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A questionnaire to measure patient experience in Denmark

Abrahamsen, Charlotte; Jensen, Charlotte Myhre; Elkjær, Mette; Østervang, Christina; Knudsen, Bettina Mølri; Steenstrup Jensen, Signe; Moos, Caroline Margaret; Viberg, Bjarke; Mogensen, Christian B.

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METHODOLOGICAL ARTICLE

Translation and cultural adaption of the emergency department—consumer assessment of healthcare providers and systems (ED CAPHS)—A questionnaire to measure patient experience in Denmark

Charlotte Abrahamsen RN, PhD, Associate Professor[1,2,3] | **Charlotte Myhre Jensen RN, PhD, Assistant Professor**[4] | **Mette Elkjær RN, PhD, Post. doc.**[5,6] | **Christina Østervang RN, MSN, PhD student**[7] | **Bettina Mølri Knudsen CLM, PhD student**[1,8] | **Signe Steenstrup Jensen MD, PhD student**[3] | **Caroline Moos MSc, Professor**[6] | **Bjarke Viberg MD, PhD, Professor**[3,4] | **Christian Backer Mogensen MD, PhD, Professor**[1,6]

[1]Department of Regional Health Research, University of Southern Denmark, Odense, Denmark

[2]Emergency Department, Lillebaelt Hospital, University Hospital of Southern Denmark, Kolding, Denmark

[3]Department of Orthopaedic Surgery and Traumatology, Lillebaelt Hospital, University Hospital of Southern Denmark, Kolding, Denmark

[4]Department of Orthopaedic Surgery and Traumatology, University Hospital Odense, Odense, Denmark

[5]Emergency Department, Hospital Southern Jutland, Aabenraa, Denmark

[6]Emergency Department, University Hospital Odense, Odense, Denmark

[7]Department of Clinical Research, Hospital Southern Jutland, Aabenraa, Denmark

[8]Administration, Lillebaelt Hospital, University Hospital of Southern Denmark, Kolding, Denmark

Correspondence
Charlotte Abrahamsen, Emergency Department, Lillebaelt Hospital, University Hospital of Southern Denmark, Sygehusvej 20, Kolding 6000, Denmark.

Abstract

Aim: The aim of this study was to translate and culturally adapt *The Emergency Department—Consumer Assessment of Healthcare Providers and Systems* (ED CAPHS) to the Danish ED context.

Background: In Denmark, a large number of patients attend emergency departments (ED) every year. During their ED visits, examinations, tests and encounters with different healthcare professionals occur frequently. Moreover, patients receive much information. Patients' direct experiences of care can provide valuable insights into what works and what does not in health care. The emergency department—consumer assessment of healthcare providers and systems (ED CAPHS) is a valid questionnaire designed to measure patients' experiences with ED care and is intended for patients discharged home following their ED visit.

Method: The translation process was systematically planned and executed using the principles of good practice for the translation and cultural adaptation process for patient-reported outcomes (PRO) guidelines by the ISPOR.

Results: The translation and cultural adaption process were successfully conducted. Three items concerning language and race were omitted as they are not distinct in Danish ED context. Furthermore, a few conceptual factors and linguistic challenges were discussed and harmonised during the reconciliation and harmonisation process respectively. The Danish survey ED CAPHS DK containing 32 items was proofread and finalised.

Conclusion: Overall, patients reported that the survey was relevant and comprehensive, as it focused on essential factors when discharged directly home after an ED

Email: cabrahamsen@health.sdu.dk and charlotte.s.abrahamsen@rsyd.dk

admission. ED CAPHS DK is found to be content valid and ready for use. However, a future study testing the Danish version using confirmative factor analysis and internal consistency reliability is needed to ensure construct validity and reliability.

KEYWORDS

cross-cultural comparison, Denmark, emergency medical services, patient experience, patient satisfaction, surveys and questionnaires, translating, translations

INTRODUCTION

In Denmark, 1.8 million patients (2020) attend emergency departments (ED) every year; of them, 60%–70% are discharged directly home after attending the ED [1]. Due to further treatment, the remaining 30%–40% are directed to another department or hospital within 48 h.

Despite these ED visits appearing brief, they often include examinations, tests and encounters with different healthcare professionals. Moreover, patients receive much information about the healthcare problem, test results, medication, follow-up care, how to manage at home and where to seek help if the health problem is not resolved or unexpectedly worsens [2]. Therefore, when patients are discharged directly home following an ED visit, effective communication is vital to ensure patient safety and understanding [3]. In addition, studies show that there is a higher risk of readmission if patients do not feel confident with the discharge plan [4, 5].

Alongside clinical effectiveness and patient safety, patient satisfaction is increasingly recognised as one of the three pillars of quality in health care [6]. The concept of patient satisfaction is related to patients' direct experiences of care [7] and can provide valuable insights into what works and what does not in health care [8]. When using patient experience to evaluate health care, a qualitative approach can contribute to nuanced perspectives, whereas a quantitative approach provides standardised experience and satisfaction data from a large group of patients. Unfortunately, only very few surveys exist of measuring patient experience and satisfaction in an ED setting [9, 10], and to our knowledge, these did not involve patients in the survey's development phase.

However, a survey to measure patient experience in the ED—*The Emergency Department—Consumer Assessment of Healthcare Providers and Systems* (ED CAPHS)—was developed in 2012 in the United States [11]. Early versions are referred to as the emergency department patient experience of care (EDPEC) survey. The EDPEC is psychometrically tested using confirmatory factor analysis, internal consistency reliability, inter-unit reliability and associations between each composite measure and overall rating and willingness to recommend the ED. [12] The composite measures are found statistically reliable and valid [12].

ED CAPHS is developed and published in English and Spanish (Emergency Department CAHPS (ED CAHPS) | CMS). To use the ED CAPHS survey to measure patients' experiences in Danish emergency departments, translation and cultural adaptation are required.

Thus, the aim of this study is to translate and culturally adapt *The Emergency Department—Consumer Assessment of Healthcare Providers and Systems* (ED CAPHS) to the Danish ED context.

METHOD

The translation process of ED CAPHS from English into Danish was systematically planned and executed using the principles of good practice for the translation and cultural adaptation process for patient-reported outcomes (PRO) guidelines by the ISPOR [13]. The translation process included the following eight phases, as recommended by the ISPOR guidelines:

1. **Preparation**: Project lead (CA) contacted the ED CAPHS Project team in February 2022 to obtain permission for translation and use in Denmark. Permission was granted. Subsequently, the translation and cultural adaptation process was prepared (CA, CMJ).
2. **Forward translation**: Forward translations were performed by three bilingual translators (T1, T2 and T3) with Danish as native language (i.e. the target language). They had different professional backgrounds and levels of experience: T1 was a physician with knowledge in the field of health care (SS); T2 was a nurse in the emergency field (ME); and T3 has a Master of Arts in International Business Communication in English and no clinical work within health care (BK). T1, T2 and T3 worked independently during the translation process.
3. **Reconciliation of translations**: The initial translations were compared and merged into a single version (V1) by the project lead (CA) and key in-country person (CMJ) after carefully analysing the discrepancies

between the versions and resolving potential problems. Reconciliation was performed jointly by all three forward translators (ME, SS, BMK), key in-country manager (CMJ) and project lead (CA).

4. **Back-translation**: Two professionals (T4 and T5) translated the V1 version back into the original language, and two versions were generated. This phase was intended to ensure that the V1 version reflected the same content as the items in the original version. Both back translators were native English speakers; one with an academic background from Australia currently working in health care (CM) and one with a healthcare professional background from Ireland (LB).
5. **Back-translation review**: A comparison of the back-translated versions with the original instrument was performed by the project lead, key in-country person and an additional researcher (BV). Discrepancies between the original and the reconciled translation were discussed, and the developer was approached.
6. **Harmonisation**: A committee consisting of the project lead (CA), key in-country person (CMJ), medical doctors with clinical and research experience (BV, CBM) and two translators involved in the previous stages consolidated all versions. Equivalence in semantics, idiomatic and conceptual factors and the content for instrument analysis were considered in the analysis.
7. **Cognitive debriefing**: Two project members and ED nurses (ME & CØ) interviewed 10 patients at two different hospitals after being treated and right before leaving the ED. Both ED nurses performed research and clinical work in the selected EDs, yet they were unfamiliar to the patients. They dressed in private clothes and introduced themselves as 'interviewers' to avoid bias. To ensure the representation of various perspectives, patients of different ages, gender and reason for attending the ED were approached, including six men and four women between the age of 25 and 93 years and with different health problems (five medical, two orthopaedic, one gynaecological and two with abdominal symptoms). The patients from the target population (and a few relatives present at the interview) had no prior knowledge of the survey. Patients were asked to 'think aloud' and report their present thoughts while completing the ED CAPHS [14] to assess relevance, comprehensibility and comprehensiveness. Each interview lasted between 7 and 21 min.
8. **Finalisation and proofreading**: Cognitive debriefing results were reviewed (CA, CMJ, BV, CBM) and the translation was proofread and finalised (CA).

Moreover, the translation process was evaluated using the COSMIN Study Design checklist for patient-reported outcome measurement instruments [15].

ED CAPHS—patient experience survey

The original ED CAHPS survey was designed to measure patients' experiences (18 years and older) with ED care and is intended for patients discharged home following their ED visit.

ED CAHPS has been developed, refined and tested from 2012 to 2020 by the ED CAHPS Project Team in the United States. The content and design of the survey were informed by (1) a literature review of existing surveys and measures of patient experience in the ED, (2) a Federal Register call for topic areas, (3) five focus groups conducted in two locations with various patients, (4) multiple technical expert panels of health-care providers and survey methodologists, (5) multiple rounds of cognitive interviews and (6) large-scale field experiments to examine the mode of administration and feasibility (Emergency Department CAHPS (ED CAHPS)|CMS).

The ED CAHPS Survey consists of 35 items allocated into the following topics: Going to the emergency room (three items), during this emergency room visit (seven items), people who took care of you (six items), leaving the emergency room (six items), overall experience (two items), your health care (two items) and about you (nine items).

In a previous validity study using confirmatory factor analysis, four composite measures were identified concerning *getting timely care* (two items), *how well doctors and nurses communicate* (six items), *communication about medications* (four items), *communication about follow-up* (three items) as well as two global measures concerning *overall ED rating* and *willingness to recommend the ED* [12]. Two items are stand-alone items.

Five items are screener items determining whether the derived questions require an answer. Thus, not all respondents will answer the dependent questions.

Of all 35 items, 34 are categorical items and one item is specified numerically on a scale from 0 to 10.

When analysing ED CAPHS data, the ED CAHPS Project Team recommends evaluative items being scored linearly (or top-box). Linearly scored (linear mean scoring) understood as response options, should be rescaled from 0 (worst) to best (100) with equal intervals between each option and top-box scoring, understood as the most positive response option recoded to 100 and all other response options recoded as 0. For example, response options 9 and 10 for the overall rating (item 23) should be recoded as 100 and all other response options as 0.

Furthermore, the team recommends that if data are to be compared, scores can be adjusted for the difference in case-mix of respondents by using; patient's age, education, self-rated health status, language spoken at home, reason for the ED visit, whether the patient was taken to the ED

in an ambulance and/or the patient used proxy assistance when answering the questions.

Furthermore, the ED CAHPS Project Team recommends that patients are not surveyed during their ED visit, at discharge from the ED, or in the 48 h following discharge. Likewise, it is recommended that the data collection period is closed 35 days from the time of initial contact. It is recommended that patients are contacted by web link, mail, telephone or mixed modes supported with reminder emails and/or phone calls. Recommended guidelines are outlined on this website (Emergency Department CAHPS (ED CAHPS) | CMS).

Ethical considerations

All patients received oral and written information on the purpose of the study. According to the WMA Helsinki Declaration [16], patients were further informed that the interviews were confidential, that participation was voluntary and that they could withdraw at any time without consequences. All participants signed a statement of consent. According to Danish Legislation, this study did not require ethical approval from the National Committee on Health Research Ethics §14, 2 [17].

RESULTS

The translation process was systematically planned and executed between January and April 2022 as described in the Method section.

The quality of the translation process

Based on COSMIN guidelines, the quality of the translation process was assessed and found 'very good' (For further information, please see Table S1).

Reconciliation

When reconciling, the initial three translations from English to Danish were compared, and semantics as well as conceptual factors were discussed and harmonised.

Throughout the original survey, 'emergency room' was used in preference to 'emergency department'. In Denmark, we do not distinguish between room and department. Thus, the term 'Akutmodtagelsen' (ED) was used.

Originally, nine items (item 5, 7, 8, 10, 17–19, 21–22) specify health care professionals, for example, 'doctors, nurses or other staff' assigned to specific episodes/tasks as mentioned. However, in Danish EDs, patients meet a variety of health care professionals (HCPs) with different educational backgrounds and levels of training and may have difficulties distinguishing between them. Thus, we decided to group HCPs and use the word 'Sundhedspersonalet'.

In items 4 and 23, the word 'care' is used. In English, 'care' covers medical and nursing care. However, as medical and nursing care can be perceived as two different concepts in Denmark, a combination was chosen in Danish (pleje og behandling). Furthermore, in items 19 and 20, the extended version 'follow-up care' is used. In English, 'follow-up care' is linked to the preferred term 'aftercare' and refers to care after discharge from a hospital or another health facility. In a Danish context, follow-up care is nominated as treatment and/or control (behandling/kontrol).

Moreover, in the original survey, patients are to respond if 'there is a doctor's office, clinic, or other place you usually go if you need a check-up, want advice about a health problem, or get sick or hurt' (item 26). In Denmark, all citizens are assigned a general practitioner (GP). If necessary, the GP will refer the patient to specialised care with a specialised doctor, outpatient clinic or multidisciplinary health care setting. Thus, we decided to adapt this specification in the Danish survey (en lægepraksis, et ambulatorie, et sundhedshus eller et andet sted).

We then discussed the meaning of the response option 'an ongoing health condition or concern' in item 1, and due to an indistinct meaning, we decided to add parenthesis to include a clarification (flare-up of a known condition) to strengthen the comprehension of the responder.

Finally, items 30–32 were omitted as language and race are not distinct when using questionnaires in a Danish ED context, and item 29 was adjusted to the Danish educational system.

Harmonisation

When comparing both back-translations to the original survey, we discovered a few differences in wording. In the translation process, the word 'test' had changed to 'examination' in item 9. As the Danish word 'undersøgelser' (examinations) alongside para-clinical tests may include examinations performed by HCPs, we rephrased it to 'prøver' (tests). Furthermore, 'courtesy' in items 11 and 14 now appeared as 'friendliness' or 'kindness'. The Danish word 'høflighed' (courtesy) is a more accurate translation of courtesy; however, we chose the Danish word 'venlighed' (friendliness or kindness) as it is more commonly used in Denmark. In Denmark, we expect 'venlighed' from HCPs, and therefore, no changes were made. A

similar change occurred in items 12 and 15, when 'carefully' changed to 'attentively'. We rephrased the Danish word 'nøje' (carefully) to 'opmærksomt' (*attentively*), as 'attentively' focuses more on active listening and 'carefully' more towards a purposeful way of listening. Finally, all items and response options were unified in terms of asking for 'you' and 'your' experience.

Cognitive debriefing

During cognitive interviews, all patients found the survey relevant and comprehensive, as it focused on essential aspects when discharged directly home, and there were no concerns about the format and length of the survey. However, one patient addressed a need for an additional question concerning 'ongoing information about waiting time', and one patient found it difficult to read and understand the introduction section of the survey.

An observation was made when patients responded to item number 4 indicating whether they received care within 30 min of getting to the emergency room. When choosing the response option 'no', they did not necessarily indicate not receiving care within 30 min of arriving at the ED. Some mentioned they received care in the ambulance, thus feeling well and satisfied when arriving at the ED even though they answered 'no' to the above item. Another observation was made when some patients answered 'no' to whether they received any medication in the ED, and a relative reminded the patient of receiving painkillers. Patients did not necessarily recognise painkillers as medication.

A few challenges were found in relation to comprehensibility.

First, when asking 'during the emergency room' in items 4–6, 9–10, 11–16 (mainly item 6), especially patients from one hospital were insecure about the meaning. In that particular hospital when interviewed, patients elaborated on entering a triage room at the ED and not understanding whether the triage room was part of the ED. No changes to the survey were made, as this was considered a local phrase.

Then, some responded with a 'yes, definitely' to receiving information about medication (items 7 and 8), although they explained not receiving any information 'because they knew it in advance'. However, no changes to the survey were made, as patients had no difficulties understanding the question.

In item 10, the wording 'give you as much information as you wanted' (den ønskede information) was not found idiomatically sound. Thus, we changed it to (fik du den information du havde brug for). Furthermore, some patients experienced items 14–16 and items 19–21 to be relatively similar respectively. However, patients had no difficulties understanding these questions.

Items 24 and 26 were comprehensible, yet question number 26 was described as long and complicated. Therefore, we changed the wording 'doctor's office and clinic' from (lægepraksis) to (læge).

Furthermore, a few patients were unsure when to apply item 26 'Not counting the emergency room, is there a doctor's office, clinic, or other place you usually go if you need a check-up, want advice about a health problem, or get sick or hurt?'. Even though the word 'usually' was included in the item, they asked, 'Do you mean in general or when an acute situation occurs?'. No further changes were made.

In item 28, the wording 'mental' (mentale) was described as a word rarely used in the Danish everyday language. However, the word psychological (psykisk) was not preferable as it relates to thoughts of psychological diseases. No changes were made, as patients had no difficulties understanding the question. Finally, when they assessed the question concerning 'Recommending this emergency department to others?' some patients' remarked, 'well, we do not have any choice in Denmark'. This answer refers to the implementation of a national mandatory referral system to access emergency departments in Denmark [18].

Finalisation

The Danish survey ED CAPHS DK containing 32 items was proofread and finalised (Table 1).

DISCUSSION

Each question in a survey must be given a linguistic and culturally appropriate translation to maintain content validity at a conceptual level across different cultures [19]. In this study, the ED CAPHS was translated and culturally adapted into Danish following international guidelines [13].

The reconciliation encountered a few conceptual factors that were discussed and harmonised, including the term ED, the HCPs (doctors, nurses and other staff), care, follow-up and the setting described in item 26. Therefore, we adjusted the terms according to the Danish acute care context maintaining a comparable setting and situation. Furthermore, items concerning race and language from the US survey were omitted, as they are not distinct when using questionnaires in Danish ED context.

The harmonisation process had a few linguistic challenges, for example, test/examination (undersøgelser/

TABLE 1 Items in the Danish version of ED CAPHS 1.0

DIN ANKOMST TIL AKUTMODTAGELSEN
1. Hvad var årsagen til dit besøg på akutmodtagelsen?
2. Ankom du til akutmodtagelsen med ambulance?
3. Hvor lang tid gik der efter din ankomst til akutmodtagelsen, før du blev spurgt ind til årsagen til dit besøg?
UNDER DIT BESØG I AKUTMODTAGELSEN
4. Modtog du behandling eller pleje inden for de første 30 minutter af dit besøg i akutmodtagelsen?
5. Blev du under dit besøg i akutmodtagelsen spurgt ind til, hvilken medicin du tager?
6. Fik du noget medicin under dit besøg i akutmodtagelsen?
7. Informerede sundhedspersonalet dig om, hvad medicinen var for, inden du fik den?
8. Inden du fik medicinen, beskrev sundhedspersonalet mulige bivirkninger for dig på en måde, så du kunne forstå det?
9. Fik du foretaget en blodprøve, røntgenbillede eller andre prøver under dit besøg i akutmodtagelsen?
10. Fik du, under dit besøg i akutmodtagelsen, den information fra sundhedspersonalet du havde brug for om resultaterne af disse prøver?
PERSONALET PÅ AKUTMODTAGELSEN
11. Hvor ofte behandlede sygeplejerskerne dig med venlighed og respekt under dit besøg i akutmodtagelsen?
12. Hvor ofte lyttede sygeplejerskerne opmærksomt til dig under dit besøg i akutmodtagelsen?
13. Hvor ofte, under dit besøg i akutmodtagelsen, forklarede sygeplejerskerne tingene på en måde, du kunne forstå?
14. Hvor ofte behandlede lægerne dig med venlighed og respekt under dit besøg i akutmodtagelsen?
15. Hvor ofte lyttede lægerne opmærksomt til dig under dit besøg i akutmodtagelsen?
16. Hvor ofte, under dit besøg i akutmodtagelsen, forklarede lægerne tingene på en måde, du kunne forstå?
DIN AFSLUTNING I AKUTMODTAGELSEN
17. Fortalte sundhedspersonalet dig, inden du forlod akutmodtagelsen, at du skulle tage noget medicin hjemme?
18. Fortalte sundhedspersonalet dig, inden du forlod akutmodtagelsen, hvad du skulle tage medicinen for?
19. Talte sundhedspersonalet med dig, inden du forlod akutmodtagelsen om din efterfølgende behandling/kontrol?
20. Havde du brug for information omkring, hvordan du får efterfølgende behandling/ kontrol?
21. Har sundhedspersonalet givet dig information om, hvordan du får efterfølgende behandling/kontrol?
22. Har sundhedspersonalet, inden du forlod akutmodtagelsen, givet dig information omkring, hvilke symptomer eller helbredsproblemer du skal være opmærksom på derhjemme?
DIN SAMLEDE OPLEVELSE
23. Hvordan vil du vurdere din pleje og behandling på en skala fra 0 til 10, hvor 0 er den værst tænkelige og 10 er den bedst tænkelige pleje og behandling?
24. Vil du anbefale denne akutmodtagelse til dine venner og familie?
DIN KONTAKT TIL SUNDHEDSVÆSNET
25. Hvor mange gange, i løbet af de sidste 6 måneder, har du modtaget behandling i akutmodtagelsen? Du skal også medregne besøget som dette spørgeskema omhandler.
26. Hvis du ikke medregner akutmodtagelsen, er der så en læge, et ambulatorie, et sundhedshus eller et andet sted, hvor du sædvanligvis går hen for at få foretaget helbredstjek, søge råd omkring helbredsproblemer, eller hvis du bliver syg eller skadet?
OM DIG
27. Hvordan vil du vurdere dit generelle helbred?
28. Hvordan vil du vurdere dit generelle mentale eller følelsesmæssige helbred?
29. Hvad er dit højeste uddannelsesniveau?
30. Har nogen hjulpet dig med at udfylde dette spørgeskema?
31. Hvad fik du hjælp til?
32. Var den person, der hjalp dig, på noget tidspunkt til stede sammen med dig under besøget i akutmodtagelsen?

prøver), courtesy/friendliness (venlighed/høflighed) and carefully (nøje/opmærksomt). We discussed the differences with our back translators and adjusted the wording according to everyday language in Denmark, ensuring it still corresponded to the original wording in the survey. In the translation process, familiar or commonly used words or phrases are important for patients' motivation to respond to items, yet major differences between language versions can make it difficult to compare results globally [13].

To our knowledge, ED CAPHS has only been translated to be used in Saudi Arabia [20]. The researchers outline using a back-translation method, yet the method and the process including item-specific considerations, modifications or exclusions are not elaborated (but excluding the item on ethnicity).

The 32-item survey was found relevant and comprehensive when interviewing patients from the target group, as it focused on essential aspects when discharged home after an ED admission.

One of the patients addressed a need for an additional question concerning ongoing information about waiting time. The ED CAHPS Project Team strongly recommends that if any supplemental items are added to the ED CAHPS survey, they should be included as final items so as not to disrupt the patient's progression through the core items.

The ED CAPHS recommends that patients are not surveyed during their ED visit, at discharge from the ED or in the 48 h following discharge. However, contacting patients by web, mail, telephone or mixed mode 48 h to 35 days after an ED visit resulted in a response rate of 18.6% [21]. Thus, to increase the response rate, we support contacting patients in the ED—after receiving treatment, care and information and right before leaving the ED—as an additional option. By choosing the in-hospital timing, all patients including those not easy to reach can be encouraged to respond, thus increasing the response rate and the possibility to generalise results. Although it is generally agreed, that time of administration of patient experience and satisfaction questionnaires influence satisfaction ratings, there is no consensus on its precise effect. Yet responses obtained 'on the spot' tend to be more positive than in their home after discharge [22, 23].

Psychometric testing of the early 34-item EDPEC 5.0 version was performed using confirmatory factor analysis, grouping 15 evaluative items into four composite measures [12]. Furthermore, ED-level internal consistency reliability exceeded 0.83 for all four composites, inter-unit reliability and associations between each composite measure and patients' overall rating and willingness to recommend the ED were performed [12]. Since receiving the CAPHS trademark, an extra item (item 20) was added. However, item 20 is a screener item and will not impact the validity and reliability of the composite measures. Psychometric testing of 100 or more ED patients' responses to the Danish version using confirmative factor analysis and internal consistency reliability is needed in a future study to ensure construct validity and reliability.

The ED CAPHS questionnaire is developed and tested together with patients, health care providers and survey methodologists to assess essential aspects (determined by the users) when discharged home following their ED visit. ED CAPHS is a valuable tool for comparing patient experience and satisfaction across conditions, hospital settings and countries among patients discharged home following their ED visit.

CONCLUSION

The thoroughly developed and validated ED CAPHS survey measuring patient experience of patients discharged directly home following an ED admission was translated and culturally adapted to a Danish context (ED CAPHS DK). Overall, patients reported that the survey was relevant and comprehensive, as it focused on essential factors when discharged directly home after an ED admission. ED CAPHS DK is found to be content valid and ready for use. However, a future study testing the Danish version is needed to ensure construct validity and reliability.

AUTHOR CONTRIBUTIONS

The study was conceptualized by CA and CMJ. All authors participated in the translation process. The original draft was written by CA. Writing, reviewing, and editing was carried out by all authors. All authors read and approved the final manuscript.

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FUNDING INFORMATION

No funding was obtained for this study.

CONFLICT OF INTEREST

No conflicts of interest has been declared by the authors.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

ETHICS STATEMENT

According to Danish legislation, this study did not require ethical approval from the National Committee on Health Research Ethics §14, 2. All participants signed a statement of consent.

ORCID

Charlotte Abrahamsen https://orcid.org/0000-0002-3700-289X
Charlotte Myhre Jensen https://orcid.org/0000-0002-7058-4641
Mette Elkjær https://orcid.org/0000-0002-8774-105X
Christina Østervang https://orcid.org/0000-0001-5990-0167
Bettina Mølri Knudsen https://orcid.org/0000-0002-6231-3374
Signe Steenstrup Jensen https://orcid.org/0000-0003-1563-3778

Caroline Moos https://orcid.org/0000-0003-4997-4319
Bjarke Viberg https://orcid.org/0000-0001-5169-4282
Christian Backer Mogensen https://orcid.org/0000-0002-8254-089X

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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