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CHRONIC WOUND CARING EXPERIENCE WITH TELEHEALTH

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ABSTRACT
Chronic wounds are often associated with slow healing time, patients with chronic wounds will have an impact on physiological, psychological, social and financial burdens. The pandemic situation encourages the use of telehealth for wound care, so it is important to analyze it. To explore the experiences of patients with chronic wounds and receiving telehealth care. Materials and Methods: This research method is a meta-analysis with a qualitative approach. An article search was conducted on Google Scholar and Science Direct, entering the keywords "chronic wound patient experience with Telehealth" OR "telehealth wound care" and the second keyword entering the words "chronic wound experience", AND "telehealth wound care" AND "research qualitative" AND "chronic wound care experience with Telehealth". Found 1,085 articles from 2010-2020, then filtered according to the inclusion and exclusion criteria by referring to the prism protocol, so that 10 articles were extracted. This meta-analysis identified four overarching themes with 13 sub-themes. The four are wound knowledge, wound care technology, telehealth benefits, management systems. The use of telehealth in chronic wound care needs to pay attention to the four identified themes, to be able to provide wound care according to patient care needs.

Keywords: chronic wounds; experience; telehealth

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INTRODUCTION

Cancer is a disease caused by a breakdown of the basic regulatory mechanisms for cell behavior. These mechanisms in particular include uncontrolled growth and differentiation of cells and invade the surrounding organ tissues, resulting in impaired function of the organs themselves (Kresno, 2011). One of the accompanying organ disorders is a chronic injury. The definition of the wound is a break in tissue continuity due to injury or surgery. Wound classification based on anatomical structure, nature, healing process, and duration of healing, chronic wounds can be differentiated because of slow healing time or if they show signs of infection (Kartika et al., 2015). Chronic wounds can be experienced by cancer patients due to the overgrowth of tissue and cell damage that occur. The prolonged healing conditions create a variety of conditions that affect the patient's quality of life. A person who suffers a wound will feel imperfections which in turn tend to experience physical and emotional disorders. This means someone who has a wound will experience health problems that can have an impact on the quality of his life (Kristianto, 2011).

Various attempts have been made to provide wound care to patients, one of which is Tele-health treatment. Tele-health is multi-platform telecommunication designed to promote patient-centered health. Tele-health in its various forms offers convenience including

increased accessibility of care, reduced costs, and travel time, but utilization is still constrained by the satisfaction of patients who choose direct care (Powell et al., 2017). While the situation during the COVID 19 pandemic, wound care became difficult, so alternative treatments with telephoto was an option that had to be done. Seeing the above, the authors are interested in conducting a meta-analysis study to explore the feelings of cancer patients who suffer from chronic wounds and receive Telehealth treatment.

Wounds can be interpreted as disturbances or damage to the integrity and function of tissues in the body (Kristianto, 2011). The definition of the wound is a break in tissue continuity due to injury or surgery. Wounds can be classified based on their anatomical structure, nature, the healing process, and duration of healing. Chronic wounds are wounds that are healing late (delayed healing) or if they show signs of infection (Kartika et al., 2015). Delayed primary healing (tertiary healing) Slow wound healing, often invested, manual wound closure is required, this is often accepted by patients who require longer treatment and impose a burden on the patient.

The increasing physiological, psychological, social, and financial burden of injury and wound care on patients, families, and communities demands a change in the provision of health care for patients with chronic wounds while caring for chronic wound patients because their condition is time-consuming and high risk. So that requires a Tele-health (Chittoria & Chittoria, 2012). Tele-health is a part of telecommunication designed to improve patient health, especially care. Tele-health in its various forms offers various conveniences including increased accessibility of care, Another benefit of Tele-health is that the use of Tele-health in rural areas is indispensable in terms of reducing travel costs and lowering care costs, increasing social support, and a better ability to adapt patient care delivery and family needs. , whereas the disadvantage is that the patient prefers direct wound care (Powell et al., 2017). Tele-health can improve communication with wound care. Digital imagery for skin lesions is a safe, accurate, and cost-effective referral pathway that addresses various problems in wound management. Despite the disadvantages associated with technical changes, the evolution of wound care Tele-health technology. This study aims to synthesize all explored research findings with the life experiences of cancer survivors with chronic wounds, and their applications, Telehealth in its care. While the benefits of this study are to present better and more in-depth facts, as input in improving the quality of nursing interventions for cancer patients with chronic wounds.

METHODS

A qualitative meta-analysis design was used in this study. Meta-analysis is one type of systemic review which is a form of activity to identify, evaluate and interpret all relevant research for a specific research question, or a particular topic area or phenomenon of interest to researchers (Siswanto, 2012). Meta-analysis is also used in many similar document analysis studies using a qualitative approach. The meta-analysis in this study is a qualitative meta-analysis with a meta-aggregation approach. In the meta-aggregation, research topics are elaborated into certain themes to produce a conceptual framework. Then, in certain themes, a search for relevant research articles is carried out and compared and summarized between one another.

In the meta-aggregation approach, the synthesis result is an "aggregate" of various research results according to relevant themes. The purpose of this study was to synthesize all qualitative research results to explore the life experiences of cancer survivors with wound chronic Tele-health. Literature sources are all qualitative publications related to the life

experiences of cancer patients with chronic ulcers through systematic search methods. The analysis process includes themes and concepts from the relevant study being extracted, the results of this extraction are organized into important (main) findings, the findings are grouped into categories. These categories are then synthesized into themes (adjusted to the conceptual framework compiled).

Initial step

This study used a qualitative descriptive method with a meta-analysis approach. The data collection steps carried out in this study followed the PRISMA flow 2009 (Moher D, Liberati A, Tetzlaff J, 2009) following figure 1.

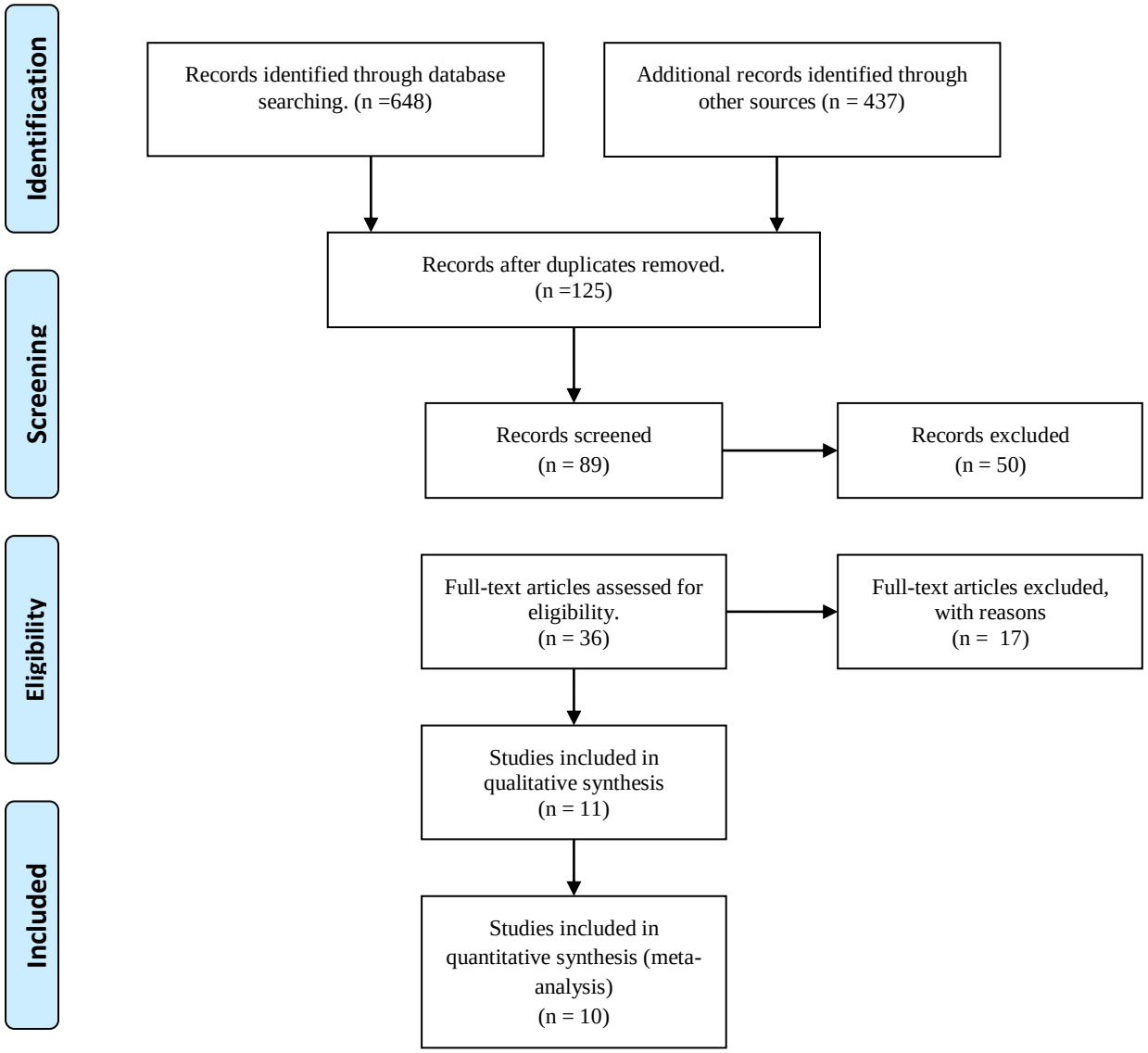

Figure 1: PRISMA flow 2009 (Moher D, Liberati A, Tetzlaff J, 2009)

Search for published journals using database searching in google scholar (648 journals) and science direct (437 journals) by entering the first keyword "experiences" "OR" "experiences with a wound" OR "chronic wound patients experiences with Telehealth" OR " wound care using telehealth "and then the second keyword by entering the words" experience "AND" "experience with wound chronic", AND "wound care using telehealth" AND "qualitative research" AND "chronic wound care experiences with Telehealth" and a combination of

keywords 1 and 2, according to the research question. The results were found in as many as 1085 journals. Furthermore, a selection is carried out based on inclusion and exclusion criteria and following the prism flow with the identification, screening, eligibility, and included stages. Finally, there were 10 journals that were analyzed. Determine the criteria for selecting research to be included in the qualitative meta-analysis.

Inclusion criteria:

1. The results of a qualitative descriptive study
2. Journals published between years 2010 to 2020.
3. Respondents are cancer patients
4. Journal of Indonesian and English
5. Research qualitative articles with full text
6. Qualitative/phenomenological descriptive analysis
7. Indexed by Scopus, Copernicus, and nationally accredited journals

Exclusion criteria:

1. Papers in the form of literature review, policy documents, professional guidance, and opinion papers.

Then perform data extraction. The data extraction form used is from the prism checklist 2009 (Moher et al., 2014) which helps guide the process of selecting and extracting data. The following is table 1 of data extraction from the journals discussed:

Table 1.
Data extraction

No	Author	Tittle of research	Aim	Method	Data collection	Participants
1	(Varga & Holloway, 2016)	The lived experience of the wound care nurse in caring for patients with pressure ulcers	The aim of the study was to illuminate the lived experience of WCN in caring for patients with PU.	Phenomenology	In-depth interviews	5 participants
2	(Armstrong et al., 2020)	Tele health-guided home-based maggot debridement therapy for chronic complex wounds: Pre- and post-pandemic potential	Provides an overview of how to help patients with chronic limb injuries to be able to perform independent wound care with Tele-health	Case study Qualitative - descriptive	In-depth interviews	One case
3	(Powell et al., 2017)	Patient Perceptions of Tele-health Primary Care Video Visits	To describe patient experiences with video visits	Phenomenology	In-depth interviews	19 participants
4	(Kolltveit et al., 2016)	Telemedicine follow-up facilitates more comprehensive diabetes foot ulcer care: A qualitative study in home based and specialist health care	To investigate the application of a telemedicine intervention in diabetes foot ulcer care, and its implications for the health care professionals in the clinical field.	Interpretive Description is an inductive, qualitative method and randomized controlled trial	focus group interviews	7 participants

No	Author	Tittle of research	Aim	Method	Data collection	Participants
5	(Rahimpour et al., 2008)	Patients' perceptions of a home Tele-care system	To identify any major factors that could affect patients' perceptions of a Home Tele-care Management System (HTMS) and use the findings to contribute to development of theoretical framework for patient acceptance of HTMS.	Phenomenological	Focus Group Interviews	77 participants
6	(Visco et al., 2001)	Use of Tele-health for chronic wound care: A case study	To Describes the Tele-health Wound Care Program implemented at Hospital.	Interpretive description And randomized controlled trial	Individual semi-structured interviews	24 participants
7	(19)	Tele-Wound Practice Within the Veterans Health Administration: Protocol for a Mixed Methods Program Evaluation	To describe the protocol for a mixed-methods program evaluation to assess the implementation and outcomes of Tele-Wound Practice	mixed-methods: qualitative and quantitative methods	Semi-structured interviews	4 VA (The Veterans Health Administration) medical center
8	(Timpel & Harst, 2020)	Research Implications for Future Telemedicine Studies and Innovations in Diabetes and Hypertension. A Mixed Methods Study	To identify, categorize and prioritize current implications for future research in the use telemedicine for diabetes and hypertension in order to inform policy and practice decisions	An-iterative mixed methods: qualitative content analysis And quantitative survey	content analysis	32 records
9	(Huang et al., 2016)	Homebound patients' perspectives on technology and telemedicine: A qualitative analysis	To investigate the attitudes of Home-bound patients towards technology and telemedicine in order to identify and characterize impediments to telemedicine acceptance.	Qualitative analysis	depth interviews	17 Participants

No	Author	Tittle of research	Aim	Method	Data collection	Participants
10	(Kayyali et al., 2017)	A qualitative study of Tele-health patient information leaflets (TILs): are we giving patients enough information?	To explore patients' perceptions of the existing the existing Tele-health leaflets (THLs) and their engagement with the concept.	discourse analysis and semi-structured interviews w	semi-structured interviews	14 Participants

Meta-analysis process

A qualitative approach is used to synthesize (summarize) the results of a qualitative descriptive study. This method of synthesizing (summarizing) the results of qualitative research is called a meta-analysis. Meta-analysis is a technique for integrating data to obtain new theories or concepts or a deeper and more comprehensive level of understanding (Anita, 2018). (Jones et al., 2019) states that a meta-analysis is a form of presenting a more formal qualitative model data. In a meta-analysis, findings from qualitative studies with similar key concepts are grouped together to create a new data set, which is then re-analyzed so that it is more concise and comprehensive. In the following table 2:

Table 2.
Identification of the theme

No	Autor	Result	Themes	Sub-themes
1	(Varga & Hollow ay, 2016)	The interviews revealed eight themes: 'challenge', 'making sense of it all', 'coping and self-care', 'advocate of mine/making a difference', 'knowledge and technology', 'we have seen what can happen', 'holistic caring' and 'frustration'. Twenty-five sub-themes were also identified.	Knowledge and technology of wound	1. Knowledge of wound 2. Wound care technology 3. Challenge
2	(Armst rong et al., 2020)	Maggot debridement therapy dressings, which is an effort regularly undertaken in clinics and hospitals, may have the potential to reduce resource use while improving care and quality of life for people with limb and life-threatening complications of diabetes and other chronic diseases.	Knowledge and technology of wound	1. Wound assessment 2. Tele-health-guided dressing change
3	(Powell et al., 2017)	All patients reported overall satisfaction with video visits, with the majority interested in continuing to use video visits as an alternative to in-person visits	Teleheath benefits	1. patient comfort 2. reduced cost of care
4	(Kolltv eit et al., 2016)	Application of telemedicine in diabetes foot ulcer follow up may enhance the nursing staff's ability to conduct comprehensive assessment and care of the foot ulcer as well as the patient's	Teleheath benefits	1. Setting clinic 2. patient comfort 3. patient privacy

No	Autor	Result	Themes	Sub-themes
5	(Rahimpour et al., 2008)	Four major themes and 16 sub-themes were identified. The themes were: intention to use the HTMS, the impact of the HTMS on patients' health management, concerns associated with using the HTMS, and the impact of the HTMS on healthcare services.	Home Telecare Management System (HTMS) benefits	1. Intention to use the HTMS, 2. The impact of the HTMS on patients' health management 3. Concerns associated with using the HTMS, 4. The impact of the HTMS on healthcare services.
6	(Visco et al., 2001)	Use of Tele-health in wound care continues to expand as technology is enhanced and become more familiar with use of the new technology as a supplement to usual care. The many benefits of Tele-health as an adjunct to usual therapy in wound care. Use of digital photography and e-mail transmission of images added to the usual documentation by making a visual record of the patient's healing progress available. The documentation included narrative descriptions of the wounds that accompanied the images by e-mail.	Facilitate continuity of care, Skill to care Wound Assessment	1. Use of digital photography 2. A visual record 3. accurate assessments
7	(Etingen et al., 2020)	Evaluation of the TWP will identify barriers and solutions to Tele-Wound implementation in a small number of sites that can be used to inform successful	Teleheath benefits	1. clinical outcomes 2. and travel burdens and 3. Costs.
8	(Timpel & Harst, 2020)	The qualitative content analysis yielded five categories as well as subcategories, covering a need for high-quality studies, comprehensive technology assessments, in-depth considerations of patients' characteristics, ethics and safety as well as implementation strategies.	Implementation strategies.	1. covering a need for high-quality studies, 2. comprehensive technology assessments, 3. in-depth considerations of patients' characteristics, 4. ethics and safety as well
9	(Huang et al., 2016)	Overall, nine participants had a largely negative view towards telemedicine, while five were open to trying it. Three had mixed opinions, with negative views towards videoconferencing and positive views towards Tele-monitoring devices.	-Barriers to Telemedicine	1. Concerns about technology 2. Lack of familiarity with technology 3. Perceived inability to learn 4. Unclear advantages of telemedicine Value of in-person clinical encounters
			-Benefits of in-person evaluation, diagnosis, and therapeutic interventions	1. Preference for face-to-face community. 2. Clinic visits as relationship building.
			-Positive attitudes towards telemedicine	1. Baseline familiarity with technology 2. Convenience of telemedicin**e**

No	Autor	Result	Themes	Sub-themes
10	(Kayyali et al., 2017)	The discourse analysis showed certain gaps and variations within the screened leaflets when Addressing the following aspects: cost of the Tele-health service, confidentiality, patients' choices in addition to equipment use and technical support. Analysis of the interviews revealed patients' need for having clear and sufficient information about the Tele-health service within the THLs; in addition to, patients' preference for the use of simpler terminologies for Tele-health description and the provision of clear simple texts with pictorial presentations.	Tele-heath benefits	1. Tele-health service fees, 2. confidentiality, 3. Pictorial presentation. 4. Technology disruption and equipment failure, 5. losing face-to-face contact with health care professionals; and relying too much on Tele-health services

RESULTS

Meta-Analysis Findings

A total of 10 qualitative journals were identified as meeting the inclusion criteria (included papers table). This meta-analysis identified four overarching themes with 17 sub-themes. The four are knowledge of wound, technology for wound care, telehealth benefits, management system. (Table 3. Theme structure)

Table 3.
Theme structure

No	Author	Knowledge of wound			Wound care technology			Challenge Management System		Teleheath benefits				
		Knowledge of wound	Skill to care	Wound assessment	Digital photography, video demonstration Tele-health-guided	Web based recording	Video calls / teleconferencing	Challenge to easy uses	Telehealth management system	Patient comfort	Reduced cost of care	Patient privacy	Setting clinic	Outcomes
1	(Varga & Holloway, 2016)	x	x	x				x			x			
2	(Armstrong et al., 2020)			x			x							
3	(Powell et al., 2017)						x			x	x	x	x	
4	(Kolltveit et al., 2016)		x	x	x	x	x		x			x		
5	(Rahimpour et al., 2008)				x			x	x	x				
6	(Visco et al., 2001)		x	x	x			x	x					
7	(Etingen et al., 2020)		x				x			x	x			x
8	(Timpel & Harst, 2020)	x		x				x	x					
9	(Huang et al., 2016)							x						
10	(18)	x	x								x			

Knowledge of wound

The theme of knowledge about wounds revealed that knowledge is a strong theme with all participants (Varga & Holloway, 2016). Patients with chronic wounds ask various questions regarding the treatment and progress of their wound situation. And the situation requires the ability of the nurse about the wound as expressed by one of the participants.

"These are all kind of complicated situations and you are trying to put the pieces of the puzzle together." (Varga & Holloway, 2016) p.5).

Compiling knowledge in the application of wound care practices becomes a puzzle that nurses must solve in carrying out wound care to provide the best wound care according to the patient's condition.

1. Skill to care

Skills in wound care are a priority for nurses to have, so that the goals of wound care are achieved, and do not cause problems due to the lack of skills possessed by health workers, this was expressed by participants who expressed their distress when they found officers who were less skilled in treating wounds chronic patient.

'There are nurses that couldn't give a flying you know what about wound care. You watch them clean a wound and you want to say, GIVE ME THAT THING!'(Varga & Holloway, 2016) (P.2).

Telehealth also helps participants improve their wound care skills because, with the recording on the web, a consultation with the wound team has been carried out.

"Removing hard skin as well. My clinical gaze has improved, but also because of more experience with wound care" (Kolltveit et al., 2016).

2. Wound Assessment

The ability to assess treated wounds became a separate sub-theme, this was expressed by participants who stated that wound care had several criteria to state that the wound had healed or not.

…'I know that skin assessments aren't done.' (Varga & Holloway, 2016) (p.1).

Telehealth also assists participants in conducting wound assessments, by reviewing previous wound data so that wound progression can be assessed.

…'I have become more aware of preventing any new foot ulcers when applying telemedicine. Inspection of both feet to see if there is any skin cracks…' (Kolltveit et al., 2016).

Wound care technology

1. Digital photography, video demonstration and Tele-health-guided
   Participants will look at the previously taken wound pictures to see the progress of the injuries that have occurred. Participants will take digital photos back as new data from the patient's wound (Kolltveit et al., 2016).

2. Web-based recording
   Recording using web base records as submitted by participants stating that:
   "Using this web-based ulcer record gives us very good and structured working processes. The web-based ulcer record requires information in a structured way, and it steers our focus in that direction. It`s a kind of a steered process in seeing the whole person." (Kolltveit et al., 2016).
   Data is used to see the progress of the wound by looking at previous wound data stored in web-based records.

3. Video calls
   All participants have a good interest in the use of video calls in the future (Powell et al., 2017).

Challenge Management System

1. Challenge to easy uses
   This theme is related to the theme of the challenge, as participants recognize the need for additional services while recognizing the barriers to wound care that can slow down the wound healing process. This was revealed by the nurse participants.
   'You feel like Inspector Gadget.' (Varga & Holloway, 2016) (p.2),

   Demonstrates the challenges of technological shortages in wound care so that they can overcome all the problems that arise in treatment. And also expressed by other participants who stated:
   'It's not about the wound, find something out about them and don't forget that.' (Varga & Holloway, 2016) (p.2),

   The nurse participants suggested that health care professionals should not only focus primarily on wounds but also develop the science of wound care, as an art of caring for individuals holistically.
   Some patient-participants feel they cannot use the system independently and show a low level of trust in the telehealth system (Rahimpour et al., 2008), this is a challenge to make how the system is easy and easy to use.
   "This is a very difficult system…" (Rahimpour et al., 2008).

2. Management system telehealth
   Some difficulties in implementing telehealth were raised by the participants, ranging from difficulty in taking pictures due to some difficulties in the situation in treatment, time to visit wounds and others. This was as stated by the participants.
   "Many times, when reporting in the web-based ulcer record we see that the images taken that day do not have good quality because of limited light in the room. We cannot go back again and take some new ones, so then new images have to be taken on the next visit the following week" (Kolltveit et al., 2016).

   The use of telehealth is fully felt by patient participants, because it allows patient participants to independently monitor their health as expressed by participants in the study (Rahimpour et al., 2008) which states that:
   "…This system provides more accurate description about my conditions…" (Rahimpour et al., 2008).

Telehealth benefits

1. Patient comfort
   Patient comfort was reported as a positive experience. By following Telehealth video visits, participants felt they did not need to leave their work and had to travel.
   "You're sitting right in your room on your computer. How much more convenient can that be? And you don't even have to take a shower. I mean you can get on the computer, talk to the doctor, go back to bed."(Powell et al., 2017).

   Some participants also feel comfortable because they do not have to wait long for a consultation compared to coming to the health service.

…'Just getting to an appointment is a task for me…. Going down my stairs to my computer, it's better."(Powell et al., 2017).

Comfort was also felt by patient participants in the patient perspective study of technology use, who stated they preferred telehealth to other health care methods.
"…I think this system is really convenient. I don't need to visit my doctor as often if I have this system installed at home." (Rahimpour et al., 2008).

2. Reduced cost of care
   Being able to reduce maintenance costs was the most frequently expressed by the participants. With telehealth, participants do not have to pay for transportation, parking, payment for services (Powell et al., 2017).

3. Patient privacy
   Most patient-participants feel that they lose their sense of "privacy" from the Tele-Heath video visits service when participants are at work but do not consider it a significant limitation, because they do not have to miss work (Powell et al., 2017). Different perspectives on participants prefer to hear bad news about their health through Telehealth video calls, participants feel more privacy and more prepared before participants get support from those around them
   "If it was something earth-shattering, you could cry in your own bedroom and not have to worry, I mean driving from downtown and you're upset or what-not…"(Powell et al., 2017).

   The use of telehealth from the point of view of health care providers also feels a feeling that treatment activities interfere with patient privacy if they meet the demands of web base records to fill in patient data.
   "As a nurse, it can feel like invading the patients in their homes with questions about their diet and activity." (Kolltveit et al., 2016).

4. Setting clinic
   Some participants like telehealth video calls as a clinic setting for their health services, with the perception that if they go to health services, if they really need health services that cannot be handled independently by patients, this was revealed in the research of Powel et al 2017:
   "It would be my go- to for anything before I actually go into the doctor's office." (Powell et al., 2017).

5. Health outcomes
   Most of the patient participants stated that they liked telehealth, by using the telehealth the participants could become more aware of their health conditions so that they made the patient's mind calmer, as expressed by participants in a study of patient perspectives (Rahimpour et al., 2008).
   "I really like it because I get to know whether my body is functioning well from the daily measurements that are shown on the computer at the comfort of my own home. This means that I don't have to worry about my health as much." (Rahimpour et al., 2008).

DISCUSSION

Patients, families, and communities are demanding changes in the care of their chronic wounds. Which considers the physiological, psychological, social, and financial burden of the patient's injury. Many factors are influencing changes in the provision of health care for patients with chronic wounds, including managed care, limited numbers of wound care therapists, an aging and disabled population, regulatory and malpractice issues, and discontinued care. These are some of the expectations expressed as a form of experience from patients receiving tele-healthcare, including knowledge about wounds.

1. Knowledge of wounds.

Some aspects that need to be considered as part of the knowledge possessed by a chronic wound nurse include the characteristics of the wound, skills to care, and wound assessment. In providing chronic wound care, knowledge about the wound becomes a priority because the patient feels comfortable when asking questions and being answered by the nurse well and this situation will build motivation to realize how the wound has developed, the patient's curiosity is answered. The need for safety and comfort can be met because anxiety can be reduced by receiving answers from nurses caring for wounds. This is supported by research which states that nurses are required to have adequate knowledge and skills related to the wound care process starting from a comprehensive assessment, planning appropriate interventions, implementing actions, evaluating results found during treatment, and systematic documentation of results (Kayyali et al., 2017).

Wound assessment is the knowledge that must be possessed by a wound nurse. Knowledge of how to assess wounds will have an effect on the management of chronic wounds. This is in accordance with best practice in chronic wound care which states that chronic wound assessment is the activity of identifying, collecting, and interpreting information about chronic wound patients to ensure accurate diagnosis, appropriate treatment decisions can be made on patients and their wounds. So that the wound can be monitored, and complications can be avoided (Miller, 2016). It is also important to assess the use of chronic wound equipment that can save costs, the resources of the patient. So that it will provide a positive experience for the patient in the wound care he receives. The wound assessment includes consideration of the patient's age, history of problems that arise, and the individual's past and current treatment, medical and family background, nutritional status, chronic medical conditions, lifestyle choices, psychological status, and socioeconomic status.

Skill to care must be possessed as a chronic wound care practitioner, this is in accordance with the research that states that practitioners must be knowledgeable and aware of the importance of assessment and allow sufficient time to conduct a thorough and efficient assessment. The nursing intervention provided must be able to prevent injury, reduce pain and patient anxiety and be able to provide comfort (Miller, 2016). A practitioner must have knowledge of chronic wounds because knowledge is closely related to the ability to perform skills in wound care that it provides. In carrying out nursing practice duties, nurses are required to have the ability to carry out nursing interventions based on their knowledge, skills/expertise.

2. Wound care technology.

Science, technology, and nursing technical skills/expertise skills must be possessed by a nurse. With Telehealth, it is hoped that nurses can improve their knowledge and skills before carrying out nursing interventions on patients. Skills that must be possessed by wound nurses

are the ability to take corrective action on wound assessment, this will affect the interventions to be carried out on patients.

Digital photography, video demonstration, Tele-health-guided, and Web-base record is a technology used to perform examinations and images, by applying a web-based ulcer record to be viewed again as a structured and directed process that forms the focus of the practitioner's attention in observing the development of the wound. And using technology can support and improve comprehensive nursing care for patients, because applied telemedicine in home-based care can make practitioners approach patients more comprehensively, without disturbing patient privacy (Kolltveit et al., 2016).

E-mail transmission of images and video calls/emails are also used as other alternatives in implementing wound care interventions. The use of videomail helps convey non-verbal information such as changes in expression and appearance, which are difficult to describe in words (Kawaguchi et al., 2004). Thus there is an increase in technology to assist nurses in carrying out nursing interventions. This is expressed by the patient considering that the patient will always ask the nurse how the wound developed. Using technological tools such as digital photography, video, or telehealth recordings, images of wounds can be saved and progress and changes that have occurred, either towards improvement or otherwise, taken into account in determining further interventions.

3. Challenge Management System

The need for additional services is also aimed at overcoming barriers to wound care that can slow down the wound healing process. For example, a patient can express concern or progression of a wound using telehealth. This was expressed by the participating nurses who said that there are challenges in needing technology in wound care so that they can overcome all the problems that arise in treatment. Health professionals not only focus primarily on wounds but also develop the science of wound care, as the art of treating individuals holistically.

The challenge to easy uses looks at the intention to use telehealth, the impact of telehealth on patient health management, concerns related to the use of the application, cost issues, ease of use, clinical support, low self-efficacy, and anxiety associated with using telehealth (Rahimpour et al., 2008). Become a challenge that must be resolved before the use of telehealth. Telehealth system management, challenges arise because of the response to difficulties. Challenges in terms of taking pictures due to some difficulties in the situation in treatment, time to visit the wound, and internet access. This encourages the management of the telehealth system in the form of guidelines or protocols that guide the implementation of telehealth as an implementation strategy. The implementation strategy must pay attention to the results of high-quality studies, the existence of a comprehensive technological assessment, in-depth consideration of patient characteristics, and attention to ethics and patient safety (Timpel & Harst, 2020).

4. Telehealth benefits

The benefits of using telehealth in wound care were expressed by patients because patients feel comfortable, as a positive experience by participating in Telehealth video visits, patients feel they don't have to leave their jobs and have to travel, don't wait long, and follow the queue at the hospital. Telehealth is also able to reduce the cost of care that is most often expressed by patients. With telehealth, patients do not have to pay for transportation, parking, and service payments. This is in accordance with research conducted on the benefits of

telehealth which states that the main benefits found are patient comfort and reduced treatment costs. Patients feel more comfortable with telehealth than with hospital visits (Powell et al., 2017).

Some of the articles encountered obstacles faced in telehealth that need to be considered such as the need for patient privacy, due to concerns from participants about the confidentiality of their health status, and the need for direct physical examination by health workers (Powell et al., 2017). Different circumstances and situations in home-based care using telehealth become a challenge, because services are provided with a more comprehensive approach to patients (Kolltveit et al., 2016). But telehealth can be an alternative treatment for patient health services and will seek treatment at health services if they really need health services that cannot be handled independently by patients.

CONCLUSIONS

Patients' perceptions about wound care using telehealth contain hope about several things, namely Knowledge of wound, wound care technology, Challenge Management System, Telehealth benefits. Nurses who carry out chronic wound care in patients with telehealth are expected to be able to do this.

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