oral form that their participation was by their own will and that they could leave the project at any time without any consequences for them.

3.4 Interviews

The interviews were conducted over Zoom except for one interview, which was done over a phone call. Zoom and the phone call were very beneficial because of Covid-19 restrictions in Sweden and the University's restrictions in meeting with participants. Therefore, the interviews were conducted from Jönköping, whereas the participants could be seated in other regions of Sweden.

The data collection was conducted by in-depth semi-structured interviews that lasted between 20-50 min. The interviews were conducted between the 31 of March and 7 of April 2021. All the interviews were recorded for later transcription. The pilot interviews were performed in English, while the rest of the interviews were conducted in Swedish. Four interviews were conducted through Zoom (version 5.4.9) and recorded through the program, and one being conducted over a phone interview with a recording through Zoom.

The authors created a semi-structured interview guide (Appendix 1) and had the same author as the interviewer for all of the participants. The semi-structured interviews had a focus area but were still open to the participants' thoughts and allowed them to talk freely without a core set of questions to be answered to maintain some structure (Brinkmann & Kvale, 2015).

3.5 | Data analysis

The data analysis began while the authors were still conducting the interviews. The reason for this was so the ongoing analysis could yield relevant follow-up questions in the interview so that may give more information-rich answers or a deeper understanding of what the participants want to convey (Brinkmann & Kvale, 2015). The interviews were analyzed using thematic analysis following Clarke & Braun (2015) six-phase process: 1) Data familiarization, 2) Coding, 3) Searching for patterns/themes, 4) Reviewing the themes, 5) Defining and naming the themes, 6) Writing up the themes. The interviews were transcribed verbatim in their entirety, and the authors familiarized themselves further with the data by reading over the transcripts multiple times. The authors then coded and put one interview together and coded the remanding four interviews separately. Then authors reviewed each other's coding and re-coded if it was needed. The authors then segment the data correlated to the codes to start searching for patterns and possible themes. Proceeding this, the authors reviewed each other's themes and re-named/redefined them were differences of opinions occurred. An example of the process from a meaning unit to a theme can be seen in Table 1 below.

Table 1: Example of how the authors defined a theme

Meaning unit	Code	Subtheme	Theme
<i>"I associate it with a doll [...] it has the same skin tone [...] It just feels very plasticky, I think, and it would have been interesting if there had been more colors to choose from."</i> - participant 5	Skin tone Plastic	Color	Natural-looking cosmesis

3.6 | Trustworthiness

To ensure trustworthiness, the authors used different strategies know to the qualitative methodology, such as researcher triangulation which is explained in more detail in section 3.4 (Clarke & Braun, 2015). In addition to that, the process was also discussed with the external supervisor to ensure objectivity and to do some peer-reviewing to some extent. During the interview, member-checking was done to ensure that the authors understood the data following what the participant meant to say, thus ensuring credibility (Nowell et al., 2017). Furthermore, the authors gave clear definitions of the terms being used in the questions to the participant when needed to ensure the participants understood the question. Lastly, to ensure the thesis is transparent and repeatable, the Standards for Reporting Qualitative Research (SRQR) (O'Brien et al., 2014) were followed.

3.7 | Ethic considerations

To ensure ethical considerations and research, the steps by Richards & Morse (2013) and before the study began, an ethical submission was submitted to the Research Ethics Committee from Jönköping University. Their solutions for a more ethical study were taken to consideration.

To ensure that the participants were kept confidential, the participants were given a number instead of including and revealing their names. With the inclusion that literature suggests differences regarding

cosmesis' satisfaction compared to age, the participants were divided into an age group to hide their actual age because it can be classified as sensitive data (Richards & Morse, 2013). Based on the Research Ethics Committee report, the authors chose to refrain from sensitive data as ethnicity.

To ensure that the participants were aware and understood the study, purpose, and how their data was used, they received written and oral information. Additionally, to ensure that the participants' rights were considered, Richards & Morse (2013) outlined participants' rights. Ethics were taken into consideration as the questions asked being relevant for the aim of this thesis. The participants were informed that if there were any questions they did not wish to answer, they were free to refrain without any consequences.

After the course is finished, the data will be terminated. Furthermore, the participants were let know that the finished work will be posted in Digitala Vetenskapliga Arkivet (DIVA).

4 | Result

4.1 | Participants

There were five male participants with unilateral transtibial amputation in the study, described under table 2 below. Participant 1 where the English interview, whereas the rest wherein Swedish their citations are translated to English in this result section but to ensure transparency, the original Swedish citations can be seen in appendix 2.

Participant	Age Group years	Cause of amputation	Cosmesis user
1	30-39	Trauma	Occasionally
2	70-79	Trauma	Yes
3	70-79	Trauma	No (did once)
4	40-49	Trauma	Yes
5	30-39	Failed limb salvage	No

4.2 | Overview of resulting themes

Through the thematic analysis of the interviews, 11 sub-themes were derived, further combined into five themes (Table 3). These resulting themes and sub-themes will be presented further in the following sections. In the meaning units, the symbols such as [...] indicate parts that threaten the participant's confidentiality or did not include any valuable information for the result section.

Table 3. Overview of themes

Theme	Sub-themes
Satisfaction	Satisfaction with natural-looking cosmeses
Natural-looking cosmeses	Color
	Shape
	Residual limb
	Futuristic
Function	Cosmesis as function
	Function in relation to appearance
	Componentry functioning as a cosmesis feature
Difficulties with the material	Quality of material
	Smell
	Discoloration
Awareness	Cosmesis options
	CPO guidance
	Social Surroundings
	Clothing selection

4.3 | Satisfaction

This theme refers to the participants' satisfaction towards the appearance of the cosmesis. This theme of satisfaction should be understood as the fulfillment of wishes and needs of one's perceptions of how a cosmesis should look (McIntosh, 2013). If the participants do not sufficiently achieve this fulfillment, it will refer to them being dissatisfied with their appearance of the cosmesis. This theme is divided into a singular subtheme: 1. Satisfaction with natural-looking cosmesis.

4.3.1 | Satisfaction with natural-looking cosmeses

The participants' general satisfaction is different amongst them all regarding the appearance of the cosmesis. When the participants shared their thoughts and experience, it became evident that how satisfied or dissatisfied they were was about how natural looking the cosmesis are.

It became apparent that the participants in the older age group (70-79 years) seemed to be satisfied with how natural cosmesis looks like referring it to that it looks natural and nice:

"Yes, it is clear that it becomes nicer with cosmesis. It is impossible to get away from. It looks more like a natural limb." -Participant 3

In contrast, the participants in the younger age group (30-39 years) have experiences of dissatisfaction towards natural-looking cosmesis as they see it as not looking natural. For them, it is not that they do not want to have cosmesis that looks natural. Instead, they experience that the natural-looking cosmesis that is available for them do not look natural. They express that as long as it does not look natural, they instead prefer not to have cosmesis or options with a more futuristic appearance:

"What is keeping people from being satisfied. I am a prime example of it. No, I do not want something that makes it look worse than in a barebone natural state. So then I do not prefer to have cosmesis. But if there were a way to make it look, either cool or just plain identical to my other leg, then I would be up for it."
-Participant 1

Participant 4 showed moderate satisfaction towards natural-looking cosmesis. For him, it was that he had different satisfaction towards different parts of the cosmesis. He likes how the skin looks but are somewhat dissatisfied with the foot part:

"Yes, from one to 10, you could say that it would be maybe five to six."
-Participant 4

When asked further:

"Yes, so the skin itself is okay. But then I think about it the feet are ugly."
-Participant 4

4.4 | Natural-looking cosmeses

This theme is about how the participant experienced their cosmesis looking "natural". Natural should be understood as a cosmesis that imitates the human anatomical leg in shape and color. The participants use their contralateral limb as a reference for how natural they deem their cosmesis to look. Furthermore, it was mentioned by some of the participants that having a cosmesis that looks more futuristic, thus deviating from the natural-looking cosmesis, was also appreciated seeing that they were not satisfied with the appearance of the natural-looking cosmesis that they had. The theme is divided into the subthemes: 1. Color, 2. Shape, 3. residual limb, and 4. futuristic.

4.4.1 | Color

The participants have experienced that the color of the cosmesis does not always match the contralateral limb. It is experienced that there is a limited color selection to choose from and that color differences can become even more significant in the summer when the participants get a suntan:

"I associate it with a doll [...] it has the same skin tone [...] It just feels very plastic, I think, and it would have been interesting if there had been more colors to choose from." - participant 5.

4.4.2 | Shape

The participants expressed their experiences with the shape of the cosmesis compared to the shape of the contralateral limb. The participants were not in agreement if the shape of the cosmesis were similar looking.

Some participants experienced the shape of the cosmesis as not looking like their contralateral limb. Thereby they feel like it does not represent them and how the shape should approximately be:

"It is better and nicer if it is actually symmetrical when you look at both of the feet you would want it to look similar. Now I have a super narrow foot and a foot that is very wide so it looks pretty stupid." - Participant 5

In contrast, some of the participants like the shape of their cosmesis is similar to their contralateral limb. Regarding the cosmesis representing symmetry and being in the same dimensions as their contralateral limb:

"I like it if they take the measurements from the bottom of my existing leg then transfer it to the cosmesis and make it look pretty much the same regarding the dimensions and so on." - Participant 2

4.4.3 | Residual limb

Some of the participants have experienced that the shape and length of their residual limb have a significant impact on the finished look of their cosmesis. Participant 1 describes themselves as having a long residual limb meaning that they need to fit more into the cosmesis, while participant 2 explains that he has the 'ideal length' and consequently more space for all the material:

"I have a long residual limb, and the curvature of the leg means that they have to push all the adapters to the far outside of my leg so that they can compensate for alignment. And that means that when they do the softcover cosmesis, everything looks kind of out of shape." - Participant 1

"I must say that I have had a lot of luck as the length of my stump is a bit what is called ideal, and it is very important also for the casting itself and how much surface space you have for the material down to the foot" - Participant 2

4.4.4 | Futuristic

Two of the participants expressed their desire for a less anatomical-looking cosmesis. They explored the possibilities to have an appearance that is more design-driven, thus making the cosmesis more of a piece of art:

"[...] he was an industrial engineer who had a mission to instead of making everything look normal make it look cool or make it look beautiful, and that is more intriguing for me than making it look normal. I would kill to have something to look like an Iron Man boot, I mean some kind of really red metallic painted hardcover instead of soft skin. Because if I am going to show it, I might as well take all the focus to it instead of trying to hide it in my case." -Participant 1

4.5 | Function

In this theme function refers to the different ways that cosmesis and the componentry operate in relation to the overall appearance of the prosthetic device. This theme included three sub-themes: 1. Cosmesis for function 2. Function in relation to appearance 3. Componentry functioning as a cosmesis feature.

4.5.1 | Cosmesis for function

The participants shared the experiences of circumstances where they saw the significance in using cosmesis but for a functional purpose. All of the participants mentioned that having a cosmesis could fill out the pant leg, making the prosthetic device less noticeable, which was appreciated among the participants. Furthermore, the participants mentioned other circumstances where the cosmesis had a more mechanical function in order to better their experience when engaging in physical activities:

"I am going to switch over to hardcover in some form. I do not know if I am going to continue with soft skins much more. [...]. Some hardcovers to connect to the socket if I want it to hold the pants in place for a wedding, for example."
-Participant 1

"The only hard thing is when you ride a bike because it hits the back of the pants. When I am pedaling the prosthesis hit it, and then the pants rip in the back. [...]. Maybe it would have been good with cosmesis and not having this iron rod and the pedal that hit each other." -participant 3

4.5.2 | Function in relation to appearance

Some of the participants shared that the function of the prosthesis is something that they put more importance on than the overall appearance of their prosthesis. They described how in their everyday life, there are not many circumstances where their prosthesis would be very visible, making it more important for them to have a prosthesis that functions well when walking.

"I think it is quite nice, having a prosthesis that functions well is more important than the look." –Participant 3

4.5.3 | Componentry functioning as a cosmesis feature

Participants described that the appearance of the componentry also affected their perceptions of the appearance of their prosthesis. For some of the participants, the function of the componentry was not the only reason for choosing it. Furthermore, it was mentioned that other parts relating to the prosthesis device also played a significant role in the satisfaction of the general aesthetic of the prosthetic device. One example is the color of the sleeve.

"It was quite boring, what can I say [...] I can take the old prosthesis as an example, so I had another foot, so then I had a different type of coupling so then the pylon became longer and then it looked quite sterile in a way I think. Now I have more components and more screws and all that and a much shorter pylon which makes it look better" - Participant 5

4.6 | Difficulties with the material

In this theme, difficulties with the material are meant as described problems the participants experience with the material of their cosmesis. In this theme, the sub-themes are 1. Quality of material, 2. Smell and 3. Discoloration.

4.6.1 | Quality of material

Some of the participants have experiences of their material being torn. This happens when the participants are wearing the prosthesis with cosmesis, and the material gets in contact with an object from the environment:

"The skin is not of good quality. I have a very physical work where I crawl and fiddle between machinery, and then it gets torn." – participant 4

4.6.2 | Smell

For some of the participants, the cosmesis sometimes absorbs smell from the environment (e.g., a smelly place), which hinders the participants' motivation towards wearing cosmesis:

"I have had cosmesis but now I do not have it anymore [...]. The cosmesis took the smell off the surroundings. [...]. and ever since then, I have never come back to using cosmesis." – Participant 3

4.6.3 | Discoloration

Participants have also experienced that cosmesis can become discolored when wearing their prostheses. This can happen by the material of the cosmesis absorbing color from their clothing or the environment. This means that the participants have extra work and expended time for maintaining their cosmesis:

"That is one of the key aspects I do not like the soft covers. Because if you have like blue jeans or if you have black socks and you get some moisture, if it is water or damp, just getting it damped. It can color the cosmesis. [...]. If I would take this one out and just walk around barefoot for a couple of days, it will be black. You cannot get that out without changing the complete skin cover. Then you have to spend one day at the hospital, you have to wait for a couple of weeks until you have a new one. So I would not say I like the look from that point of view. It is a lot of maintenance with it." – Participant 1

4.7 | Awareness

In this theme, awareness refers to how conscious the participants are of their surroundings and how much insight they have into what is available for them in terms of help and products. This theme contains four sub-themes: 1. Cosmesis option 2. CPO guidance 3. Social surroundings 4. Clothing selection

4.7.1 | Cosmesis options

Many of the participants' experience with the cosmesis options available on the market lack insight into what is out there or that there is not enough variation of interesting options. Furthermore, they mention that this is not discussed in the same manner as componentry is discussed.

"I mean, you can have different feet for different activities and stuff like that, but when it comes to cosmesis, it is more "do you want cosmesis or not?". And if you say yes, you get to choose the closest skin color they have, and then you get what you get. They do not take any measurements, and they do not take anything to make it look identical to the other one or anything like that."

- Participant 1

4.7.2 | CPO guidance

Some mentioned that the CPO was the person with insight into what was available on the market, and if they did not gain that knowledge from their CPO, it was hard for them to gain that on their own. The participant described that being previewed to what is available to the cosmesis market was a thing of value. Among the participants, there was a shared opinion of how satisfied the participant was with the guidance of the CPO they had been in contact with. Some participants showed general dissatisfaction towards the guidance they received:

"It is probably me who had to be on their case to get something that I am satisfied with, and the advice has not been so great if I may say so myself. But it has been like that everywhere that it is myself who have to pursue that and look for and ask about new cosmesis options. And when it comes to testing new stuff, I have been the one having to pursue that as well. The idea has been there from the Prosthetist, but it is I who has had to be on their case and push to make it better and work out how they should attach the cosmesis because there have been a lot of problems with it." - Participant 4

Some participants showed satisfaction towards the guidance they received:

"I am very happy with my prosthetist and the technicians. I have three different ones that I am able to discuss with. [...] They listen and they are very open and receptive to suggestions that I make about the appearance and we have looked a bit at, for example, specially designed cosmesis. They have helped me to have a dialogue with companies that are doing such things. But it has not led to anything as I have chosen to go without it. But I think that it has been a very positive experience especially with that bit." - Participant 5

One participant also stopped wearing cosmesis based on the CPO's stating that they did not need it:

"The orthopedic engineer himself said that it was unnecessary for me to keep the cosmesis as I was not so fussed about it and that it was not needed and after that there was no more talk about cosmesis [...] After that there was no cosmesis on my prosthesis and it has just continued on like that and there has been no one who has questioned if I want it again."
- Participant 3

4.7.3 | Social surrounding

All the participants stated in various ways that their social surroundings were a significant factor if they wore cosmesis on their prosthetic device or not. Some thought that it just drew more attention to them, while others felt like it afforded them being less noticed for being a prosthesis user. Some of the participants also mentioned that they choose to wear cosmesis on their prostheses when they are in different social gatherings to not "steal" the spotlight from the company they are with.

"Yeah, I have a leg with cosmesis as well. But I only use that for special occasions, for example, if I go to church or if I go to a wedding. If it is a friend's wedding i do not want to pull focus from their day, then I will use a cosmesis leg just to ensure that you cannot see my prosthesis through the suit or stuff like that."
- Participant 1

"Yes, I am not ashamed of not wearing cosmesis but it is easier to wear cosmesis because there are so many follow-up questions when you are in different contexts. If you wear shorts, for example, you will be looked at and here in Sweden it is not as common with prosthesis wearers as it is in America for example. So for me, it was probably a convenience to maybe avoid being stared at constantly."
- Participant 2

"In the beginning, it was probably a bit more that I thought it was difficult because I had a prosthesis and probably did not want to show it. Today it does not matter to me and I can go in shorts if that were the case. I do not wear shorts that often anyway, but there is nothing that stops me from doing that today."
- Participant 3

4.7.4 Clothing selection

All of the participants mentioned that their selections of clothing did get impacted at some point in their time of being a prosthesis user.

"It has done that, shorts and such have probably been chosen a little after it, previously I would try to have a little longer ones. But today I have let that go a little, and wear shorter shorts than I had before." - Participant 4

5 | Discussion

5.1 | Discussion of the Methodology

5.1.1 | Participants and recruitment

The pilot interview was conducted in English due to it being the shared language of the authors. This was something that the participant was aware of, and they were offered the possibility to do interview in Swedish. The rest of the interviews were conducted in Swedish based on recommendations from the ethical committee in Jönköping University. Translating the data was seen as less of a threat to the thesis than conducting the interviews in nonnative language participants. The pilot interview was included in the thesis project as it was of good quality, and there was a shortage of participants.

5.1.2 | Data collection

With the interviews conducted over Zoom and one phone call, the authors experienced technical difficulties affecting the finished interview data. The authors saw this concerning technical difficulties affecting the fluidity in the interviews as poor internet connections lead to delays in the conversation. Nevertheless, considering Covid-19, it allowed the interviews to be conducted over Zoom was a great help as it allowed to interview participants over a geographical area without potentially spreading any disease. Because of the interviews being conducted over Zoom, it was a bit harder for the authors to make a comfortable environment as it could seem a bit weird to talk over the screen. Brinkmann & Kvale (2015) did tell that to have an interview that could produce information-rich answers. The participants must feel a sense of comfort and be in an environment conducive to that. Therefore the authors tried to create an environment that was open and non-judgmental towards the participants, as they are the expert in the lived experiences of cosmesis. The authors also validated the participant's experiences which were to an extent used as a technique to cultivate a fruitful environment for the interviews (Brinkmann & Kvale, 2015)

Considering the effect cosmesis can have on the individual, the authors experienced that this topic was new to the participants. Many of them had never talked about the appearance before, meaning that this was the first time they reflected on cosmesis before and thereby the potential of leading out important information as they have not thought of this.

According to Brinkmann & Kvale (2015) a quality of a good interviewer is the ability to steer the interview in a manner that is befitting to the purpose of the research. With the authors being first-time tiers of conducting interviews, it became apparent that this factor played a part in collected data. It is seen as the authors experienced not being well-versed in conducting interviews, potentially affecting the data. It was addressed by having an interview guide and ending the interview with a question that would promote the participant to share anything that they may have felt that the authors missed.

5.1.3 | Data analysis

Thematic analysis was chosen as a method as it lends itself to analyzing the perspective of different participants by finding patterns of similarities and differences. Furthermore, it is stated that thematic analysis may be suitable for novice researchers because it is easily grasped as the procedure allows for flexibility due to it having few prescriptions (Nowell et al., 2017). The authors were conscious that there is a lack of substantial literature on thematic analysis compared to other methods however the advantages previously mentioned were considered to outweigh this (Nowell et al., 2017). Research triangulation was used to increase credibility and prevent biases mentioned in section 3.4. The authors analyzed the transcripts separately, but due to the language barrier, only the native Swedish-speaking author transcribed the interviews conducted in Swedish, affecting the triangulation (Nowell et al., 2017). Research triangulation was used to increase credibility and prevent biases mentioned in section 3.4. The authors analyzed the transcripts separately, but due to the language barrier, only the native Swedish-speaking author transcribed the interviews conducted in Swedish, affecting the triangulation, thus impacting the trustworthiness.

5.2 | Discussion of results

This thesis aimed to explore transtibial prosthesis user's satisfaction with the appearance of their cosmesis and experience with it. The two research questions that will be addressed in this section is:

- 1- What is the satisfaction among transtibial prosthesis users regarding cosmeses?
- 2- What is the *lived* experience of transtibial prosthesis users regarding cosmeses?

The findings regarding the first research question indicated that the overall appearance's satisfaction depends on the individuals' standard and what the participants deem important. Furthermore, the transtibial prosthesis users' satisfaction towards the cosmesis and cosmesis features is individual as the lived experience differs among the participants. Comparable to the findings of (Baars et al., 2018), satisfaction is highly individual and can change with physical factors and time. The results of the participants showed that two of the participants showed general satisfaction, two showed general dissatisfaction, and one showed moderate satisfaction towards natural-looking cosmesis. In addition to that, the results also showed dissatisfaction from all the participants regarding cosmetic features such as color. These findings coincide with the finding of (Cairns et al., 2014), who found that between 49% to 64% of the respondent in their study showed neutral dissatisfaction towards cosmetic features (aesthetics, dynamics, and maintenance). However, the results also showed dissatisfaction from all the participants regarding cosmesis features such as color, which can be seen as problematic as it affects the embodiment of the prosthesis (Murray, 2008).

The findings pertaining to the second research question indicated that the participants have many different experiences regarding cosmesis, which could be expected as cosmesis is individual and should not be generalized (Sansoni et al., 2016).

These different experiences are in our study seen to a correlation between age groups concerning natural and futuristic looking cosmesis. The younger participants (30-39 years) have the experience that natural-looking cosmesis, in fact does not look natural to them. Whereas the older participants (70-79 years) did, in contrast, perceive the natural cosmesis in fact looked natural. These findings are similar to Sansoni et al. (2016), as it was found that some participants appreciated the natural appearance of cosmesis while others perceived the natural cosmesis to be "false". Concerning the age, it is found by Mohd Hawari et al. (2017) found that people in the age group of 20-39 years old were more attracted towards a more futuristic appearance and individual design. At the same time, the group of 40-89 years old were more attracted to the natural-looking cosmesis. These findings relate to the findings in our thesis as the two participants who wear cosmesis (40-49;70-79 years old) were found to be more attracted towards the natural-looking cosmesis where the younger (30-39 years), in contrast, showed more interest towards futuristic-looking options as they described these as more "cool" and unique. The younger participants expressed that natural-looking cosmesis does not look natural and therefore prefers to have a bolder and look as people will look no matter what. These findings are similar to the findings of Murray (2009) being that people would instead want something that makes other people stare on purpose than people staring because it does not look natural. These findings are interesting as (Manero et al., 2019) have found that the inclusion of art into the cosmesis can give the user an individual design and a sense of empowerment.

Though all participants did see the functional benefit of a natural-looking shape of cosmesis concerning keeping their pants in place and avoiding them getting ruined by the prosthesis, these findings are similar to the findings of Sansoni et al. (2016), who found that users were less commutable when wearing long clothing over an uncovered prosthesis leading to their pants folding over the prosthesis.

An interesting finding in this thesis was how componentry and other functional items such as the sleeve and adapters to the prosthesis foot was something that the participants had in mind when talking about their self-preserved appearance. As stated in the results, one participant even changed the type of prosthesis foot they had to enhance the appearance of their prosthesis. Thereby indicates to the authors that componentry may also have an aesthetic function.

It also became apparent that the participants have experienced that function is a factor of the cosmesis. This is seen in our study as some participants preferred to have cosmesis as others told that they preferred the function over the appearance. Thereby our findings suggest that participants have different wishes for their prosthetic device. These findings are similar to Murray (2009), Rybarczyk & Behel, (2008) and Sansoni et al. (2016) who found that it is individual if transtibial prosthesis users prefer the appearance or function.

Our results suggest that the participants have taken an active choice towards cosmesis concerning how they perceived that they want to be seen by other people. Here the participants have very contradicting answers as some of them prefer cosmesis because they feel that people do not "stare" and give them

weird looks. Some of the other participants experienced that people looked less because their disability could be seen as they felt people would be looking more if they were trying to "hide" their prosthesis. These findings are similar to the findings of Murray (2009), who found that people expressed being stared at because of their gait deviations. (Rybarczyk & Behel, 2008) described that social perceptions significantly impact a person's body image. Suggesting that the participants in this study are affected by how they think others perceive them and how they want to be perceived.

They were considering the CPO's role in the guidance of the participants in selecting cosmesis. It became apparent that some of the participants have experiences of dissatisfaction with the help they got. It is seen as some of the participants felt like they had to push for new ideas. Others did not get consulted on the matter as one participant even stopped using cosmesis based on the decision of a CPO and not a dialog between the two of them. It was found in the result that some of the participants who were experiencing dissatisfaction towards their cosmesis were more aware of options on the international market comparison with options available to them by the clinic. These results indicate more need for options in the Swedish clinics as participants in this study show satisfaction towards unavailable cosmesis options.

The literature states that saturation is reached until no more new findings are detected by the researchers (Richards & Morse, 2013). It further states that this dictate when the sampling should be considered complete (Schreier, 2018). The recruitment of the participants was found to be difficult within the timeframe of this thesis course. Therefore the authors had to set a stop to the recruitment of the participant regardless of data saturation. They have had some effect of the data saturation being reached to its full potential.

Nevertheless, the author still deems the data to be information-rich and complete as some recurrence of the data did occur, and similarities and differences could be found from the data. Themes were also able to be derived with no difficulty even though the sample group was not homogeneous. Furthermore, as the thesis explores the participants' personal lived experiences, one could argue if this should be the goal.

5.3 | Trustworthiness discussion

The trustworthiness of a study should be considered throughout the entire process of the research (Brinkmann & Kvale, 2015). For this reason, when producing the interview questions for the thesis project, the authors based some of them on pre-existing validated questionnaires that fit within the scope of this thesis research question to strengthen the trustworthiness (Brinkmann & Kvale, 2015). However, as the authors had the intention to have an inductive approach and in attempts to investigate overlooked areas, the interview guide (Appendix 1) does contain some interview questions that are not anchored in previous research. The authors used strategies like research triangulation by analyzing the data separately then discussing it together to increase the trustworthiness further. Additionally, the authors conducted member checking within the interview as this could have been done to a greater extent by summarizing the interview in writing and then sending it to each participant (Clarke & Braun, 2015). Throughout this thesis, the authors have been forthcoming with the procedures that have taken place by giving a description of the methods and being used and given reasoning for it, furthermore, the authors have stated their research characteristics and to ensure that the reader is aware of the others position and potential biases (Clarke & Braun, 2015; Lincoln & Guba, 1985; Tobin & Begley, 2004). Lastly, the authors evaluated the result of the project with the research question and aim of the thesis to see if there was trustworthiness in the work (Brinkmann & Kvale, 2015).

5.4 | Future studies

Upon conducting this thesis project, the results show that there may be a demographic factor concerning age and futuristic and natural-looking cosmeses. The results suggest that the younger generation is asking for more options and are currently not satisfied with their options, whereas the older generation is. Further, studies could look more into why young people seem to be less satisfied, what makes the futuristic options appealing, or why the older generation seems to appreciate the natural-looking instead.

Another finding that is not new to this study is that the participants did not feel like the color match was right, indicating a lack of diversity in skin colors available in the cosmetic market. Considering that color differences are more visible in darker skin tones, it could be an exciting study of how darker skin tones are currently presented in the clinical setting (Leow et al., 2006).

5.5 | Limitations

The participants in the study are five men from different age groups. Four of the participants are traumatic amputated, with one who has received a limb salvage. The authors see the limited representation in gender as a limitation towards the study as initially. The authors wanted a sample group containing various genders, ages, races, and cultural backgrounds to increase our chances of having a fair representation of transtibial prosthesis users as a population (Murray, 2008). The limitation of our study sample is common in the research, and predominantly, it is men with a transtibial amputation due to traumatic experiences that are represented the most (Baars et al., 2018; Murray, 2008). Thereby the authors think that future literature and own work there should be a focus on the inclusion of more ethnicities with different cultural backgrounds and women as this are underrepresented as of today.

Limitations to using zoom were that this requires some digital literacy from the participants and access to a device with this installed, which resulted in one interview over the phone. Zoom, but primarily the phone call, gives the limitations that not all body language can be seen, gestures and dress standards can be necessary for data analysis (Evans et al., 2014). A limitation of the interviews conducted through Zoom is that it was harder to create a natural environment for the interview with the screen between the participants and the interviewers. In this case, this is not something the authors had much control over. Nevertheless, for future work, when allowed again, they see a priority being to sit with the participants in an area they feel comfortable to ensure a more safe and fruitful environment.

Time has been a factor as there has been limited time to conduct all the interviews and collecting participants. This is something that the authors did not consider before starting the thesis. The time-consuming process is typical in literature (Brinkmann & Kvale, 2015). Therefore for further work, this should be considered to the timeframe given to conduct the work as this was more time-consuming when first anticipated.

The language was a limitation in the study as one author is not a native Swedish speaker. Thereby there could be language misunderstandings, with four of the interviews being in Swedish. The translation of the interviews also comes with a higher risk of meaning going off in the translation. On the other hand, the authors have insured some transferability is to have attached the Swedish answers (Appendix 2) and that the Swedish author checked the translations for the instrument. Even with the precautions, there can still be problems in translation between languages as the meaning of what is said is not captured in the translated version (Squires, 2009). One interview was conducted in English could lead to problems with trustworthiness because the participant potentially did not express himself as he would have in his native language (Swedish). It should be noticed that the participant did get the offer to do it in Swedish or English. The participant also seemed well versed in English to the authors.

The author's pre-knowledge is a limitation as this is the first time they are conducting a qualitative study as this is a study form that takes practice. It could be seen in the interview process, where this is new to the authors and takes practice to master (Brinkmann & Kvale, 2015). Thereby the authors should already have a better understanding of conducting qualitative research again, though they still have to work on this technique in future work to become more skilled.

6 | Conclusion

This thesis shows that there is a variation regarding what the satisfaction of the appearance is among unilateral transtibial prosthesis users. However, similarities within satisfaction and experience were found in the respective age groups. This indicates that there may be a correlation between demographics such as age and satisfaction of appearance and experience. The conclusion should be taken as an indication due to the overall saturation of the data was not reached. Further research of the investigated topic is needed.

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Appendix 1

Interview Guide – English		
Introduction	We start by giving a short presentation about ourselves.	Our names are Amal Abdiqadir Salad and Ida Marie Palmgren Pedersen, and we are studying Prosthetic and Orthotic at Jönköping University.
	The purpose of the study is described for participants	<p>The purpose of the study is to explore transtibial prostheses user's satisfaction with the appearance of their cosmesis and to get a deeper understanding of their experiences regarding cosmeses.</p> <p>The study is carried out as part of our bachelor's program in Prosthetic and Orthotic at the School of Health Sciences in Jönköping.</p> <p>The interview is semi-structured, which means that you as a participant are welcome to share information that you think is relevant based on your personal experiences as a prosthesis user. The questions will initially be general and become more specific during the interview. We moderators can ask follow-up questions if we think something is unclear or if we want to get a deeper understanding of what you have said.</p>
	Timeframe	The interview is estimated to be 30 minutes long and will take place online via Zoom.
	Recording of the interview	The interview will be record via Zoom so both video and sound are being recorded.
	Anonymizing	The interviews will then be transcribed, i.e., written down in written form and analyzed by us. Personal data and interview material will be kept confidential in separate places, only those who conduct the study have access to the information. The interviews will not be reported about you as a person but based on all participants and it will not be able to be traced back to you.
	Do the participants have questions And oral agreement from participants	<p>We will ask if the participants have any questions or something they do not understand. Furthermore, say that they can ask anytime through the interview.</p> <p>Then letting the participant know that they can choose to withdraw from the study without any consequences and that they are free to ask questions.</p> <p>At the end we will ask the participant if they orally agree to the present information above and that they also have gotten the information in written form.</p>
Demographics	Age	
	Gender	
	Cause of amputation	
	Amount of time since amputation	

Questions:

1. Do you currently have cosmesis on your prosthesis?
Yes - why did you choose to have cosmesis?
No - why did you choose not to have cosmesis?
How long have you had cosmesis on your prosthesis?
2. How do you perceive the appearance of your cosmesis and the overall device?
3. How satisfied are you with the appearance of the cosmesis?
4. Can you describe what makes you satisfied with the appearance of your current cosmesis?
5. Can you describe what makes you dissatisfied with the appearance of your current cosmesis?
6. What would make you more satisfied with the appearance of your cosmesis?
7. Would you choose the same cosmesis when you are getting a new prosthesis?
8. Does the appearance affect you attending social gatherings?
9. Does the cosmesis impact your selection of clothing?
10. How satisfied are you with the shape of your cosmesis?
11. How satisfied are you with the color match of your cosmesis?
12. How long does your cosmesis last before being degraded/torn/damaged?
13. How do you find the maintenance aspect of your cosmesis?
14. How satisfied were you with the guidance for cosmesis from the Prosthetist?
15. Do you feel like your cultural background was taken into consideration when choosing cosmesis?
16. Do you feel like there are other factors that affect your satisfaction that has not been discussed?

Interview Guide – Swedish

Introduktion	Vi börjar med en kort presentation om oss själva	Vi heter Amal Abdiqadir Salad och Ida Marie Palmgren Pedersen, och vi studerar Prosthetics and Orthotics (ortopedingenjörsprogrammet) vid Jönköpings universitet.
	Syftet med studien beskrivs för deltagarna	<p>Syftet med studien är att utforska transtibial protesanvändares tillfredsställelse med utseendet på deras kosmetik och att få en djupare förståelse för deras erfarenheter av kosmetik.</p> <p>Studien genomförs som en del av vårt kandidatprogram i ortopedingenjörsprogrammet vid Hälsohögskolan i Jönköping.</p> <p>Intervjun är halvstrukturerad, vilket innebär att du som deltagare är välkommen att dela information som du tycker är relevant utifrån dina personliga erfarenheter som protesanvändare. Frågorna kommer till en början att vara generella och bli mer specifika under intervjun. Vi moderatörer kan ställa följdfrågor om vi tycker att något är oklart eller om vi vill få en djupare förståelse för vad du har sagt.</p>
	Tidram	Intervjun beräknas vara 30 minuter lång och kommer att äga rum online via Zoom.
	Inspelning av intervjun	Intervjun kommer att spelas in via Zoom, så det kommer att vara både video och ljudinspelning.
	Anonymisering	Intervjuerna transkriberas sedan, dvs. skrivs ner i skriftlig form och analyseras av oss. Personuppgifter och intervjumaterial hålls konfidentiella på separata platser, endast de som genomför studien har tillgång till informationen. Intervjuerna kommer inte att rapporteras om dig som person utan baseras på alla deltagare och kommer inte att kunna kopplas till dig.
	Har deltagarna frågor Och muntligt samtycke från deltagarna	<p>Vi kommer att fråga om deltagarna har några frågor eller något de inte förstår och informera de kan fråga när som helst genom intervjun.</p> <p>Vi informerar deltagaren om att de kan välja att dra sig ur studien utan några konsekvenser och att de är fria att ställa frågor.</p> <p>I slutet frågas deltagaren om de muntligen godkänner den aktuella informationen ovan och att de också har fått informationen i skriftlig form.</p>
Demografi	Ålder	
	Kön	
	Orsak till amputation	
	Tid sedan amputationen	

Frågor:

1. Har du i dagsläget kosmetik på din protes
Ja- varför valde du att ha kosmetik?
Nej- varför valde du att avstå från att ha kosmetik?
Hur länge har du haft kosmetik på din protes?
2. Hur upplever du utseendet av din kosmetik och protes överlag?
3. Hur tillfredsställd är du med utseendet av kosmetiken?
4. Kan du berätta vad som gör dig tillfredsställd med utseendet av den kosmetiken du har idag?
5. Kan du berätta vad som gör dig missnöjd med utseendet med kosmetiken du har idag?
6. Vad hade gjort dig mer tillfredsställd med utseendet av din kosmetik?
7. Hade du valt samma/liknande kosmetik om du får en ny protes?
8. Påverkar utseendet av din protes sannolikheten av att delta i sociala tillställningar?
9. Påverkar kosmetiken ditt val av kläder?
10. Hur tillfredsställd är du med formen av din kosmetik?
11. Hur tillfredsställd är du med färgmatchningen av kosmetiken på din protes?
12. Hur lång tid dröjer det innan kosmetiken på protesen slits ut?
13. Vad är dina åsikter angående upprätthållandet av kosmetiken på din protes?
14. Hur nöjd vad du med ortopedingenjörens rådgivning angående kosmetiken på din protes?
15. Känner du att din kulturella bakgrund togs till hänsyn vid valet av kosmetik?
16. Känner du att det finns andra faktorer som påverkar din tillfredsställelse på utseendet av din protes som inte har diskuterats ännu?

Appendix 2

Quotes in Swedish

4.3 | Satisfaction

4.3.1 | Satisfaction with natural-looking cosmesis

"Ja, det är klart att det blir ju snyggare med kosmetik. Det går ju inte att komma ifrån. Det ser ju mer ut som ett naturligt ben." -Participant 3

"Ja från ett till 10 då så är man väl sexa kanske 5/ 6." – Participant 4; asked further: *"Ja så skinnet i sig är väl okej. Sen tycker jag är fötterna är fruktansvärt fula."* – Participant 4

4.4 | Natural-looking cosmesis

4.4.1 | Color

"Jag associerar den till att vara som en docka [...] de har samma hudton [...] Det känns bara plastigt tycker jag och det hade varit intressant om det hade funnits fler färger att välja på." - Participant 5

4.4.2 | Shape

"Det är ju bättre och finare om det faktiskt om det är symmetriskt när man tittar på bägge för att när man tittar ner och ser på fötterna så vill man att de ska se något likadana ut. Nu har jag en fot som är supersmala en fot som är jättebred så det ser ganska dumt ut." - Participant 5

"Jag gillar det om de överför de botten ifrån mitt befintliga ben då till det här kosmetiken och få det till att se ganska så lika vad det gäller dimensioner och så där vidare." -Participant 2

4.4.3 | Residual limb

"Jag får ju säga det att jag har ju haft en väldigt tur då längden på min stump är lite det som kallas ideal och det har ju väldigt stor betydelse också för själva gjutningen och hur mycket ytrumme man har för material ner till foten" - Participant 2

4.4.4 | Futuristic

4.5 | Function

4.5.1 | Cosmesis for function

"Det enda jobbiga är ju när man åker cykel, för jag då slår till baksidan av byxan nät, jag trampar, slår till. Protesen och då går byxorna sönder på baksidan, liksom. [...]. Det hade ju kanske varit bra med att den kosmetik så hade inte det här järnet och trampan som slagit emot varandra" - participant 3

4.5.2 | Function in relation to appearance

"Jag tycker att den är rätt så fin faktiskt, att ha en protes som fungerar bra är viktigare än utseendet" - Participant 3

4.5.3 | Componentry functioning as a cosmesis feature

"Det var ganska tråkigt, vad ska man säga [...] jag kan ta till exempel med den gamla protesen så hade jag en annan fot så då hade jag en annan typ av koppling så då blev ju röret längre och då såg det så sterilt ut liksom på någotvis tycket jag. Nu har jag ju mer kopplingar och mer skurvar och allt det där och mycket kortare rör vilket gör att det ser bättre ut" - Participant 5

4.6 | Difficulties with material

4.6.1 | Quality of material

“skinnet inte av bra kvalite. Jag har ett ganska fysiskt jobb där jag kryper och grejar bland maskindelar och och då går det sönder liksom.” – Partisipant 4

4.6.2 | Smell

”jag har haft kosmetik men jag har inte det längre [...] kosmetiken tog ju lukten från omgivningen. [...] och sen dess blev det aldrig av att jag använder kosmetik.” - Partisipant 3

4.6.3

4.7 | Awareness

4.7.1 | Cosmesis options

4.7.2 | CPO guidance

“Det är väl jag som har fått ligga på egentligen för att få något som jag är hyfsat nöjd med och där har väl rådgivningen inte varit så där jättebra kan jag inte påstå. Men det har varit så närstan överallt att det är jag själv som får ligga på och leta liksom och får fråga om nyheter. Och när det gäller att få testa nya grejer så att det jag som har fått driva det med. Tanken har funnits från ortopedingegöreren men det är jag som har fått ligga på och pusha för att få den att bli bättre och funka och hur de ska fästa kosmetiken för det har varit mycket problem med det.” - Partisipant 4

" Jag är väldigt nöjd med min ortopedingenjör och teknikerna. Jag har ju tre olika som jag pratar och bollar mycket med.[...] De lyssnar ju och är väldigt öppna och mottagliga för förslag som jag kommer med kring det här med utseendet och vi har ju kikat lite på till exemple specialdesignad kosmetik. De har också hjälpt mig med att föra dialog med företag som håller på med sånt. Men det har inte lett till något då jag har valt själv att gå utan. Men jag tycker att de har varit en jättepositive upplevelse speciellt med den biten.” - partisipant 5

“Själva ortopedingenjören sa att det var onödigt att jag skulle ha kvar kosmetiken då jag inte var så noga med det och jag inte behövde det och efter det så pratades det inte något mer om kosmetik [...] Efter det så blev det inte någon mer kosmetik och sedan så har det bara löpt på och det har inte varit någon som har ifrågasatt om jag vill ha det igen.” - Partisipant 3

4.7.3 | Social surrounding

“Ja, jag skäms inte för att inte ha kosmetik men det är enklare att ha kosmetik på för att det är så många följdfrågor när man är i olika sammanhang. Om man går i shorts exemplevis så blir man tittad på och här i Sverige är det inte lika vanligt med protesbärare som i till exempel Amerika. Så för min del så var det väl en bekvämlighet för att kanske slippa och bli tittad på.” – Partisipant 2

“I början så var det nog lite mer att jag tyckte det var jobbigt det här med att jag hade protes och ville nog inte visa det. Idag gör det mig inget och jag kan gå i kortbyxor om det skulle vara så. Jag går ju inte så ofta i kortbyxor ändå, men det är inget som stoppar mig för det idag.”- Partisipant 3

4.7.4 | Clothing selection

“Det har det väl gjorts, shorts och sånt har man väl valt lite efter, tidigare har man försökt att ha lite längre men idag har jag släppt det lite och går med kortare shorts än jag hade tidigare”- Partisipant 4