



Nursing consultation for patients and relatives in an inpatient setting—a systematic review

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Abstract

Background Demographic changes are leading to a significant shortage of skilled nurses, with a 50% increase in care needs predicted by 2030. By 2035, an additional 493,000 nurses will be needed in Germany, particularly in inpatient care. After the introduction of a new concept of long-term care needs in Germany in 2017 and the associated formulation of care-related tasks, nursing consultation is becoming increasingly important for care professionals. There is a call for an enhanced integration of nursing consultation in Germany to improve care quality amid these challenges.

Aims The aim of this work is to show the diversity and necessity of nursing advice in the inpatient setting.

Method A systematic literature search was conducted of the databases PubMed and Cochrane, focusing on title and abstract with the keywords “patient,” “relatives,” “nursing consultation,” and “inpatient setting” based on the PCC scheme (Patient, Concept, Context). After removing duplicates, 443 articles remained and were filtered according to the inclusion and exclusion criteria. A total of 26 studies investigating the topics and effects of nursing consultation on patients and relatives were selected for inclusion in the review. The selected studies were summarized with regard to the research questions and evaluated according to their quality.

Results The studies encompass a broad spectrum of nursing consultations across various specialist fields, with notable emphasis on pediatrics, oncology, and intensive care. Thematically, the consultations addressed a diverse range of care phenomena, most frequently focusing on anxiety, family-centeredness, HIV, and cancer. The studies showcased a variety of counseling formats, including group and individual sessions, telephone consultations, and multimedia telemedicine, underscoring the adaptability of nursing consultations to patient needs. Notably, the outcomes of nursing consultations were positive, showcasing significant improvements in mental health, patient compliance, nutritional status, and overall quality of life, among other benefits.

Conclusion Recommendations for nursing practice can be derived from the review, suggesting a focus on prevalent nursing phenomena for counseling across patient populations to improve outcomes. While nursing consultations are well-established in oncology and pediatrics, there is potential for expansion in other specialized areas, such as intensive care. Notably, certain aspects like family-centered care are not adequately covered, indicating a need for further research.

Keywords Nursing consultation · Nurse · Patients · Relatives · Inpatient setting · Diversity

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Pflegerische Beratung von Patienten und Angehörigen im stationären Setting – eine systematische Übersichtsarbeit

Zusammenfassung

Hintergrund Der demografische Wandel führt zu einem erheblichen Mangel an Pflegefachkräften. Bis zum Jahr 2030 wird ein Anstieg des Pflegebedarfs um 50 % prognostiziert. Bis zum Jahr 2035 werden in Deutschland 493.000 zusätzliche Pflegekräfte benötigt, insbesondere in der stationären Pflege. Durch die Einführung eines neuen Pflegebedürftigkeitsbegriffs im Jahr 2017 in Deutschland und die damit verbundene Formulierung von pflegerischen Vorbehaltsaufgaben gewinnt die Pflegeberatung für Pflegefachpersonen zunehmend an Bedeutung. Es wird gefordert, die Pflegeberatung in Deutschland stärker zu integrieren, um die Pflegequalität inmitten dieser Herausforderungen zu verbessern.

Ziele Ziel dieser Studie ist es, die Vielfalt und Notwendigkeit von Pflegeberatung im stationären Setting zu charakterisieren.

Methode Es wurde eine systematische Literaturrecherche in den Datenbanken PubMed und Cochrane mit Fokus auf Titel und Abstract mit den Stichworten „patient“ (Patient), „relatives“ (Angehörige), „nursing consultation“ (Pflegeberatung) und „inpatient setting“ (stationäres Setting) nach dem PCC-Schema („patient, concept, context“) durchgeführt. Die nach Abzug von Duplikaten verbliebenen 443 Artikel wurden gemäß den Ein- und Ausschlusskriterien gefiltert. Insgesamt wurden 26 Studien, die sich mit den Themen und Wirkungen von Pflegeberatung auf Patienten und Angehörige befassen, für den Review ausgewählt. Sie wurden im Hinblick auf die Forschungsfragen zusammengefasst und gemäß ihrer Qualität bewertet.

Ergebnisse Die Studien umfassen ein breites Spektrum von Pflegeberatungen in verschiedenen Fachbereichen mit besonderem Schwerpunkt auf Pädiatrie, Onkologie und Intensivpflege. Thematisch befassten sich die Beratungen mit einer Vielzahl von Pflegephänomenen, wobei Angst, Familienzentriertheit, HIV und Krebs am häufigsten im Mittelpunkt standen. In den Studien wurden verschiedene Beratungsformate, darunter Gruppen- und Einzelsitzungen, telefonische Beratungen und multimediale Telemedizin, vorgestellt, was die Anpassungsfähigkeit von Pflegeberatungen an die Bedürfnisse der Patienten unterstreicht. Die Ergebnisse der Pflegeberatung waren positiv und zeigten, neben weiteren Benefits, signifikante Verbesserungen der psychischen Gesundheit, der Therapietreue der Patienten, des Ernährungszustands und der allgemeinen Lebensqualität.

Schlussfolgerung Aus der Übersichtsarbeit lassen sich Empfehlungen für die Pflegepraxis ableiten, die darauf abzielen, durch einen Beratungsfokus auf spezielle Pflegephänomene das Outcome von verschiedenen Patientengruppen zu verbessern. Während die Pflegeberatung in der Onkologie und Pädiatrie gut etabliert ist, besteht in anderen Fachbereichen, wie der Intensivpflege, Potenzial für weitere Beratungen. Bestimmte Aspekte, wie z. B. die familienzentrierte Pflege, werden nicht angemessen berücksichtigt, was auf weiteren Forschungsbedarf hinweist.

Schlüsselwörter Pflegeberatung · Pflegefachpersonal · Patienten · Angehörige · Stationäres Setting · Vielfalt

Background

Demographic change and its impact on the shortage of skilled nurses represent a significant societal challenge. The Nursing Report 2030 by the Bertelsmann Foundation predicts that by 2030, the number of people in need of care will increase by 50%, while the number of nursing staff is simultaneously decreasing. A shortage of almost 500,000 full-time nurses is expected if current developments continue (Rothgang et al. 2024).

A growing proportion of nursing staff is already over 50 years old, and many older nurses are retiring or leaving the profession due to the high physical and psychological workloads. The German Economic Institute predicts a need for 493,000 additional nurses by 2035, with 60% of the demand in inpatient care and the rest in outpatient care. Overall, it is evident that demographic change has led to an increasing demand for nursing staff while the supply of

qualified nurses is decreasing. This exacerbates the shortage of skilled workers in nursing and requires political and societal measures, such as restructuring the tasks of nurses, to ensure care for the growing number of people in need of it (Deutsches Pflegehilfswerk e. V. 2024).

Since 2017, a new concept of care needs has been introduced in Germany. This serves as the basis for structuring and describing nursing tasks and also considers aspects of nursing consultation. Nursing consultation is an important part of care, but it has received little attention in current practice. In Germany specialist nursing staff are underrepresented in nursing consultation, although they possess the necessary knowledge and skills. The diversity and benefits of nursing consultation are often unknown, and there is a lack of systematic integration into everyday nursing care (Wingenfeld and Büscher 2017).

In summary, the political and societal goal should be to exploit the potential of nursing consultation by profession-

als and accordingly improve the quality of care for those in need. Therefore, it is important to research and develop these nursing consultations in Germany in order to demonstrate the diverse possibilities and the resulting benefits for those in need of care.

Aims

The aim of this study is to highlight the diversity and necessity of care advice in the inpatient sector. In particular, the topics of care counseling are addressed. It also describes how care consultations are structured and to what extent they take place. In addition, the general positive or negative effects of care counseling are shown; the study is not about the specific effects of care counseling for patients with a particular illness. This study therefore deals with the primary research question: What are patients and relatives advised about in the inpatient setting? In addition, the following two sub-questions are answered: How are care consultations organized? Is there evidence for the effects?

Method

This study includes a systematic literature search of two databases. The methodology of the systematic literature research was chosen to include literature in the review that reflects the latest clinical developments and thus serves as a solid basis for further clinical research. Through this structured approach, systematic reviews ensure that a clearly defined question is addressed using transparent and reproducible criteria.

The research question was formulated using the PCC scheme (Population, Concept, Context), as described in Table 1. This scheme helps to structure the research question and narrow down the articles to be considered, based on specific criteria for the target population, concept, and context.

We conducted a systematic literature search of PubMed and Cochrane Library from November to December 2023. The systematic literature search, data collection, and critical quality assessment were carried out independently by two authors (A.R., L.S.S.).

The following research terms were used for the search: “nurse,” “consulting,” “education,” and “hospital.” Synonyms or related terms were linked with the Boolean

operator “OR” and each topic was linked with the Boolean operator “AND.”

In this systematic review, only studies on care consultations in the inpatient sector by care professionals were included in order to ensure better comparability of care consultations. The consultations should be aimed at patients and/or caregivers. Only German- and English-language studies were considered. In addition, an abstract had to be available for each study and the study had to have been completed. Studies from psychiatric settings were excluded because the authors had no prior knowledge in this field. Commentaries, expert opinions, and non-systematic reviews were also excluded, as there is only limited scientific rigor. At the beginning, all study titles were checked for eligibility. If the inclusion or exclusion criteria were disputed, the study was included. After the exclusion of duplicates, the same procedure was carried out with the remaining abstracts, followed by a full-text screening. A separate chart was used for data collection. Data extraction focused on title, study design, authors, year of publication, topic, research question and aim, methodology, results with regard to the research question, specialty, and nursing phenomenon.

Depending on the study design, quality assessment was carried out using AMSTAR 2 (A Measurement Tool to Assess Systematic Reviews) and MMAT (Mixed Methods Appraisal Tool) version 2018. AMSTAR 2 is an assessment tool that uses 11 items to evaluate the methodological quality of qualitative reviews (Coenen et al. 2013). The MMAT is an instrument for the critical evaluation of qualitative, quantitative, and mixed-method studies. It enables the assessment of methodological quality depending on the study design using a separate checklist (Hong et al. 2018).

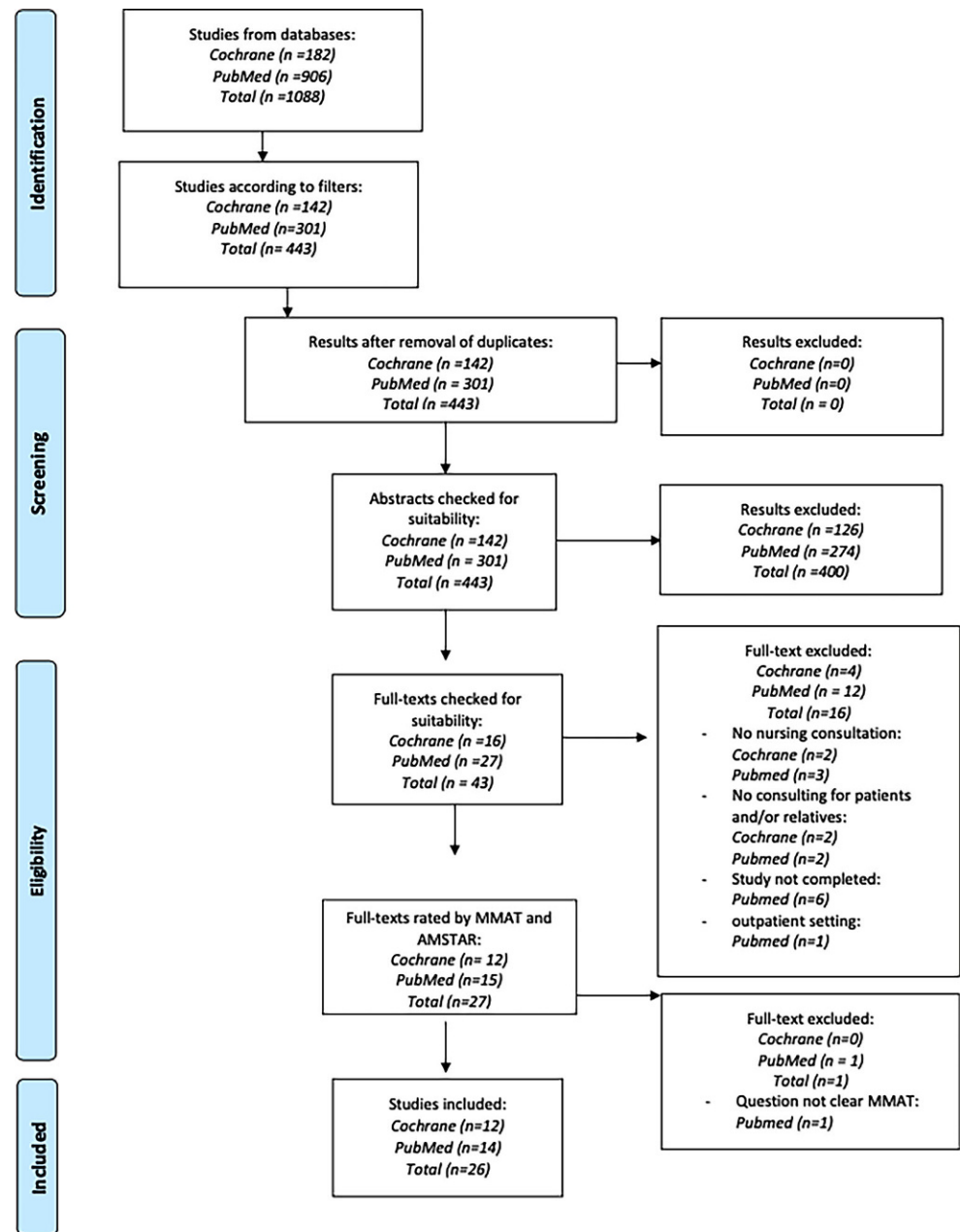
Results

The initial search yielded a total of 1088 hits in the databases (Cochrane $n=182$, PubMed $n=906$). After setting the filters, a total of 443 hits remained (Cochrane $n=142$, PubMed $n=301$). No duplicates were found. After screening the abstract, 400 studies were excluded (Cochrane $n=126$, PubMed $n=274$). Thus, 43 studies (Cochrane $n=16$, PubMed $n=27$) were included in the full-text screening. After screening the full texts, 16 studies were excluded (Cochrane $n=4$, PubMed $n=12$). A total of 27 studies (Cochrane $n=12$, PubMed $n=15$) were assessed for scientific quality using MMAT and AMSTAR 2. One study from PubMed had to be excluded. Consequently, a total of 26 studies were eligible for inclusion, as shown in Fig. 1 (Cochrane $n=12$, PubMed $n=14$). The details of these included studies are presented in Table 2.

Table 1 PCC scheme

P (population)	Patient, relatives
C (concept)	Nursing consultation
C (context)	Inpatient setting

Fig. 1 PRISMA flow diagram for Databases and Registers 2009



Study characteristics

Among the 26 studies included, 20 were published between 2013 and 2020, while the remaining six were published between 2021 and 2023. A total of 13 reviews, 11 randomized controlled trials (RCTs), one research protocol, and one mixed-method study were included.

The studies included in the systematic search originate from different countries. Most of the studies originate from the United Kingdom (Whitford et al. 2017; Fleeman et al. 2022; Ojha et al. 2020; Gurusamy et al. 2014; McDonald et al. 2015; Van-Velthoven et al. 2013; Ream et al. 2020; Early et al. 2017; Schofield-Robinson et al. 2018) followed

by the United States (Lewis et al. 2018; Schofield-Robinson et al. 2018; Gentry et al. 2013; Ream et al. 2020; Roblin et al., 2017), Australia (East et al., 2019; McDonald et al. 2015; O'Brien et al. 2015), Canada (Ojha et al. 2020; East et al., 2019; O'Brien et al. 2015), China (Lewis et al. 2018; Chan et al., 2015), and Germany (Lewis et al. 2018; Reiter et al. 2021; Fleischer et al. 2014; Schofield-Robinson et al. 2018). Only one study each was from Croatia (Van-Velthoven et al. 2013; Zulec et al., 2022), Turkey (Lewis et al. 2018; Ertürk and Ünlü, 2018; Ünver et al. 2018), Egypt (Tawfik et al. 2023), Denmark (Schofield-Robinson et al. 2018), Spain (Romero-Castillo et al. 2022), Iran (Asl

Table 2 Characteristics of nursing consultation

Title authors	Publication date	Study design	1. Specialized field 2. Nursing phenomenon	Design of nursing consultations	Effects of nursing consultations	Rating (AMSTAR/MMAT)
Follow-up services for improving long-term outcomes in intensive care unit (ICU) survivors Schofield-Robinson et al.	2018	Review	1. Intensive care 2. Anxiety	- Follow-up via telephone - Up to 12 months after ICU stay - Exchange of experiences during the ICU stay	- Enable exchange of experience - Sense of security - Reduction in anxiety and depression	AMSTAR +
Interactive telemedicine: effects on professional practice and health care outcomes Flodgren et al.	2016	Review	1. Mixed field 2. Professional practice	- Telemedicine provided remote monitoring - Real-time video-conferencing, which was used either alone or in combination - Six categories (monitoring of a chronic condition, provision of treatment or rehabilitation, nurses delivering education to patients, specialist consultations for diagnosis and treatment decisions, real-time assessment of clinical status, screening)	Improvement in blood pressure, independence	AMSTAR +
Care delivery and self-management for children with epilepsy Fleeman et al.	2022	Review	1. Pediatrics 2. Epilepsy	- Seven different self-management programs to educate or counsel children with epilepsy and their parents - Based on education or counseling - Training of health behaviors and activities to promote seizure control and enhance well-being	- Health behavior learned and adapted - Improvement (not in all aspects)	AMSTAR +
Breastfeeding education and support for women with twins or higher-order multiples Whitford et al.	2017	Review	1. Pediatrics 2. Breastfeeding	- Breastfeeding education and support during pregnancy, the postnatal period, or both for women with multiples - Supplementary to standard care - Offered to groups of women or one-to-one, including mother-to-mother support - Offered proactively by contacting women directly, or reactively, by waiting for women to get in touch - Face-to-face or via telephone	No meaningful improvement	AMSTAR +
Education of family members to support weaning to solids and nutrition in later infancy in term-born infants Ojha et al.	2020	Review	1. Pediatrics 2. Family centralized care	- Nursing education - Combination of educational strategies and environmental support, which facilitates adoption of dietary choices - Individual/group offerings, home visits - Nutritional counseling - Use of written, oral, audiovisual media	- Can reduce risk of malnutrition in term-born infants - Minor effect on growth in infancy	AMSTAR +
Information or education intervention for adult ICU patients and their carers Lewis et al.	2018	Review	1. Intensive care unit 2. Communication/information	- Structured information programs - Information leaflets - Face-to-face briefings - Recorded messages - Online resources	- Improving the understanding of health - Minimal improvement of mental disorders	AMSTAR +

Table 2 (Continued)

Title authors	Publication date	Study design	1. Specialized field 2. Nursing phenomenon	Design of nursing consultations	Effects of nursing consultations	Rating (AMSTAR/ MMAT)
Formal education of patients about to undergo laparoscopic cholecystectomy Gurusamy et al.	2014	Review	1. Surgery 2. Laparo- scopic chole- cystectomy	- Oral clarification - Computer-based multimedia program - PowerPoint presentation	No clear evidence of effects on patient knowledge, satisfaction, and anxiety	AMSTAR +
Preoperative education for hip and knee replacement McDonald et al.	2015	Review	1. Surgery 2. Hip and knee replace- ment	- Preoperative education - Discussion about preoperative procedures, surgical procedure, postoperative care, stress scenarios related to surgery, complications, pain management, movements to avoid - Conducted multidisciplinary by nurses and physio-therapists - Various forms of training: oral individual communication, group sessions, videos, brochures without oral communication	- Useful additions to conventional advice - Reduces anxiety, pain, function especially for patients with depression, anxiety, unrealistic expectations - Good response from patients to education tailored to their needs	AMSTAR +
Telephone-delivered interven- tion for reducing morbidity and mortality in people with HIV infection Gentry et al.	2013	Review	1. Infectiology 2. HIV	- Telephone intervention - Telephone consultations from triage nurses to PL-HIV	- Improving medication adherence - Reduction in depressive and psychiatric symptoms	AMSTAR +
Telephone delivered interven- tion for preventing HIV infec- tion in HIV-negative persons Van-Velthoven et al.	2013	Review	1. Infectiology 2. HIV	- Telephone support from advisor and usual support with prophylaxis - Helplines to answer questions - Use of telephone to implement behavioral measures for HIV prophylaxis - Cognitive behavioral group therapy by telephone - Motivational enhancement therapy by telephone for men to increase willingness to use condoms	- More compliance writing a diary - No significant difference in taking the prophylaxis - Effective reduction of HIV transmission - Increased willingness to use condoms	AMSTAR +
Telephone intervention for symptom management in adults with cancer Ream et al.	2020	Review	1. Oncology 2. Depression	- Telephone interventions by nurses (oncological background/research background/psychiatric back-ground) - Via telephone or in combination with personal counseling/digital/online - Educational or psychological approach - Cognitive behavioral therapeutic/motivational/supportive elements	- Reduction in symptoms of depression, anxiety, fatigue, and emotional stress - No clear result whether telephone counseling or the combination of counseling services is most effective	AMSTAR +

Table 2 (Continued)

Title authors	Publication date	Study design	1. Specialized field 2. Nursing phenomenon	Design of nursing consultations	Effects of nursing consultations	Rating (AMSTAR/MMAT)
Support during pregnancy for women at increased risk of low-birth-weight babies East et al.	2019	Review	1. Pediatrics 2. Low-birth-weight babies	- Emotional support (caring, empathy, reassurance) - Instrumental/concrete support (transportation to clinic appointments, care models, home visits, phone calls) - Information support (advice and counseling on nutrition, relaxation, stress management, avoiding alcohol/drugs) - Models of antenatal care, bed rest, nutritional supplements, smoking cessation, plasma volume expansion, oxygen therapy, medication, physical—mental interventions	- Additional social support for high-risk pregnant women can reduce the number of low-birth-weight babies - Presumed reduction in the post-natal depression rate - Effect was consistent when support was provided by a healthcare professional	AMSTAR +
The power of nursing guiding patients through a journey of uncertainty Komatsu and Yagasaki	2014	Review	1. Oncology 2. Uncertainty	- Providing personalized coordination, realizing patient's potential - Guide patient through uncertain cancer trajectory	- Patient-centered care is supported and improved by additional advice - Additional advisory services are gratefully accepted	MMAT +
The effect of an educational intervention of self-care in patients with venous leg ulcers Zulec et al.	2022	RCT	1. Angiology 2. Venous leg ulcers	- Educational intervention - Brochure according to educational needs	- Positive effects on patient's knowledge - Positive effects of the training on knowledge about therapy, warning signs, hand hygiene, skin care, nutrition, and physical activity	MMAT +
The effects of a multimedia education on self-efficacy and self-esteem among patients with acute coronary syndrome Ahmadi et al.	2022	RCT	1. Cardiology 2. Acute coronary syndrome	- Multimedia education - Training program	Can significantly improve the self-efficacy and self-esteem of patients with ACS	MMAT +
Effects of preoperative individualized education on anxiety and pain severity in patients following open-heart surgery Ertürk and Ünlü	2018	RCT	1. Cardiology 2. Anxiety	Individualized clarification before surgery	- Potential impact on postoperative pain - Fears and discomfort are reduced	MMAT +
Effects of nursing diabetes self-management education on glycemic control and self-care in type 1 diabetes Romero-Castillo et al.	2022	Research protocol	1. Diabetology 2. Diabetes	- Training courses in addition to standard care from hospital - Structured program of therapeutic education - Sessions will be 1 h a day with clear and concise information to guarantee the attention and concentration of the participants	- Improving knowledge of nutrition and treatment management, blood glucose control, self-control of values, quality of life - Long-term reduction in complications	MMAT +

Table 2 (Continued)

Title authors	Publication date	Study design	1. Specialized field 2. Nursing phenomenon	Design of nursing consultations	Effects of nursing consultations	Rating (AMSTAR/MMAT)
Deep breathing exercise education receiving and performing status of patients undergoing abdominal surgery Unver et al.	2015	RCT	1. Surgery 2. Breathing	Preoperative information on the use of a breathing trainer and the performance of breathing exercises after operation	- Frequency of use of the exercises has improved - Preoperative exercises are trained	MMAT +
Evaluation of the family integrated care model of neonatal intensive care: a randomized controlled trial in Canada and Australia O'Brien et al.	2015	RCT	1. Pediatrics 2. Family centralized care	- Parents are taught how to provide most of the care - By caregivers, experienced parents, and program coordinators (nurse) - Training sessions, ward briefing, access to equipment, required diary entries, encouragement to take on more responsibility, daily attendance at ward rounds - Nursing guidance on feeding, bathing, dressing, skin care - Psychological support in coping with NICU situation - Skills checklist for parents	- Improving the weight gain of newborn babies - Lower mortality and morbidity	MMAT +
A nurse-delivered brief health education intervention to improve pneumococcal vaccination rate among older patients with chronic diseases: a cluster randomized controlled trial Chan et al.	2015	RCT	1. Geriatrics 2. Vaccination	3-min brief educational intervention by nurses over the phone before the doctor's appointments and 3-min personal intervention during the scheduled doctor's appointment in addition to standard care with brochures and videos	Vaccination uptake among older patients with chronic diseases has been effectively increased	MMAT +
A case series of an off-the-shelf online health resource with integrated nurse coaching to support self-management in COPD Early et al.	2017	Mixed-methods	1. Pneumology 2. COPD	- Internet-based health promotion program - Preventive plan in conjunction with care coach	Significant improvement in the activation and control of anxiety, mood, self-confidence, physical functioning	MMAT +
Does an additional structured information program during the intensive care unit reduce anxiety in ICU patients? A multicenter randomized controlled trial Fleischer et al.	2014	RCT	1. Intensive care unit 2. Anxiety	- Structured verbal information - Predefined ICU-specific aspects - Procedural, sensory info - Coping info - Individual part about fears and questions - In addition to standard care	No improvement in conventional consulting with similar time intensity	MMAT +

Table 2 (Continued)

Title authors	Publication date	Study design	1. Specialized field 2. Nursing phenomenon	Design of nursing consultations	Effects of nursing consultations	Rating (AMSTAR/MMAT)
A nurse versus a chatbot—the power of an empowerment program on chemotherapy-related side effects and the self-care behaviors of women living with breast cancer: a randomized controlled trial Tawfik et al.	2023	RCT	1. Oncology 2. Cancer	- Personal training by nurse on the first day of chemo about side effects and self-help measures - General information about self-help measures	Less frequent, less severe, and less stressful psychological and physical symptoms	MMAT +
Effectiveness of text messaging and face to face training on improving knowledge and quality of life of patients undergoing hemodialysis: a randomized clinical trial Asl et al.	2018	RCT	1. Nephrology 2. Hemodialysis	10–15-min sessions per week - Face-to-face training during the hemodialysis time - Training via mobile phone in form of SMSs during a period of 36 days - Content: kidney function, medication adherence, diet, exercise recommended by doctor, prevention of dialysis side effects	Increased patient knowledge, quality of life	MMAT +
Health services. Research on colorectal cancer: a quasi-experimental interventional pilot study on in- an outpatient oncology Reiter et al.	2021	RCT	1. Oncology 2. Cancer	Structured, systematic nutritional counseling with regard to discharge management	- Better side effect management, assessment of food intolerances, acceptance - Improved outcome of colorectal cancer patients	MMAT +
Evaluation of a “just-in-time” nurse consultation on bone health: A Pilot Randomized Controlled Trial Roblin et al.	2017	RCT	1. Orthopedy 2. Osteoporosis	- Review of DXA results - Bone health counseling - Follow-up - Referrals to a physician	- Improvement in strengthening and weight-bearing exercises, calcium intake, osteoporosis knowledge, activation - Improved nutritional self-efficacy - Better satisfaction with osteoporosis treatment	MMAT +

AMSTAR 2 A Measurement Tool to Assess Systematic Reviews, MMAT Mixed-Methods Appraisal Tool, COPD chronic obstructive pulmonary disease, DXA dual-energy X-ray absorptiometry, NICU neonatal intensive care unit, PLHIV people living with HIV, RCT randomized controlled trial

et al. 2018), Japan (Komatsu and Yagasaki 2014), and Sweden (Schofield-Robinson et al. 2018).

“Nursing consultation” was defined in different ways in the included studies, as there is no standardized model for nursing consultations (Schofield-Robinson et al. 2018). Ojha et al. (2020), for example, defined care counseling in the area of nutrition as “any combination of educational strategies, accompanied by environmental supports (...)”. According to Ojha et al. (2020), the consultations can be carried out by nursing staff with the help of various media with patients and their relatives.

The duration of the nursing counseling interventions in the studies varies greatly, which illustrates the diversity of nursing counseling. In the study by Schofield-Robinson et al. (2018), for example, four counseling sessions were conducted on consecutive days, while in the study by Tawfik et al. (2023), three consecutive counseling sessions were conducted, each lasting approximately 45 min. In the study by Chan et al. (2015), a 3-min telephone consultation was also conducted before an examination appointment in combination with a 3-min face-to-face consultation during the appointment.

Specialist fields and phenomena of nursing consultations

The included studies focused on nursing consultations in various specialist areas. Most studies ($n=5$) described consultations in pediatrics (Fleeman et al. 2022; Whitford et al. 2017; Ojha et al. 2020; East et al. 2019; O’Brien et al. 2015) followed by oncology ($n=4$; Ream et al. 2020; Komatsu and Yagasaki 2014; Tawfik et al. 2023; Reiter et al. 2021), intensive care medicine ($n=3$; Schofield-Robinson et al. 2018; Lewis et al. 2018; Fleischer et al. 2014), surgery ($n=3$; Gurusamy et al. 2014; McDonald et al. 2015; Ünver et al. 2018), infectiology ($n=2$; Gentry et al. 2013; Van-Velthoven et al. 2013), and cardiology ($n=2$; Ahmadi et al. 2022; Ertürk and Ünlü 2018). There were also studies from the field of angiology ($n=1$; Zulec et al. 2022), diabetology ($n=1$; Romero-Castillo et al. 2022), geriatrics ($n=1$; Chan et al. 2015), pneumology ($n=1$; Early et al. 2017), nephrology ($n=1$; Asl et al. 2018), orthopedics ($n=1$; Roblin et al. 2017), and mixed specialties ($n=1$; Flodgren et al. 2016).

Thematically, consultations were held on various care phenomena. Advice was most frequently given on anxiety ($n=3$; Schofield-Robinson et al. 2018; Ertürk and Ünlü 2018; Fleischer et al. 2014) followed by advice on family-centeredness ($n=2$; Ojha et al. 2020; O’Brien et al. 2015), HIV ($n=2$; Gentry et al. 2013; Van-Velthoven et al. 2013), and cancer ($n=2$; Tawfik et al. 2023; Reiter et al. 2021). Furthermore, advice was given on epilepsy ($n=1$; Fleeman et al. 2022), breastfeeding ($n=1$; Whitford et al. 2017), communication and information ($n=1$; Lewis et al. 2018),

laparoscopy ($n=1$; Gurusamy et al. 2014), joint replacement ($n=1$; McDonald et al. 2015), depression ($n=1$; Ream et al. 2020), low birth weight in infants ($n=1$; East et al. 2019), uncertainty ($n=1$; Komatsu and Yagasaki 2014), chronic venous insufficiency ($n=1$; Zulec et al. 2022), acute coronary heart disease ($n=1$; Ahmadi et al. 2022), diabetes ($n=1$; Romero-Castillo et al. 2022), respiration ($n=1$; Ünver et al. 2018), vaccinations ($n=1$; Chan et al. 2015), chronic obstructive pulmonary disease (COPD; $n=1$; Early et al. 2017), hemodialysis ($n=1$; Asl et al. 2018), osteoporosis ($n=1$; Roblin et al. 2017), and professional behavior ($n=1$; Flodgren et al. 2016).

Design of nursing consultations

Various forms and methods of nursing counseling were described in the included studies. The most common form of counseling was group and individual counseling ($n=16$) on various nursing topics (Fleeman et al. 2022; Whitford et al. 2017; Ojha et al. 2020; Lewis et al. 2018; McDonald et al. 2015; Ertürk and Ünlü 2018; Romero-Castillo et al. 2022; Ünver et al. 2018; O’Brien et al. 2015; Chan et al. 2015; Fleischer et al. 2014; Tawfik et al. 2023; Asl et al. 2018; Reiter et al. 2021; Roblin et al. 2017; Komatsu and Yagasaki 2014). The second most common form of counseling was telephone consultation by nurses ($n=4$), e.g., in the form of a follow-up (Schofield-Robinson et al. 2018; Gentry et al. 2013; Van-Velthoven et al. 2013; Ream et al. 2020). The form of multimedia telemedicine ($n=4$) was also frequently used for consultations (Flodgren et al. 2016; Gurusamy et al. 2014; Ahmadi et al. 2022; Early et al. 2017). Occasionally, combinations of home visits and telephone consultations ($n=1$) were also used (East et al. 2019) or patients were advised on a topic via brochures ($n=1$) prepared by nurses (Zulec et al. 2022).

Effects of nursing consultations

The studies demonstrated the effects of nursing advice using various measuring instruments. The most frequently measured effect of counseling is the reduction of mental disorders ($n=9$), e.g., anxiety or depression (Schofield-Robinson et al. 2018; Lewis et al. 2018; McDonald et al. 2015; Gentry et al. 2013; Ream et al. 2020; East et al. 2019; Ertürk and Ünlü 2018; Early et al. 2017; Tawfik et al. 2023). The studies used various instruments to measure anxiety and depression. The Hospital Anxiety and Depression Scale (HADS) and the Generalized Anxiety Disorder Scale (GAD-7 and GAD-2) were used in several studies to measure anxiety and depression in different health conditions (Lewis et al., 2018; McDonald et al., 2015). The State-Trait Anxiety Inventory (STAI) was also used (McDonald et al., 2015; Ertürk and Ünlü, 2018). Other measurement tools are the Self-Rat-

ing Depression Scale (SDS) and Self-Rating Anxiety Scale (SAS), which provide self-reported insights into depression and anxiety. These instruments are comparable in terms of their validated use for the clinical assessment of anxiety and depression. However, they differ in their specificity (e.g., GAD-7 for generalized anxiety vs. HADS for combined anxiety and depression). In addition, the differences in the response formats (self-report vs. clinician-led) could influence comparability.

Patients and relatives receiving counseling showed improved ($n=8$) compliance and understanding of health issues, e.g., knowledge about their own illness increased and medication was taken more regularly (Fleeman et al. 2022; Lewis et al. 2018; Gentry et al. 2013; Van-Velthoven et al. 2013; Zulec et al. 2022; Ahmadi et al. 2022; Romero-Castillo et al. 2022; Ünver et al. 2018; Asl et al. 2018; Reiter et al. 2021; Roblin et al. 2017).

Various measurement instruments were used in the studies in this aspect. The instruments are comparable in that they all aim to assess patients' understanding and ability to cope with their illness. However, they differ in terms of their focus and method (e.g., questionnaire vs. scale). While some instruments are specific to certain diseases such as diabetes or hemodialysis, others are more general and relate to psychosocial factors that may be relevant to multiple diseases.

The nutritional status of patients who received advice from caregivers improved ($n=5$) and infants grew faster (Ojha et al. 2020; Romero-Castillo et al. 2022; O'Brien et al. 2015; Reiter et al. 2021; Roblin et al. 2017).

The measurement tools used to record nutritional status in the studies show limited comparability, as they are tailored to the respective target group and disease. While continuous glucose monitoring in patients with diabetes specifically measures blood glucose control, Z-scores for weight and height are more universal measures that are suitable for different age groups, such as infants. Biochemical markers such as hemoglobin and serum albumin, which have been used for cancer patients, provide specific information on nutritional deficiencies and are less suitable for general nutritional assessment. The differences in measurement approaches make it difficult to directly compare study results, but they highlight the specific adaptation to individual health needs.

It was also clear from the studies that the quality of life of patients who received nursing advice improved significantly ($n=3$; Romero-Castillo et al. 2022; Asl et al. 2018; Reiter et al. 2021). The quality-of-life measurement instruments used in the studies are comparable in that they cover all dimensions of quality of life, but they are adapted to different clinical pictures and their specific needs.

The postoperative mobility was also increased ($n=3$; Ünver et al. 2018; Early et al. 2017; Roblin et al. 2017). All studies use the physical activity of the patients as a measure.

Patient independence ($n=1$; Flodgren et al. 2016), postoperative pain ($n=1$; Ertürk and Ünlü 2018), and the feeling of safety ($n=1$) were described in some studies (Schofield-Robinson et al. 2018). The mortality and morbidity of patients receiving counseling were also reduced ($n=1$; O'Brien et al. 2015).

However, a few studies also showed that there was no effect of nursing advice ($n=3$; Whitford et al. 2017; Fleischer et al. 2014; Gurusamy et al. 2014).

Discussion

This systematic review provides a comprehensive analysis of the role and impact of nursing consultations in different medical specialized fields. Against the background of a growing need for nursing care and the shortage of nurses in Germany, the study highlights how nursing consultations can be used to improve both patient care and support for relatives in the inpatient context.

A literature search was conducted of the PubMed and Cochrane databases, which led to the identification of 26 relevant studies answering the main question "What are patients and relatives consulted on in an inpatient setting?" and the sub-questions "How are the nursing consultations designed? Is there evidence for the effects?" These studies covered a wide range of counseling topics, from anxiety management and family-centeredness to specific medical conditions and care phenomena, such as HIV and cancer. The variety of counseling formats, including group and individual sessions, telephone consultations, and the use of telehealth, demonstrates the adaptability of care counseling to different needs and preferences of patients and their families.

The results of the selected studies underline the positive effects of nursing consultations on patients' mental health, adherence to treatment, nutritional status, and general quality of life ($n=23$). A minority of studies ($n=3$) failed to identify significant advantages from nursing consultations. These findings support the call for greater integration of nursing counseling into inpatient care practice in order to improve the quality of care and respond to the challenges of demographic change and the shortage of skilled staff.

The quality of the included studies ranged from middle to high as measured by AMSTAR-2 and MMAT. Each study passed the ranking by one of the two quality measurement tools.

In summary, the review offers valuable insights into the diversity and necessity of care counseling in the inpatient setting. It underlines the importance of targeted, needs-ori-

ented advice and forms a solid basis for future research and for the further development of care practice.

Limitations

Some studies did not show with certainty that the nursing consultation was provided just by nurses; advice is often provided by multiple professionals. It was difficult to demonstrate the benefits of counseling by nurses.

Because the inclusion criteria were limited to completed studies, and the psychiatric context was disregarded, ongoing research relevant to the research question was omitted. This exclusion may have hindered a more thorough representation of the diversity inherent in counseling practices.

Conclusion

The review showed that care advice internationally is provided in different ways, in a variety of settings, and with different focal points. Its effects are also clearly recognizable. Nevertheless, it is clear from the literature review that, compared to other countries, little research has been carried out into care counseling in Germany and that it is therefore rarely practiced. Recommendations for nursing practice in Germany can be derived from this work, which aim to improve the well-being and treatment outcomes of patients and relatives through targeted counseling approaches. Particular emphasis is placed on the potential for expanding nursing advice in areas outside of oncology and pediatrics, such as intensive care. There is also a need for further research, particularly with regard to family-centered care, in order to further optimize care advice and adapt it to the needs of those affected. Research should also be conducted into the framework conditions that mean that care advice is not as widespread in Germany as in other countries.

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References

- Ahmadi, Z., Abolhassani, S., Hasheminia, A., & Kheiri, S. (2022). The effects of a multimedia education on self-efficacy and self-esteem among patients with acute coronary syndrome: a clinical randomized trial. *Iranian Journal of Nursing and Midwifery Research*, 27(3), 181–187.
- Asl, P. T., Lakdzaji, S., Ghahramanian, A., Seyedrasooli, A., & Rezaei, S. G. (2018). Effectiveness of text messaging and face to face training on improving knowledge and quality of life of patients undergoing hemodialysis: a randomized clinical trial. *Journal of Caring Science*, 7(2), 95–100.
- Chan, S. S. C., Leung, D. Y. P., Leung, A. Y. M., Lam, C., Hung, I., Chu, D., Chan, C. K., Johnston, J., Liu, S. H., Liang, R., Lam, T. H., & Yuen, K. Y. (2015). A nurse-delivered brief health education intervention to improve pneumococcal vaccination rate among older patients with chronic diseases: a cluster randomized controlled trial. *International Journal of Nursing Studies*. <https://doi.org/10.1016/j.ijnurstu.2014.06.008>.
- Coenen, M., Schuetz, G. M., & Dewey, M. (2013). Bewertung der methodischen Qualität von systematischen Übersichtsarbeiten und Metaanalysen: AMSTAR (A Measurement Tool for the Assessment of Multiple Systematic Reviews). Thieme Connect. <https://www.thieme-connect.de/products/ejournals/pdf/10.1055/s-0033-1350140.pdf>. Accessed 5 Feb 2024.
- Deutsches Pflegehilfswerk e.V. (2024). Folgen des demografischen Wandels in der Pflege schon heute spürbar. <https://www.pflegenot-deutschland.de/ct/demografischer-wandel-pflege/>. Accessed 5 Feb 2024.
- Early, F., Young, J. S., Robinshaw, E., Mi, E. Z., & Fuld, J. P. (2017). A case series of an off-the-shelf online health resource with integrated nurse coaching to support self-management in COPD. *International Journal of Chronic Obstructive Pulmonary Disease*. <https://doi.org/10.2147/COPD.S139532>.
- East, C. E., Biro, M. A., Fredericks, S., & Lau, R. (2019). Support during pregnancy for women at increased risk of low birthweight babies. *The Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD000198.pub3>.
- Ertürk, E. B., & Ünlü, H. (2018). Effects of pre-operative individualized education on anxiety and pain severity in patients following open-heart surgery. *International Journal of Health Sciences*, 12(4), 26–34.
- Fleeman, N., Bradley, P., Panebianco, M., & Sharma, A. (2022). Care delivery and self-management strategies for children with epilepsy. *Cochrane Database*. <https://doi.org/10.1002/14651858.CD006245.pub5>.
- Fleischer, S., Berg, A., Behrens, J., Kuss, O., Becker, R., Horbach, A., & Neubert, T. R. (2014). Does an additional structured information program during the intensive care unit stay reduce anxiety in ICU patients?: a multicenter randomized controlled trial. <https://doi.org/10.1186/1471-2253-14-48>.
- Flodgren, G., Rachas, A., Farmer, A. J., Inzitari, M., & Sheppard, S. (2016). Interactive telemedicine: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD002098.pub2>.
- Gentry, S., Van-Velthoven, M. H. M. M. T., Car, L. T., & Car, J. (2013). Telephone delivered interventions for reducing morbidity and mortality in people with HIV infection. <https://doi.org/10.1002/14651858.CD009189.pub2>.
- Gurusamy, K. S., Vaughan, J., Davidson, B. R. (2014). Formal education of patients about to undergo laparoscopic cholecystectomy.

- Cochrane Database of Systematic Reviews. <https://doi.org/10.1002/14651858.CD009933.pub2>.
- Hong, Q.N., Pluye, P., Fabregues, S., Bartlett, G., Boardmann, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O’Cathain, A., Rousseau, M.-C., & Vedel, I. (2018). Mixed methods appraisal tool (MMAT) version 2018. Department of family medicine. http://mixedmethodsappraisaltoolpublic.pbworks.com/w/file/attach/127916259/MMAT_2018_criteria-manual_2018-08-01_ENG.pdf. Accessed 5 Feb 2024.
- Komatsu, H., & Yagasaki, K. (2014). The power of nursing: guiding patients through a journey of uncertainty. *European Journal of Oncology Nursing*, 18, 419–424. <https://doi.org/10.1016/j.ejon.2014.03.006>.
- Lewis, S.R., Pritchard, M.W., Schofield-Robinson, O.J., Evans, D.J.W., Alderson, P., & Smith, A.F. (2018). Information or education interventions for adult intensive care unit (ICU) patients and their carers. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.pub2>.
- McDonald, S., Page, M.J., Beringer, K., Wasiak, J., & Sprowson, A. (2015). Preoperative education for hip or knee replacement. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.pub3>.
- O’Brien, K., Bracht, M., Robson, K., Ye, X.Y., Mirea, L., Cruz, M., Ng, E., Monterrosa, L., Soraisham, A., Alvaro, R., Narvey, M., Da Silva, O., Lui, K., Tarnow-Mordi, W., & Lee, S.K. (2015). Evaluation of the family integrated care model of neonatal intensive care: a cluster randomized controlled trial in Canada and Australia. *BMC Pediatrics*, 15, 210. <https://doi.org/10.1186/s12887-015-0527-0>.
- Ojha, S., Elfzzani, Z., Kwok, T.C., & Dorling, J. (2020). Education of family members to support weaning to solids and nutrition in later infancy in term-born infants. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD012241.pub2>.
- Ream, E., Hughes, A.E., Cox, A., Skarparis, K., Richardsin, A., Pedersen, V.H., Wiseman, T., Forbes, A., & Bryant, A. (2020). Telephone intervention for symptom management in adults with cancer. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.pub2>.
- Reiter, M., Gerken, M., Lindberg-Scharf, P., Fuerst, A., Liebig-Hörl, G., Ortmann, O., Eberl, I., & Bartholomeyczik, S. (2021). *Journal of Cancer Research and Clinical Oncology*, 147, 1789–1802. <https://doi.org/10.1007/s00432-020-03454-w>.
- Roblin, D.W., Zelman, D., Plummer, S., Robinson, B.E., Lou, Y., Edmonds, S.E., Wollinsky, F.D., Saag, K.G., & Cram, P. (2017). Evaluation of a “just-in-time” nurse consultation on bone health: a pilot randomized controlled trial. *The Permanente Journal*, 21, 16–112. <https://doi.org/10.7812/TPP/16-112>.
- Romero-Castillo, R., Pabón-Carrasco, M., Jiménez-Picón, N., & Ponce-Blandón, J.A. (2022). Effects of nursing diabetes self-management education on glycemic control and self-care in type 1 diabetes: study protocol. *International Journal of Environmental Research and Public Health*, 19, 5079. <https://doi.org/10.3390/ijerph19095079>.
- Rothgang, H., Müller, R., & Unger, R. (2024). Themenreport „Pflege 2030“. Was ist zu erwarten – was ist zu tun? Bertelsmann Stiftung.
- Schofield-Robinson, O.J., Lewis, S.R., Smith, A.F., McPeake, J., & Alderson, P. (2018). Follow-up services for improving long-term outcomes in intensive care unit (ICU) survivors. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD012701.pub2>.
- Tawfik, E., Ghallab, E., & Mustafa, A. (2023). A nurse versus a chatbot—the effect of an empowerment program on chemotherapy-related side effects and the self-care behaviors of women living with breast cancer: a randomized controlled trial. *BMC Nursing*, 22, 102.
- Ünver, S., Kivanc, G., & Alptekin, H.M. (2018). Deep breathing exercise education receiving and performing status of patients undergoing abdominal surgery. *International Journal of Health Sciences*, 12(4), 35–37.
- Van-Velthoven, M.H.M.M.T., Tudor Car, L., Gentry, S., & Car, J. (2013). Telephone delivered interventions for preventing HIV infection in HIV-negative persons. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD009190.pub2>.
- Whitford, H.M., Wallis, S.K., Dowswell, T., West, H.M., & Renfrew, M.J. (2017). Breastfeeding education and support for women with twins or higher order multiples. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD012003.pub2>.
- Wingenfeld, K., & Büscher, A. (2017). *Strukturierung und Beschreibung pflegerischer Aufgaben auf der Grundlage des neuen Pflegebedürftigkeitsbegriffs*. Universität Bielefeld, Institut für Pflegewissenschaft.
- Zulec, M., Pavlic, D.R., & Zulec, A. (2022). The effect of an educational intervention on self-care in patients with venous leg ulcers—A randomized controlled trial. *International Journal of Environmental Research and Public Health*, 19, 4657.

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