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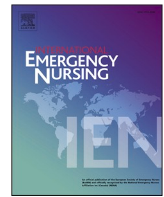

The experience of non-conveyance following emergency medical service triage from the perspective of patients and their relatives: A qualitative study

Silvie C.M. van Doorn, RN, MSc [a,*], Ruud C. Verhalle, RN, MSc [a], Remco H.A. Ebben, RN, PhD [b], Donna M. Frost, RN, PhD [c], Lilian C.M. Vloet, RN, PhD [b,d], Carin P.M. de Brouwer, PhD [c]

[a] Ambulance Service Brabant Midden West Noord, 's-Hertogenbosch, The Netherlands
[b] HAN University of Applied Sciences, School of Health Studies, Knowledge Centre of Sustainable Healthcare, Research Department of Emergency and Critical Care, Nijmegen, The Netherlands
[c] Fontys University of Applied Sciences, Faculty of People and Health, Master Advanced Nursing Practice, The Netherlands
[d] Radboud University Medical Center, Nijmegen, IQ Healthcare, The Netherlands

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ABSTRACT

Background: As many as 25% of all Dutch ambulance emergency service assignments result in non-conveyance of the patient to the hospital. Little is known about how patients and their relatives experience being left at home by an ambulance nurse after an acute request for medical help.

Aim: To gain insight into the experience of patients and their relatives with a high urgency request for ambulance assistance that results in non-conveyance, with the ultimate goal of offering adequate follow-up.

Method: A qualitative design based on semi-structured interviews with fifteen patients and seven relatives, conducted between September and November 2018.

Results: Four themes emerged from the thematic analysis: Fear as the prominent emotion, four components of confidence in decision-making, different consequences and coping between patient and relative(s) over time and the perceived need for evaluation afterwards.

Conclusion: The experience after non-conveyance has several phases in which fear, reassurance, confirmation (for relatives) and shame (for patients) follow each other throughout the care process. Complex interpersonal skills of ambulance nurses congruent with the concept of person-centred care can modulate this impact. These findings offer starting points for the optimisation of training programmes within the ambulance care sector.

1. Background

In Europe the demand for ambulance care is increasing due to an aging population and related prevalence of comorbidities. A cohort study from Denmark showed an increase in acute ambulance care requests from 24.3/1000 inhabitants in 2007 up to 40.2/1000 inhabitants in 2014 [1]. An increase in demand for ambulance care is also present in the Netherlands, which according to de Haas et al. is due to population growth, aging population, changing citizen demands, and decreased accessibility of the general practitioner (GP) [2]. This overload in the chain of primary and emergency care does not only lead to overcrowding in the emergency department, but also in GP and outpatient clinics and home care settings [3]. Also in Sweden the increasing demand for ambulance care has led to an increase in non-conveyance [4]. Non-conveyance is an appropriate outcome following an ambulance dispatch when the patient, after on-scene assessment and where necessary treatment, does not require conveyance with medical personnel and equipment to a healthcare facility [5]. These developments coincide with particular developments within the emergency care system: where historically ambulance professionals focused on safely transporting patients from prehospital to hospital care, nowadays their focus includes assessment, triage and treatment, sometimes including advanced emergency care, in the prehospital phase [6]. This makes it possible to decide to leave the patient at home with adequate instructions or a

* Corresponding author at: RAV Brabant Midden-West-Noord, Postbus 3024, 5003 DA Tilburg, The Netherlands.
E-mail addresses: s.van.doorn@ravbrabantmwn.nl (S.C.M. van Doorn), r.verhalle@ravbrabantmwn.nl (R.C. Verhalle), Remco.Ebben@han.nl (R.H.A. Ebben), d.frost@fontys.nl (D.M. Frost), Lilian.Vloet@han.nl (L.C.M. Vloet), c.debrouwer@fontys.nl (C.P.M. de Brouwer).

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referral to settings other than the hospital emergency department [6].

In Scandinavian countries and the Netherlands such prehospital care is provided by specialized nurses who are allowed to make medical decisions on the basis of protocols. A significant proportion of patients arrive at an emergency department after being transported with an ambulance with an high urgency level [7]. For cases with high urgency the ambulance should arrive at the scene within 15 min, as there might be life threatening conditions. For this highest level of urgency the ambulance uses lights and sirens [8]. In Denmark, Christensen et al. described that some patients who are conveyed by an ambulance to a hospital, "would be helped better by another kind of support, and future studies are needed to explore this" [9]. From the perspective of ambulance nurses non-conveyance is experienced as a difficult and sometimes frustrating procedure due to perceived misuse of ambulance resources [4]. At the same time the decision for an appropriate alternative level of care or care path in case of non-conveyance by the ambulance nurse makes the patient more dependent and vulnerable [10]. Given the changing nature of this care relationship, exploration of the patient perspective to understand patients' experience of non-conveyance is needed [9,10].

Several studies showed that non-conveyance patients seem to be younger, often live in rural areas, more often have initial reasons for care related to mental, behavioral and neurodevelopmental disorders, and the majority have at least one abnormal vital function [11–13]. At the same time (new) prehospital care paths facilitating people to be treated and taken care of within their home environment have been developed to maintain quality, affordability and accessibility of care, made necessary due to previously described aging of the population with multi-morbidity [14]. For all these reasons the increase in non-conveyance may seem self-explanatory from a professional perspective. However, from a patient perspective little is known about how non-conveyance after an emergency call is experienced. A recent systematic review showed that 2.5%–6.1% of the non-conveyance patients had a new ambulance contact within 1–2 days and 4.6%–19.0% visits the emergency department [15], without revealing the reason for these contacts. Therefore, in this study the perspective of patients and their relatives on non-conveyance, was explored.

2. Aim

The aim of this study was to gain insight into the experience of patients and their relatives with a high urgency request for ambulance assistance that results in non-conveyance, with the ultimate goal of offering adequate follow-up care amongst the non-conveyed patients and their relatives.

3. Methods

3.1. Design

The design was a qualitative study with an inductive approach using semi-structured interviews [16]. This study is reported using the COREQ checklist for reporting qualitative research [17].

3.2. Setting

Ambulance care in the Netherlands is provided by 25 regional emergency medical services (EMS) [18] and is regionally coordinated by the emergency medical dispatch center. An ambulance can be requested by citizens calling the national emergency phone number or by visiting a healthcare professional such as a GP. After initial triage per telephone an ambulance can be deployed with urgency level A1 (arrival within 15 min), A2 (arrival within 30 min) or B (planned ambulance care). The dispatch center can dispatch a fully equipped ambulance or a solo vehicle. Ambulances are staffed with one driver and one registered nurse with additional ambulance education (RN) or a nurse practitioner (NP). A solo vehicle is staffed by one RN or NP. The ambulance nurse works autonomously and is allowed to make medical decisions on the basis of the national EMS protocol without consultation with a physician [18]. The NP is authorized to prescribe and perform certain restricted procedures, such as prescribing medication and carrying out simple surgical procedures as described in the Dutch law [19]. This study took place in the Southern region of the Netherlands.

3.3. Participants

The target population consisted of adult patients (≥18 years) for whom (a) an ambulance was requested through the national emergency phone number, (b) an ambulance was dispatched with high urgency, and (c) the ambulance staff after diagnostics and/or treatment decided there was no need for conveyance and their relatives. From September until November 2018, a random sample of 200 patients selected from the target population, received a letter within two weeks after the event, to ask if they were willing to participate in the study and an information folder containing information and patient rights with regard to the study. Patients could respond by reply card, telephone or email. Twenty-six out of 200 responded. These 26 were contacted by telephone (first author) to verify their willingness to participate and screen their eligibility. Patients were eligible if they could understand the Dutch language and if they were able to articulate their experience with non-conveyance. As relatives of the patient are often involved in the emergency request, ambulance assistance and subsequent non-conveyance decision, they could also participate in the study if the patient consented to this. Five patients responded to express their gratitude for the medical assistance received, but did not want to participate in the study, three were unwilling to participate and did not give a reason why and two did not meet the eligibility criteria. In the end, sixteen patients and seven relatives participated in the interviews. One patient was excluded during the analysis phase as the non-conveyance decision was a patient request.

3.4. Data collection

All interviews were held at home with the participants by one researcher (first author). The interviews were held within 4 to 6 weeks after the ambulance attendance for optimal participant recall. Interviews were guided with use of a topic list. As studies from a patient perspective are lacking, the topic list was based on the protocolled process in ambulance care comprising the following steps: Start, Past, Assessment, Reasoning, Resolution, Treatment, Transfer, in short the SPARRTT-model, and experience of experts (see Table 1) [20]. The order of the open questions was from generic to specific to help participants to provide rich and detailed information. All interviews were audio recorded. The first minutes of the interview were used for general conversation to build rapport and to allow the participant(s) to get used to the audio recorder. After this ice-breaking phase the central research question was asked: "How did you experience not being taken to hospital after an ambulance arrived with high urgency (light and sirens)"?

Table 1
Topic list.

- Experience of the call to the emergency number
- Experience of the high urgency: speed and usage of lights and sirens on arrival
- Experience of the diagnostic process and assessment by the ambulance professional
- Experience of the diagnostic process by the ambulance: protocols, guidelines, intuition
- Communication with the ambulance professional: involvement and clarity
- Experience of non-conveyance decision
- Psychosocial elements: feelings, behavior, social impact
- Experience and need for follow-up care
- Expectations and needs with regard to ambulance care
- Overall experience regarding the incident

3.5. Data analysis

All interviews were briefly summarized within one day of the interview; this summary was sent to the participants for a member check to support credibility [16]. The thematic analysis was guided by the six phase model of Braun and Clarke [21]: (1) the interviews were transcribed verbatim by an external company, (2) open codes were applied by two researchers (first author, last author) independently with a distinction made between a patient and a relative, (3) re-coding was done after discussion of coding system and reaching consensus about initial differences, (4) construction of sub themes by two researchers (first author, last author) independently, (5) revision of subthemes by referring back to already selected quotations, and (6) final determination of themes and their definitions. Data-analysis was performed using NVivo 12 software. The analysis process and decisions made were recorded in a logbook.

4. Results

The twenty-two participants (fifteen patients (P) and seven relatives (R)) lived in the South of the Netherlands, in rural as well as urban areas. The average age of the patient participants was 68,5 years (range 50–87), comprising nine males and six females. Six patient participants were accompanied during interview by one or two relative(s). The interviews lasted between 22 and 60 min and saturation appeared to be reached after twelve interviews. Hereafter, three already planned interviews were conducted to enrich data.

Four main themes emerged from the thematic analysis: (1) fear as the leading emotion, (2) confidence in non-conveyance decision relies on four components and dialogue, (3) consequences and coping differ between patients and relatives (4) a need for evaluation (see Table 2). The themes are described according to the chronological steps of the care process.

4.1. Fear as leading emotion

Most patients and relatives who were confronted with acute medical problems and who contacted the national emergency number, experienced fear. The fear originated from the intensity of the acute medical problems and possible consequences. Some participants, especially relatives, associated the current medical problem with past events. Although patients experienced fear, none of the participants heard or saw the ambulance arriving with lights and sirens.

> “When I called I really panicked. I was thinking: this is not going well. My blood pressure was dropping, I could feel my heart beating through my whole body. This is not good for my heart valve”. (P15_male)

Table 2
Themes and subthemes.

Theme	Subtheme
Fear as leading emotion	
Confidence in non-conveyance decision relies on four components and dialogue	• Thoroughness and competence • Interpersonal skills of professional • Technical facilities and skills • Creating support/safety net
Consequences and coping differ between patients and relatives	Short-term consequences and coping Ongoing consequences and coping
Need for evaluation	

> “Well, it might be stupid, but I associated this with your mother. She had a brain tumor and also passed out like this” (R13_female)

4.2. Confidence in non-conveyance decision relies on four components and dialogue

Respondents felt that their confidence in the non-conveyance decision relied on thoroughness and competencies of the ambulance professional, the attitude of the ambulance professional, technical capabilities available within the ambulance and the creation of a safety net. In a moment of helplessness and powerlessness these four aspects of the care encounter, together with the communication skills of the ambulance professionals contributed to patients and relatives feeling able to surrender to the ambulance professionals and rely on them.

> “In the end, well…you put your own uncertainty in the hands of someone else. And that person has to make it certain again” (P15_male)

After ambulance arrival, the thoroughness and competence of the ambulance professionals were reassuring for the patient and relatives.

> “In my opinion, they performed well and were very adequate… within 5 min…I don’t think you can wish for more as a patient” (P3_male)
> “I was happy they had arrived, It felt safer. And reassuring.” (R1_female)

Patients and relatives felt that effective interpersonal skills of the ambulance professionals had a positive effect on their emotional well-being. Empathy and appearing calm were mentioned especially frequently.

> “If the ambulance professionals can relate to what I am going through and show a human side of themselves. That is important to me” (P7_female)
> “If they are calm, we are calm” (P6_female)

Having technical facilities within the ambulance to provide diagnostic information to support medical assessment added to the patients’ and relatives’ confidence in the non-conveyance decision.

> “The frequent measurements of vital functions are reassuring. I am a technical person myself, so these measurements determine the decision in fact” (P15_male)

Finally, most of the participants stated that their confidence in the non-conveyance decision increased if the ambulance professional created a safety net, like a handover to their own GP, medical specialist or out-of-hours primary care, or instructions for self-care or follow-up care. The relatives particularly relied heavily on these instructions.

> *“But also the provision of a backup. When I was left at home and the ambulance left, I could contact the out-of-hours primary care office, they were informed and could take action. This was very reassuring to me.” (R1_male).*
> “Something has happened to me already, and they [physicians at the out-of-hours primary care office] already knew. Yes. This provides a certain sense of safety” (R13_female)

These four components together with involving the patients and his/her relatives in the decisions made during the care process, led to feelings of safety and satisfaction (see Fig. 1 for a visualization of this theme).

> “If I had insisted on being conveyed…they would have conveyed me” (P7_female)

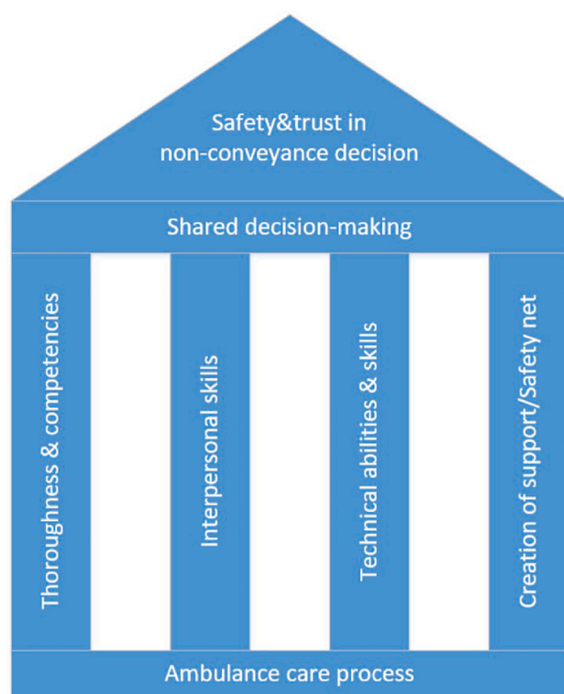

Fig. 1. The four components that in combination with shared decision making are essential for safety and trust in non-conveyance decisions.

4.3. Consequences and coping differ between patients and relatives

Patients experienced different consequences and used different coping styles compared to their relatives, short term as well as longer term. Within 24 h after non-conveyance almost all patients stated they were very tired after the incident and felt a great need to go a sleep.

> "I went to bed and I had forgotten almost everything the next day" (P5_male)

In contrast, most of the relatives stated they did not sleep well after the incident.

> "I didn't sleep well that night. A lot had happened. It was a bad night due to all the emotions…and my daughter contacted me early next morning…she and her husband did not sleep well either" (R5_female)

Ongoing, most of the patients stated they felt guilt and shame towards the ambulance service. Some patients also felt ashamed in front of the other people present during the incident.

> "I did not call myself… Yes, I would find it bothersome if they thought I called for nothing…They are busy enough and I believe my condition was not that important" (P10_female)
> *"Everyone presents had to leave the scene. Those people were enjoying their dinner and they had to leave, for me… Then I wanted to leave as quickly as possible; I noticed everyone staring at me" (P1_male)*

Relatives did not experience guilt or shame but tried to seek confirmation of the non-conveyance decision with their own GP or medical specialist.

> "I could only think that we should visit our own general practitioner as soon as possible. Then we can tell what happened again, and maybe take some other actions…" (R1_female)

Relatives stated that the impact of the incident could be ongoing. This was caused by re-living the incident and fear of repetition.

> "It lasted all week…Then it decreased but is was there the whole week. The moments of fear, when he fainted during…that had a really big impact on me" (R13_female)

Although most patients stated that they had moved on after a few weeks, during the interviews some discrepancy appeared between rational thinking and emotional actions.

> "I was not afraid…But now I have decided to sell my business to have a more quiet life after all these years" (P5_male)
> "I do not think of the incident at all. But when I see an ambulance I will look inside to see if they are the same professionals so I can wave" (P1_male)

4.4. Need for evaluation

Several patients expressed the need for follow-up care provided by the EMS. These participants had medical questions related to both the incident and the consequences. It seemed that these patients were those who could not clearly remember the incident or where no relative was present during the incident. Also, patients wanted to express their gratitude toward the ambulance professionals. Relatives expressed the need for a follow-up contact to share their experience of the incident.

> "I would like to see them again (ambulance personnel), to thank them. To say to them they did extremely well" (P1_male).
> "Well, something significant happened, and I like the fact that I can talk about it again with you" (R13_female)

5. Discussion

The aim of this study was to gain insight into the consequences of a high urgency request for ambulance assistance that resulted in non-conveyance from the perspective of patient and relatives. Fear as the leading emotion was not triggered by the ambulance arriving with lights and sirens, but is based on being physically unwell, as was found by Holmberg et al. [10]. A systematic review [22] showed that uncertainty about the urgency of the health problem, the fear of treatment delay and related adverse effects, and the value of clinical assessment by an ambulance professional are the main reasons for patients to contact an ambulance service. This suggests that patients are not always aware of when to request ambulance care and that better management of patient expectations is desirable, as advised in an exploratory study by Ahl en Nyström [23]. We too recommend including information about non-conveyance in public campaigns.

Another qualitative study suggests that contacting an ambulance service meets emotional and practical needs of patients, regardless of the actual urgency of the condition: patients expressed the need to hand over responsibility and control to ambulance professionals, who could in turn enable the patient to take back responsibility and control [24]. This is in line with McCormack and McCance's person-centered practice framework, where the nurse is the facilitator in maintaining patient wellbeing and autonomy within a dynamic healthcare process [25]. Rantala et al. looked at person-centeredness in ambulance care in particular. In this study patients reported feeling well and safe when ambulance professionals saw them as a person, listened, supported them in understanding what had happened and what was going to happen, and took them and their complaints seriously [26]. From the relatives' perspective person-centered care involves taking the patient seriously, having empathy, taking over the care responsibility from relatives, and enabling relatives to take back responsibility when the ambulance leaves the scene [27]. Further, a study by Sundström and Dahlber showed that, besides empathy, involving the patient as a partner in the dialogue with the healthcare professional is important for positive experiences in the domain of wellbeing and feeling safe [28]. These aspects are comparable with findings from our study, where thoroughness and

competence, empathy, technical facilities available within the ambulance, and striving for shared-decision making, positively influenced the emotional wellbeing of patients and their relatives. Similar to other studies [26–28], our findings correspond to that dimension of person-centredness concerned with what the nurse does within the care encounter, the 'person-centred processes' [25], particularly sharing decision making and showing empathy. Our findings are also consistent with other components of the person-centred practice framework: the positive contribution of nurse attributes, such as professional competence and developed interpersonal skills, and a physical environment that enables safe and effective care [25].

A qualitative study by Togher et al. concluded that poor communication of the ambulance professional negatively influenced patient experience and satisfaction [29]. An analysis of complaints from patients transported by an ambulance, showed that patients complaints are due to a lack of attention and empathy from the ambulance professional, making them feeling dependent and vulnerable [30]. Overall, it seems that the psychosocial consequences of non-conveyance can be positively influenced by the complex interpersonal skills of ambulance nurses and that these are congruent with the concept of person-centred practice [25]. Despite non-conveyance, ambulance nurses can facilitate person-centred outcomes such as a positive care experience and a feeling of wellbeing [25–27].

A further finding from our interviews was that patients used different coping styles than their relatives. Schreurs et al. defined several coping strategies: going to sleep can be classified as 'seeking distraction by literally getting away from it all', whereas the coping style of the relatives can be classified straightforwardly as 'seeking (social) support' [31]. As there is no obvious explanation as to why patients and relatives use different coping strategies, this suggests avenues for future research. In the weeks after the care encounter, relatives feel the need for contact with a GP or medical specialist. Patients on the other hand experience guilt and shame towards the ambulance service, as they believe the ambulance deployment was unjustified, which is in accordance with a study of Rantala et al. [27]. A qualitative study amongst ambulance professionals shows that guilt and shame are related to the development of post-traumatic stress disorder (PTSD) [32]. Possibly patients might also experience post-traumatic stress, although no literature is available on this topic. A systematic review [33] shows that intervening by feelings of shame and other symptoms of PTSD in a broad variety of people can improve PTSD complaints, suggesting that recognition of feelings of shame is important. Further insight into the experience of psychosocial distress among patients not conveyed is recommended [33]. Relatives stated that the impact of the incident was ongoing. This was caused by re-living the incident and fear of repetition. Buijssen and Buijs reported that dealing with psychosocial impact involves asking questions [34]. This might explain why relatives sought confirmation of the non-conveyance decision with their own GP or medical specialist and indicated the need for evaluation of the event afterwards during the interviews. Our results also indicated that patients are in need of follow-up care. Patients had medical questions about their condition and wanted to express their gratitude, and relatives wanted to share their experience of the incident. In a way, these interviews provided a follow-up care intervention. Possibly a simple follow-up phone call could meet this need.

6. Strengths and limitations

To increase trustworthiness, several actions were undertaken. All interviews were summarized within one day of the interview; this summary was sent to the participants for a member check. The researchers' personal experiences, feelings and thoughts were registered, as were decisions made during the research process and the reasons for them. This record supported researcher reflection and peer review. Balance between subjectivity and objectivity was aimed for as, although an insider to the ambulance service, the interviewer was not involved as an ambulance professional by any of the people interviewed for this research. Finally, data redundancy was noted after the twelfth interview, suggesting data saturation had been reached. A possible limitation might be selection bias as participants all wanted to express their gratitude to the EMS. The topic list encouraged a wide ranging interview: this may have limited deeper exploration of particular aspects of the experience of non-conveyance. Furthermore, the specific Dutch setting might limit applicability to other countries.

7. Conclusion and implication

Patients and relatives experience psychosocial consequences and need for support after non-conveyance by an ambulance. This experience goes through several phases in which fear, building confidence, coping, and need for evaluation follow on from each other. Respondents' confidence in the non-conveyance decision tends to rely on the interpersonal skills of the ambulance nurses; these skills are congruent with aspects of person-centeredness described in the literature. The technical facilities available in the ambulance further supported a feeling of safety. Although different consequences and coping styles were found, both patients and their relatives expressed the need for follow-up care provided by the EMS: patients had medical questions related to the incident and relatives expressed the need to share their experience of the incident and were looking for closure. Supporting ambulance nurses to take a person-centred approach, paying attention to engagement with the patient and facilitating shared decision-making, seems important to achieving a positive care experience while further developing emergency prehospital care paths.

Ethics approval and consent to participate

The Medical Research Involving Human Subjects Act in the Netherlands does not require studies such as this to be reviewed by one of the eighteen approved Medical Research Ethics Committees. The Ethical Board of the Fontys University of Applied Sciences critically appraised the research protocol, advised that further review by a Medical Research Ethics Committee was not necessary and approved the study protocol from an ethical perspective. Written informed consent was received from all participants before the interviews.

Data availability statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contributions

Study design (SvD, RV, RE, LV, DF, CdB). Data collection (SvD, RV, CdB). Data-analysis (SvD, RV, CdB). Manuscript preparation (SvD, RV, RE, LV, DF, CdB). All authors read and approved the final manuscript

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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