

Telenursing In Home Care Services Experiences of Registered Nurses

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Abstract

This paper reports on experiences of telenursing by registered nurses working in home care services with a focus on leg wounds and their treatment. In the daily work of care giving, distant treatment was provided through technology for two-party encounters between registered nurses and patients. Ten video recorded interviews were conducted with five nurses. Data were analysed with content analysis. The results show that in virtual encounters the nurses felt great satisfaction from having an image of the patient while simultaneously assessing the situation. According to the nurse the patients expressed a sense of security from having audio and video contact with the nurses. The nurses were interested in and utilised the digital camera for recording photos of the wounds. They used the web application to gather information for patients and their kin, and for training while delegating to colleagues, co-workers, and students. The future vision is that two-party encounters are an effective form of communication.

Keywords: **home care services, registered nurse, telenursing, treatment, wounds.**

1. Introduction

Technological progress is under way in care giving [1], which among other things has led to the development of telemedicine and telenursing. Telemedicine is the best known and most generally used communication and information within clinical medical care. Telenursing is nursing practice in cyberspace, and is used for nursingcare services between patient and registered nurse. Both these forms of net communication and information technology are dependent on human, financial, and technological factors, and the question is when this will became a given for elderly person in the home care services system [2].

Among retired persons in Sweden, aged 65 to 74 years old, currently 40% are computer users [3], and they typically do not require home care services until turning 80 years. On the other hand, persons over the age of 80

are rarely computer users, while being in need of care and treatment in their homes. Among those who benefit home services, 70% are 80 years or older [4]. Home care services in Sweden are health care provided in the patient's residence or the equivalent, and are consistent over time. Most elderly people prefer home care to residential care [5]. Against this background there is a growing demand for the nursing profession to change its current practice in favour of new technologies, for example to communicate via video telephony with elderly about their needs, expectations and feelings [6].

Patients and nurses have shown interest in using audio and video contact during home care service encounters [7]. The primary stated wish was that the system would work in installing a sense of security for patients and that there would be no discernible differences experienced between physical and virtual encounters. In a study,

in which physical encounters were alternated with virtual ones, the researchers were able to demonstrate that virtual encounters did not entail any negative impacts on the care of the elderly [8]. Elderly, ill women, who participated in video conversations with their kin and caregivers, were invigorated, stimulated, and felt gratitude to have had an opportunity to participate, despite the fact that they harbored feelings of resignation, sorrow, and helplessness due to their state of dependency and disability [9]. When testing different communication models, also Lamb and Shea showed that, the virtual encounter offered the opportunity for more information about the patient's clinical status than did the physical encounter, and that the technical difficulties were perceived as minor and as having no impact on the quality of care [10]. The integration of information and communication applications with clinical work and care giving can

also be used for distant learning. This form of education for health care personnel is a strong tool to support life-long learning at the workplace during a number of years [11].

Nurses in Sweden are responsible for care giving work and clinical decision-making in the context of treatment within home care services [12]. In the project *Everyday Learning – Leg Wounds and Their Treatment* participating nurses were responsible for the task of treating patients' leg wounds [13]. In the daily work of care giving, distant care was provided with the help of technology enabling two-party encounters between nurse and patient [14]. The technology for audio and video transfer consisted of fixed video telephone equipment with digital telephone connections (Figure 1).



Figure 1 Visiontech 640P

The patient's video telephone was connected to a television set in order to provide a larger and better quality image than the one appearing on the videophones' display screen. The nurse used the videophone connected to the existing stationary computer at the office. They used the videophone mainly in collaboration with the patient, both at the patients' home, being with the patient, and from their office to connect with the patient. Web-based material on leg wounds and their treatment was made available at www.skane.se/bensar, and was in part specifically designed for nurses and partly for patients and their kin [15]. This web-based consultation and teaching concept offered education opportunities for both patients and care-givers. The health care personnel had access to the web

material through the project website [13].

Research within this area often reports on telemedicine, but not that often on telenursing or patient's perspective. The qualitative research approach within the telemedicine/telenursing area is scarce and there are demands for holistic analysis from a user perspective. Although telenursing has been in existence for a number of years, there is almost no research on the experiences of nurses in working with telecommunication in the homes of elderly persons. The aim of this paper is to describe the registered nurses' experiences of telenursing in home care services in the context of wound treatments.

2. Methods

The point of departure for this study was a phenomenological perspective [16-17]. The nurses were interviewed with open-ended questions in semi-structured interviews, with the help of video, focusing on their use of IT support when caring for home care services patients with leg wounds. Data were gathered during ten months, from February to November 2004, and were analysed via a process of content analysis [18].

Included in the study were five registered nurses who utilised IT support with videophone in their treatment of one patient each, except for one nurse who was treating two patients. The five nurses were nurses available, who participated the entire implementation period. The ages of the nurses ranged from 27 to 61 years with a median age of 48. Their length of service within health care ranged from four to 37 years, median 15 years.

The nurses obtained verbal and written information about the study and gave their consent to participate. They were informed that they could at any time choose to end their participation in the study. The study was approved by all relevant supervisors, and research permission was granted by the Research Ethics Committee in

Lund/Malmö at Lund University, LU 424-03, 2003-09-11.

Data were gathered in videotaped interviews. First author had advanced knowledge in video technology and conducted all interviews. Each nurse participated in two videotaped events. The first took place during the metaphase, after five months, of the project. This interview was conducted as a dialog between the researcher and the nurse with a focus on the use of visual communication. The second recording event was conducted during the final phase, after ten months, of the project. This interview was carried out as a follow-up to the first one, and was focusing on mapping the nurses' experiences in using visual communication. The video recording events took between 15 to 30 minutes and were conducted during an uninterrupted time in the nurses' workplace, using a handheld video camera. The interview guide had a semi-structured character and was used as a checklist. All interviews were transcribed verbatim, taking into consideration explicit (directly understood) and implicit (implied) content [17]. The videos were repeatedly replayed in order to verify data, and the transcripts were read through in order to gain a holistic understanding of the data material [16]. The transcripts from both interview events for each nurse were treated as one document in the process of analysis.

A content analysis according to Burnard [18] was conducted of the transcribed interviews. In the process of analysis, the researcher was conscious of the need to search for the truly relevant units of meaning [16]. The transcripts were carefully read multiple times and notes were made regarding general themes relevant to the study. The analysis began with open coding in several steps in order to search for units of meaning. Those units of meaning that were found to correspond with the aim of the study were noted, condensed, and coded [17]. The system of categories was discussed between the two authors and certain edits were made. When comparing the different codes there were minor disagreements between

the authors, which were revised after discussions. Then categories and sub-categories were identified determined

with their corresponding units of meaning. (Table 1).

Table 1. Examples illustrating the process of analysis from transcribed interviews using units of meaning, codes, subcategories, and categories.

Unit of meaning	Condensed units of meaning	Codes	Sub-categories	Categories
IP 1: In my experience, no matter what form of communication, each encounter always takes place on the patient's terms. I listen, and I learn what he/she wants. Then I discuss the treatment question with the patient and together we decide how the specific tasks can be carried out and by whom.	Significance of interaction with patient	Patient's and co-workers.	The patients' and co-workers' need for continuity, respect, and cooperation/collaboration.	Interaction.
IP 4: For me, the use of audio and video technology is an asset to care giving. But it has to work. Through this technology, I was able to easily access the knowledge I need in an urgent care situation, for example by sending the image of the wound to a physician or a colleague. IP 2: The web material is an excellent source of knowledge for teaching and learning about leg wounds. This I have also experienced in the context of wound healing with the patient and kin. I have also used it together with co-workers when delegating tasks related to wound treatment.	Significance of the technology in care giving.	The technology as support through use of video telephone, web application, and digital camera.	The technology in care giving and its impact on decision-making and delegation of treatment and learning.	Technology as support.
IP 4: This worked directly to the patient's home to have the image of the patient. To quickly get connected and be able to offer timely answers. This minimises traveling and costs, and leads to both humanitarian and financial gains.	Distant care and its potentials and obstacles.	Potentials and obstacles of distant care.	The need for distant care today and in the future.	Distant care.

The final category system was examined by both authors, considering clear differences between categories and if data within categories fit together. Meaning units within all sub-categories were checked for accuracy, 100% by first author and 30% by second author. After all relevant units of meaning had been identified and sorted into their respective

categories, and sub-categories, both authors together synthesised a theme for the results [16-17].

3. Results

The result is presented in a theme including categories and sub-categories. The theme for the result was that

nurses use technology as a support in decision-making and treatment, delegating and learning, in order to promote interaction while retaining continuity, respect, cooperation, and collaboration in current and future distant care. An overview of identified categories and sub-categories as well as the theme is presented in Table 2.

Table 2. Overview of the theme, the categories, and the sub-categories.

Theme	Nurses use the technology as a support for decision-making and treatment, delegating and learning, in order to promote interaction while retaining continuity, respect, cooperation, and collaboration in current and future distant care.		
Category	Interaction Patients Co-workers.	Technology as support Video telephone, Web application, Digital camera.	Distant care Potential, Obstacle.
Sub-category	Continuity, Respect, Cooperation/ Collaboration.	Decisions/Treatment, Delegating, Learning.	Present /Today, Future.

The contents for each category and corresponding sub-categories, in *italics*, are presented below. Quotes from the interviewees are provided in order to deepen the understanding of the content of each category.

3.1. Interaction

The nurses' first contact with each patient was initiated by a message either from the hospital or from the individual patient. The nurses felt that, at the time of first contact, the encounter should take place on the patient's terms and that the nurse should show *respect* for the patient's wishes, while clearly indicating that the patient must understand the importance of treatment.

According to the nurses, *collaboration* between colleagues and other co-workers took place in a direct way in the beginning of the project, but was gradually transferred to the digital technology. In the various workplaces there were between four to ten nurses and a corresponding number of co-workers, i.e. Licensed Practical Nurses (LPNs). It was easy to, during meetings and breaks, spontaneously discuss situations that arose in the care of leg wounds and, initially, the use of the digital technology was often overlooked. Outside the workplaces of the nurses there was no physical or virtual contact with hospi-

tal colleagues. Within the home care services area there was one nurse especially assigned to wound treatment, and two of the nurses participating in this study had had sporadic digital contact and *collaboration* with this person. One of the nurses stated:

'I have on occasion contacted the specially trained nurse in order to discuss patient wound healing and to get current information about the topic'. (IP 5).

The nurses discussed contacts with the physicians responsible for patient care. Nurses had problems reaching the specialists and felt that there was a lack of *continuity* during the patients' doctor visits. Frequently the patient encountered at each visit a new physician and a new treatment plan. As needed, nurses would call the specialists, but often they were not available. The nurses' wishes that the physician would return their calls were not realised. In those cases where a general practitioner was responsible for the care of leg wounds, the nurse felt that this worked, as time was set aside for consultation and also for a possible doctor's visit with the patient. The general practitioners were not generally experts in the treatment of leg wounds and, according to the nurses, did not have adequate knowledge. These physicians were happy to delegate leg wound treatment to the nurses and/or to refer the patient

directly to a specialist. The role of the general practitioners was to write prescriptions and to treat any other symptoms or illnesses the patient may have.

3.2. Technology as support

The five nurses used videophones for synchronic communication between their workplaces and the residences of the patients. They were actively engaged in net contact with the six patients. Three of the patients were active users of the videophone, while three were passive users in that they usually used the videophone when with the care-giver or kin. The nurses did not only have direct video contact with the patients, but also discussed via videophone with their colleagues actual clinical *decisions*. One nurse, who was active in her net communication and consultation with the patient and kin felt time-pressure and was of the opinion that she could have used the net communication in a much better way. Another nurse pointed out that this work method was ten years ahead of the times, and that neither the elderly patients nor the aging nurses had adapted to this new technology. As far as the nurses were concerned, it would have been a lot more satisfying had the physicians also been involved in the video communication. There was a lack of inter-

est on the behalf of physicians, and the technical infrastructure did not work between the nurses and the doctors. Firewalls caused problems for the nurses communicating by video with the doctors because they were using different network systems. Nurses related that they wished they could have sent an image asynchronously via e-mail to a physician in order to get support and advice in continuing treatment, but that doctors were not up for net communication, as is illustrated by the following quotes:

'The doctors are not tuned into the possibilities of this new technology' (IP 1). ... There has not been this sort of thinking about digital images, sent via e-mail, or that we can use other technology for communication and avoid travelling to patients. We could have made better use of this than we have. It would have been good to have images of the leg wounds' (IP 2).

The nurses related that they had access to digital cameras and that they regularly took photos of the patients' leg wounds. They accumulated a photo archive and followed the progression of the patients' leg wounds. The group of nurses often engaged in discussions via videophone around the photos of leg wounds. Additionally they also collectively made decisions regarding clinical issues.

The photo material was also used in the context of training and learning together with colleagues and practical nurses, as well as with students. The nurses stated that the web application was an easily accessible, informative and educational material with many applications for learning. The material contributed to updating previous knowledge about leg wounds, and treatment. Furthermore, it was excellent for being used in the context of delegating tasks to LPNs. From web material the nurses printed out relevant pages for patients and kin. In the beginning of the project the LPNs did not have access to their own computers, but the nurses used their computers for training. At the end of the project the LPNs could themselves log on to the web material.

3.3. Distant care

The nurses stated that *today* the videophone provides the possibility for a direct, quick connection to the patients at home and for assistance in everyday care giving. They also expressed that, in their understanding, the patient felt secure and positive about encountering the nurse directly by video transfer. The nurses related that it worked well to use direct video connection with colleagues, to pose questions and initiate discussions based on the web material. What did not work, however, was the net connection with physicians at the hospital and local clinics. Today obstacles in transmitting wound photos synchronically, as well as asynchronously, to physicians for their opinions were found. The physicians did not provide any particular time for this form of consultation.

All of the nurses were of the opinion that even *today* the web material was an excellent source of information and knowledge. They used the material for discussions with their patients. The nurses were fiscally responsible for their work with leg wounds, and it was valuable for them to be able to control costs for bandages as well as the quality and usefulness of these materials against what was stated in the web material.

Even *today* the visual connection was a help to the nurses while getting oriented to the situation and in determining when the patient needed an in-person visit. The nurses were careful to point out that a virtual encounter would never be allowed to replace an in-person one. One nurse said about distant care:

'It has been an interesting time and I have had good video communication with the patient, and both the patient and kin with me. The patient has been amazingly interested and read an article about this form of communication and got a very positive view of the ability to enter into direct video connection with both the nurse and the physician. Her thoughts are that this should have been going on for much longer and ideally should have

continued without interruption'. (IP 4).

The nurses pointed out that *at the present time* there were no computers in the proximity of the elderly patients, who did not feel up to approaching the new technology. A condition for computer support for the treatment of leg wounds was, according to the nurses, to first remove all obstacles around the net, net connection, and between all the different systems within the region.

'The demands on the technology have to be strengthened and the systems between the different levels of care have to function and the technology has to contribute to better collaboration between them.' (IP 1).

If the technical infrastructure worked, the patient could, according to the nurses, receive care quickly, efficiently, and with high quality, while being allowed to stay in their residences. The nurses expressed that, in the *future*, there were potential humanitarian gains as well as financial ones to be made through avoiding sending a seriously ill or disabled person to a doctor only in order to show a leg wound.

'It should have been possible to send images instead of sending the patient to a doctor; so you could avoid a taxing journey. Maybe the images would tempt the doctor to come here instead. That would be a lot more comfortable for elderly people who are in generally poor condition' (IP 5).

The nurses envisioned many *future* potentials of the new technology, as one of them expressed as follows:

'The task of the nurse is to make life easier for those receiving care. I hope I will be able to continue working like this and that the project does not disappear because of lack of financial resources. It would save me time, to be able to send images to doctors or colleagues to discuss directly'. (IP 1).

The nurses stated that, in the *future*, when a new generation of elders with more computer experience will be in need of care, computers with web cameras or digital cameras will become natural tools for assisting in virtual and visual communication.

The patients themselves will be able to transmit photos and, to a much greater extent than is the case today, communicate digitally directly with care-givers not only nurses and doctors, but all personnel within all categories and levels of healthcare. For nurses and doctors, it will become a required, natural mode of working with the digital infrastructure.

'The future thought is that video telephones will be replaced by computers when the Baby Boom-generation become the patients of home care services. They all have computer experience and have broadband connections at home and can use web materials. They do not have to be trained either, but will carry their computer experience with them from their work experiences'. (IP 3).

4. Discussion

Current research on video communication focus essentially on video conferences for groups opposed to this study that focuses on two-party encounters meetings. The five nurses participating in the project have noted the value of humane and supportive two-party encounters via videophone. These encounters provided confidence for both patients and colleagues. The encounters were efficient and offered a natural communication and were experienced as a complement, as they were not allowed to replace a necessary face-to-face meeting. The experiences of the nurses in interacting with their patients via video communication are undoubtedly positive.

The participating patients have, according to the nurses, experienced this communication as an asset to caregiving, this corresponds with the results of Whitten, Collins and Mair [7].

The experiences of the nurses were concentrated around the technical infrastructure and its utilisation within home care services. This technical infrastructure was not utilised to the extent that had been planned. When the technology did not function properly, frustration arose between

professional groups, even though the technical difficulties did not significantly affect patient care. Similar findings are reported [10]. Despite these problems, the nurses were interested in continuing to use video and audio technology, and this resonates with other studies [7, 8, 9, 19].

On the part of the project leaders, the interest of nurses in using the video telephone, web application, and digital camera is seen as the most positive result. All five nurses were interested in continuing to communicate with the assistance of images in their everyday care giving. Nonetheless, there were difficulties for individual nurses to find the time to take advantage of technological innovation and to adapt work tasks to this new technology. The nurses stressed the future humanitarian, financial, and time-saving potentials of using video telephones in patient contact. Similar results are shown by Heinzelmanns et al [2]. Knowledge within the area of leg wounds was made available to both patients and caregivers through the web application. The training and learning that were developed through the net support were adapted by the nurses, who used it to their own benefit, but also for that of patients, kin, and LPNs. Similar experiences were demonstrated by Lamb and Shea [10], and Curran [11].

The net application was a self-produced medium by the researcher specifically made for home health care of leg wounds and their treatment, to be used in the context of implementation of video communication. Within healthcare in Sweden the interest in knowledge-transfer of media and communication design has increased significantly in recent years [20, 21]. Media should be designed for use in relation to a specific care giving context [20], which is what was done in the leg wound application [13]. Factors that affect learning and also the results of the self-produced medium may include the technical infrastructure, social relations, as well as the medium's own role and influence [21]. The innovative process in this study was to enter the computer and visual communication in the care and

treatment of leg wounds. The virtual concept appeared to support an active learning in everyday work life. The nurses became aware of their responsibility for their own skill development and also their contribution to staff development.

The goodwill of the nurses has been remarkable during the ten-month research phase. Video recordings worked well and respondents were not noticeably stressed by the ongoing recording, which was not experienced as distracting. In the initial phase of the project there was a plan to include more nurses. During the course of the study the patient number per nurse changed, as two patients suffered from a general deterioration in health and two passed away. This contributed to the fact that only five nurses caring for six patients, came to participate in this study. One of the strengths of the study is that the nurses were interviewed twice, both in the middle of and at the end of the project. This procedure gave richness to the data that contributed to the deeper understanding of the theme. Through the method of analysis, the researchers attempted to produce reliable results with high trustworthiness of the categories [16]. The researchers remained aware of the difficulties of identifying units of meaning and went through the steps of the analysis with accuracy [17]. In this process the video recordings have, because of the instant possibility of verification, contributed to minimizing erroneous interpretations and to isolating details, and has helped to obtain precise and tight data [22].

5. Conclusion and implications for future research

Most scientific papers discuss video communication conducted through conferences with groups of people. This paper presents a small intervention which increases and maximizes continuity of patient care for home-based patients, using technology to increase patient contact. The ability to maximize a two-party

communication between individual nurses and patients in everyday care giving is important. Two-party audio and video encounters can offer a quick, efficient, and natural interaction, but must be seen as complementary and not as a replacement for necessary face-to-face encounters. This is increasingly important as all countries find the cost of chronic care rapidly increasing at a time when more care is needed, both to ensure quality of care and to prevent morbidity. Technology has, over the past 4-5 years since this study was conducted, evolved to make this implication much more affordable and much easier for home-based patients to implement.

More research is needed regarding to what extent users need to retrain themselves and adapt to the technology. Since the result implicate the ability to provide more care, and higher-quality care there is a need to further investigate this, and also to investigate the cost-effectiveness of such an intervention. In order for the area of telenursing to develop, more empirical studies are needed to offer qualitative as well as quantitative insight about usability, the caring relationship, and the development of the nursing profession.

References

1. Fenwick T J. (2003). Professional Growth Plans: Possibilities and Limitations of an Organization wide Employee Development Strategy. *Human Resource Development Quarterly* (14), 1, 59-77.
2. Heinzemann P J, Lugin N E & Kvedar J C. (2005). Telemedicine in the future. *Journal of Telemedicine and Telecare* 11, 384-390.
3. *Privatpersoners användning av datorer och internet 2007*. [Use of computers and the Internet by private persons in 2007]. Available from: http://www.scb.se/statistik/publikationer/IT0102_2007A01_BR_IT01BR0701.pdf [In Swedish].
4. *Äldre – vård och omsorg år 2007*. [Care and services to elderly persons 2007]. Available from: <http://www.socialstyrelsen.se/en/show-pub.htm?GUID=%7BFDFC15E7-976E-4A8E-8488-OD9DBB23642B%7D> [In Swedish].
5. *Borta bra men hemma bäst*. (2005). [Away good but at home the best. A national review of the home care in Sweden]. Available from: <http://www.socialstyrelsen.se/Publicerat/2005/8922/2005-109-23.htm> [In Swedish]
6. Arnaert A. & Delesie.L. (2001). Telenursing for elderly. The case for care via video-telephony. *Journal of Telemedicine and Telecare* 4, 311-316.
7. Whitten P, Collins B & Mair F. (1998). Nurse and patient reactions to a developmental home telecare system. *Journal of Telemedicine and Telecare* 4, 152-160.
8. Demiris G, Speedie S, Finkelstein S & Harris I. (2003). Communication patterns and technical quality of virtual visits in home care. *Journal of Telemedicine and Telecare* 9, 210-215.
9. Efraimsson E. (2005). *Vårdplaneringsmötet: En studie av det institutionella samtalet mellan äldre kvinnor, närliggande och vårdare*. Dissertation. Umeå: Department of Nursing, Faculty of Medicine, Umeå University, Sweden. [In Swedish].
10. Lamb G S& Shea K (2006). Nursing education in telehealth. *Journal of Telemedicine and Telecare* 12:55-56.
11. Curran V R (2006). Tele-education. *Journal of Telemedicine and Telecare* 12, 57-63.
12. SOSFS (Socialstyrelsens författnings-samling), (1993:17). *Omvårdnad inom hälso- och sjukvården*. [National Board of Health and Welfare, Nursing care in Health Services]. Available from: <http://www.socialstyrelsen.se> [In Swedish].
13. Jönsson A-M & Willman A (2007). Development of a consultation and teaching concept for leg wound treatment in home health care. *Journal of Telemedicine and Telecare* 13; 5: 236-240.
14. Jönsson A-M & Willman A (2008). Implementation of IT-support within home health care treatment of leg wounds. *Telemedicine and e-Health* 14; 10: 1057-1062.
15. *Vardagens lärande – Bensår*. [Everyday Learning – Leg Wounds]. Available from: <http://www.skane.se/bensar> [In Swedish].
16. Kvale S (1997). *Den kvalitativa forskningsintervjun*. [The qualitative research interview]. Lund: Studentlitteratur. [In Swedish].
17. Ely M (1991). *Doing Qualitative Research: Circles in Circles*. New York, The Palmer Press.
18. Burnard P (1991). A method of analyzing interview transcripts in qualitative research. *Nurse Education Today* 11, 461-466.
19. Magnusson L, Berthold H, Chambers M, Brito L, Emery D & Daly T. (1998). Using telematics with older people: the ACTION project. Assisting Carers using Telematics Interventions to meet Older persons' Needs. *Nurs Stand* 13; 5: 36-40.
20. Hillgren, P-A. (2006). *Ready-made-media-actions*. Dissertation. Malmö: School of Arts and Communication. Malmö University, Malmö, Sweden.
21. Björgvinsson E B (2007). *Social-material mediations. Learning, knowing and self-produced media within healthcare*. Dissertation. Malmö: School of Arts and Communication, Malmö University in collaboration with Department of Interaction and System Design, Blekinge Institute of Technology, Malmö and Karlskrona, Sweden.
22. Halima S-L. (2001). Video Recording as a Method of Data Collection in Nursing Research. *Vård i Norden* 2, 21-26.

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