

Home visit as a support for nursing in peritoneal dialysis: an integrative review

Visita domiciliar como suporte da enfermagem na diálise peritoneal: revisão integrativa
Visita domiciliar como asistencia de enfermería en la diálisis peritoneal: revisión integradora

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Abstract

Objective: To identify in the literature how home visit is used by nurses as a tool of care in home peritoneal dialysis.

Methods: An integrative review of the literature of articles in journals, from a guiding question, from January 2014 to January 2019. The bibliographic search was carried out at Scielo, Web of Science, Pubmed, Scopus, Embase, and CINAHL databases.

Results: Ten articles were identified according to the review steps and the answers to the guiding question. The home visit performed by nurses was described as a treatment adherence tool. Complication prevention, such as peritonitis, was cited by the authors, who were mostly physicians and nurses.

Conclusion: Nurses assist patients and family members in full and ensure the proposed treatment with reliability. Nursing interventions at home prevent adverse events and frequent assessment of treatment indicators. Boosting primary studies in this area is essential, since few studies on the subject have been identified in the present review.

Resumo

Objetivo: Identificar na literatura como a visita domiciliar é utilizada pelo enfermeiro como ferramenta do cuidado em diálise peritoneal domiciliar.

Métodos: Revisão integrativa da literatura de artigos em periódicos, a partir de uma questão norteadora, no período de janeiro de 2014 a janeiro de 2019. A busca bibliográfica foi realizada nas bases Scielo; Web of Science, Pubmed, Scopus, Embase e Cinahl.

Resultados: Identificaram-se 10 artigos de acordo com as etapas da revisão e as respostas à pergunta norteadora. A visita domiciliar realizada pelo enfermeiro foi descrita como ferramenta de adesão ao tratamento. A prevenção de complicações, como a peritonite, foi citada pelos autores, que em sua maioria, eram médicos e enfermeiros.

Conclusão: O enfermeiro assiste integralmente ao paciente e família e, assegura o tratamento proposto com fidedignidade. As intervenções de enfermagem no domicílio previnem eventos adversos e frequente avaliação de indicadores do tratamento. Estimular estudos primários nessa área é imprescindível, visto que poucos estudos sobre a temática foram identificados na presente revisão.

Resumen

Objetivo: Identificar en la literatura cómo se utiliza la visita domiciliar del enfermero como herramienta de cuidado en diálisis peritoneal domiciliaria.

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Métodos: Revisión integradora de la literatura de artículos en revistas especializadas, a partir de una pregunta orientadora, en el período de enero de 2014 a enero de 2019. La búsqueda bibliográfica fue realizada en las bases Scielo, Web of Science, Pubmed, Scopus, Embase y Cinahl.

Resultados: Se identificaron diez artículos de acuerdo con las etapas de la revisión y las respuestas a la pregunta orientadora. La visita domiciliar realizada por el enfermero se describió como herramienta de adherencia al tratamiento. La prevención de complicaciones, como la peritonitis, fue citada por los autores que, en su mayoría eran médicos y enfermeros.

Conclusión: El enfermero asiste al paciente y a la familia de forma integral y garantiza que el tratamiento propuesto sea fidedigno. Las intervenciones de enfermería en el domicilio previenen eventos adversos y una evaluación frecuente de indicadores del tratamiento. Es imprescindible estimular estudios primarios en esta área, ya que se identificaron pocos estudios sobre esta temática en la presente revisión.

Introduction

According to data from the Brazilian Unified Health System (SUS - *Sistema Único de Saúde*), in 2015, the estimated number of users undergoing dialysis who are under “maintenance and home follow-up undergoing automated peritoneal dialysis (APD) and continuous outpatient peritoneal dialysis (COPD)” was close to 6,126 users in Brazil.⁽¹⁾ Carrying out the educational program in APD and COPD depends on the intervention of a nurse qualified to conduct the procedure that will be performed at home.⁽¹⁻³⁾

Nursing has, for years, taught and advises patients in various contexts of health care to be developed at home. Due to the knowledge base, performance in the health team and proximity to the patient, nurses are one of the most prepared health professionals to provide health education.⁽¹⁾

Home visit (HV) is a method of nursing work that aims to bring to individuals, in their home, care and guidance on their health. The results are achieved through health education in the supervision of care provided by the family, or by one of its members as a caregiver; provision of nursing care; identification of family data on the conditions of housing sanitation, through interviews and observations; guidance on the provision of home care and general hygiene matters.⁽³⁾

During HV, nurses should be aware of the adequacy search of the environment for peritoneal dialysis (PD) performance. However, it is necessary that, when considering home conditions, the object of their attention should not be lost: the human being who demands care.

There are few studies that bring up the theme of PD as a primary indication of treatment, when compared to dialysis. Peritonitis is one of the factors

that is responsible for this situation, due to failure in the treatment of PD. This can be reversed with the performance of training and qualification of the nursing team for home PD management. Periodic visits and supervision can avoid these problems.⁽⁴⁻⁶⁾

Thus, the questioning of the review arose: “How do nurses describe HV to PD patients regarding adherence to the dialysis method, preventing complications and their efficacy as a support tool?”

This study aims to identify in the literature how HV is used by nurses as a tool of care in home PD.

Methods

The integrative review stages were: definition of the review’s guiding question; systematized search for scientific articles in national and international databases; analysis in full, identification and categorization of evidence in the selected articles; interpretation of the results and presentation of the review or synthesis of knowledge.⁽⁷⁾

The guiding question was: “How do nurses describe HV to PD patients regarding adherence to the dialysis method, preventing complications and their efficacy as a support tool?”

The bibliographic survey was conducted by the authors under the reference librarian guidance in the university library. The search period was delimited from January 2014 to January 2019. The bibliographic search was carried out at Scielo, Web of Science, Pubmed, Scopus, Embase, and CINAHL databases. The terms used for the search strategy were selected in the Health Sciences Descriptors (DeCS – *Descritores em Ciências da Saúde*) and Medical Subject Headings (MeSH) in combination with Boolean operators AND and OR. They were followed by Preferred Reporting Items for

Systematic reviews and Meta-Analyses (PRISMA) recommendations.⁽⁸⁾ Equations were elaborated for searches in Portuguese and English at Scielo and Pubmed, Web of Science, Scopus, Embase, and CINAHL.

The strategy in English, Spanish and Portuguese directed to the Scielo platform was: (Peritoneal Dialysis OR *Diálisis Peritoneal* OR *Diálise Peritoneal*) AND (Home Visit OR *Visita Domiciliaria* OR *Visita Domiciliar*).

The English strategy developed for Pubmed, Web of Science, Scopus, Embase, and CINAHL was: (Dialyses, Peritoneal OR Dialysis, Peritoneal OR Peritoneal Dialyses) AND (Call, House OR Calls, House OR House Call OR Home Visits OR Home Visit OR Visit, Home OR Visits, Home).

The inclusion criteria were: articles published in full available electronically free of charge; in Portuguese, English and or Spanish languages; and to answer the review's guiding question.

The exclusion criteria were letters to the editor; case reports; editorials; articles in duplicate; those who no longer referred to the proposed theme in the title.

For full analysis of the included articles, the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) tools were used⁽⁹⁾ for quantitative studies, and the

Consolidated Criteria for Reporting Qualitative Studies (COREQ)⁽¹⁰⁾ for qualitative. Attribution of the level of evidence was performed based on the following criteria: level 1- systematic reviews or meta-analysis of relevant clinical trials; level 2 - evidence of at least one well-outlined controlled randomized trial; level-3 - well-outlined clinical trials without randomization; level 4 - well-outlined cohort and case-control studies; level 5 - systematic review of descriptive and qualitative studies; level 6 - evidence derived from a single descriptive or qualitative study; level 7 - opinion of authorities or committees of experts including interpretations of information not based on researches.⁽¹¹⁾

Twenty-three articles were found after pre-selection, the reading of the titles and abstracts was followed. The flowchart (Figure 1) demonstrates the 10 articles included according to the stages of the review and the answers to the question.

Results

The articles included and analyzed in full are distributed: one at Web of Science, three at Scopus, three at Embase and three at Scielo. In relation to the country of origin, it is observed in Chart 1 a higher production in Brazil (30%),^(3,12,13) followed

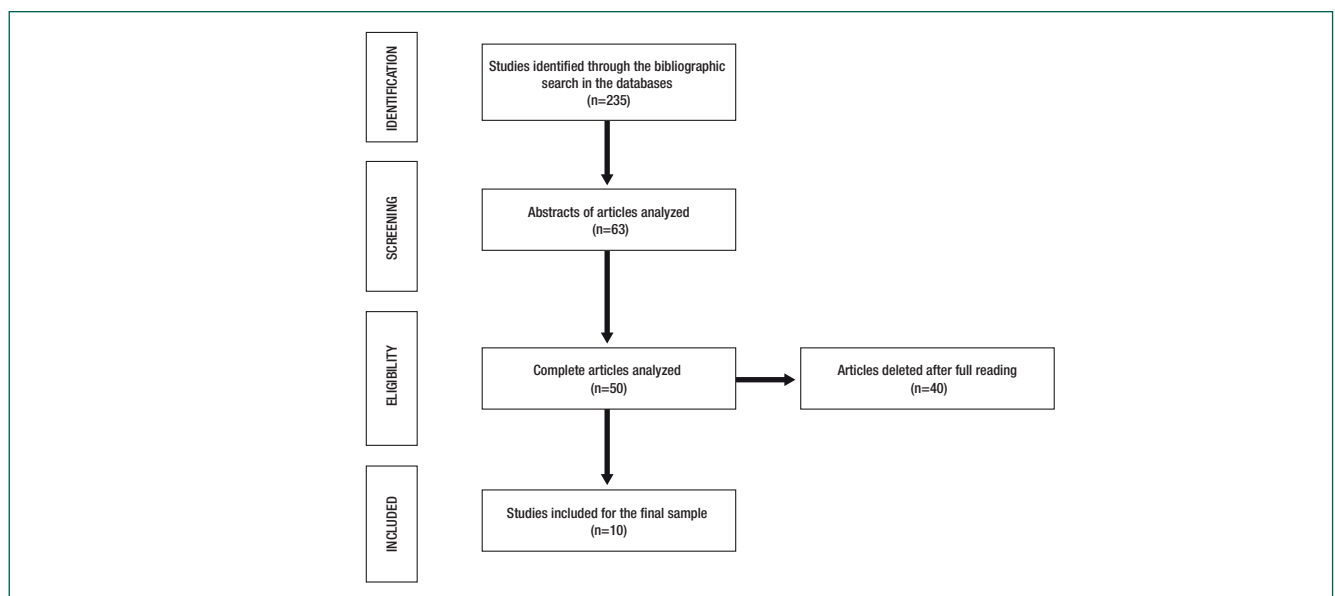


Figure 1. Flowchart of selection of studies according to PRISMA

Chart 1. Articles included in the integrative review with the search strategy

Year/ Country	Title	Authorship	Study Type	Database	Journal	Level of evidence	STROBE	COREQ
2014 Canada	Evaluating the benefits of home-based Peritoneal dialysis	François K, Bargman JM ⁽¹⁴⁾	Narrative review	Scopus	International Journal of Nephrology and Renovascular Disease	VII	-	-
2014 Chile	<i>Perfil biosociodemográfico y valoración de necesidades en pacientes en diálisis peritoneal</i>	Varela JU, Vidal MR, Pedreros MC ⁽¹⁶⁾	Quantitative, descriptive, cross-sectional	Scielo.	Ciencia y enfermería	VI	20	-
2014 Colombia	Safety automated peritoneal dialysis-DPA in children by primary home caregivers	Montilla L et al ⁽¹⁷⁾	Cross-sectional	Scielo	Enfermería Global	VI	19	-
2014 Italy	Home Visit Program Improves Technique Survival in Peritoneal Dialysis	Martino, F et al ⁽¹⁸⁾	Case-control retrospective	Scopus	BloodPurif	VI	21	-
2014 Brazil	Nursing practice in home care: an integrative literature review	Andrade AM, Silva KL, Seixas CT, Braga PP ⁽¹²⁾	Integrative review	Embase	RevBrasEnferm	VII	-	-
2015 Brazil	<i>As práticas assistências de enfermagem na diálise peritoneal: uma revisão</i>	Araújo FEA- Neto VLS, Mendonça AEOM, Lins TLCE, Granjeiro, FML ⁽¹³⁾	Integrative review	Scopus	RevEnferm UFPI.	VII	-	-
2015 Mexico	<i>Conocimiento teórico y apego al procedimiento de diálisis peritoneal Del paciente o su familiar.</i>	Meza WJMG et al ⁽¹⁹⁾	Cross-sectional descriptive	Scielo	FermNefrol	VI	21	-
2015 United Kingdom	Lack of motivation. A new Modifiable risk factor for peritonitis in patients under of ing peritoneal dialysis.	KlaraPaudel, GirishNamagondlu, KPG et al ⁽²⁰⁾	Descriptive	Embase	Journalof Renal Care	VI	21	-
2017 Brazil	The home visit in peritoneal dialysis: relevant aspects to nursing care.	Cunha, LP et al ⁽⁹⁾	Qualitative, exploratory-descriptive	Web of Science	J. res.: fundam. care.	VI	-	30
2017 Canada	Evaluation of real-time use of electronic patient-reported outcome data by nurses with patients in home dialysis clinics.	Makaroff Kara Schick and Anita E. Molzahn ⁽¹⁵⁾	Simultaneous, longitudinal and mixed method study	Embase	Health Services Research	V	22	-

by Canada (20%), ^(14,15) being the other countries with only one publication each. As for the types of study found, it is verified that the majority (60%) were from descriptive studies. Regarding authorship, the authors who published the most about the thematic area are the teaching nurses (70%) and nephrologists (30%). Regarding to the year of publication, (50%) articles were published in 2014, (30%) in 2015, and (20%) 2017. As for databases, Scielo, Embase and Scopus presented a higher number of articles (n-3), followed by Web of Science. Descriptive, quantitative, qualitative and literature reviews were identified. According to the level of evidence, it is noted that more than half (60%) presented level VI, 30% presented level VII and 10%, level V. Chart 1 summarizes the characterization and evidence analyzed in the included articles: title of the article; identification of the authors and year of publication; objective of the study; results and conclusions/recommendations.

Authors conclude that the HV program is a great tool for optimizing care, improving patient survival with reduced peritonitis and hospitalization. ^(3,9,18)

A study on home PD reports that this modality is effective in patients' survival, reducing the cost of dialysis. The advantages are patient empowerment and autonomy in performing care themselves, besides requiring professional training. ⁽¹⁴⁾

Authors report on the importance of educational actions by nurses in dialysis patients care to minimize risks. There is also the need for specific professional training and preparation for home care. ^(12,13)

A study showed that children are vulnerable to multiple risk factors, with the need for assessment strategies. The interdisciplinary and nursing team in particular addressed care guidelines for APD, minimizing risks and complications, and increasing patient safety. ⁽¹⁷⁾

A study shows knowledge deficits in the PD procedure, both patient and family members, due to this it is important to perform periodic assessments at home in order to avoid complications to patients. ⁽¹⁹⁾

Depressed and unmotivated patients were significantly more likely to develop peritonitis compared to motivated depressed patients, so lack of

Chart 2. Summary of results according to the studies and their themes to which they belong

Title	Objective (s)	Results	Conclusions
Evaluating the benefits of home-based peritoneal dialysis.	To discuss the benefits of chronic PD, performed by the patient or by a caregiver at home	A health system will only have economic benefit supported by the increased use of PD if equal reimbursement strategies for different dialysis modalities are supported by medical recognition of clinical and psychosocial benefits of PD and, by the appropriate training of health professionals for patients with knowledge and freedom to undergo dialysis at home.	Most patients with kidney disease can be treated with peritoneal dialysis, an effective dialysis modality with similar overall survival and with lower cost compared to hemodialysis. An additional advantage of home PD is the intrinsic empowerment of patients. Every patient should receive education on all dialysis options.
Perfil biosociodemográfico y valoración de necesidades en pacientes en diálisis peritoneal	To know the biosociodemographic characteristics and satisfaction of the needs of patients undergoing PD treatment at Las Higueras Hospital in Talcahuano, Chile.	The group was also composed of men and women, an average age of 48 years, more than half live without a partner and are head of family, most have children and live with 4 or more people (57.5%). Most of them completed high school, 22.5% are working and receive remuneration. Almost everyone has basic sanitation and lives in urban area. The main unmet needs correspond to "eliminating well" and "avoiding danger", the others are satisfied between 57.5% and 92.5%; Within this range, the most affected needs were to maintain body temperature and recreate.	The results suggest the establishment and strengthening of educational plans more rigorous to those already existing in our health center, tending to avoid physical and psychological damage, in addition to maintaining a good body elimination, through feedback in each control or HV to the patient.
Safety automated peritoneal dialysis-DPA in children by primary	To assess the safety of APD children at home through training for caregivers.	A total of 12 children between 5-18 years of age were assessed, 60% aged 10-15 years, under environmental conditions, 83% lived in completed households, 17% under construction. Regarding the educational level of the caregiver, 58% have elementary school	Children with PDA are vulnerable to multiple risk factors, and assessment strategies are needed. The interdisciplinary team addressed the nursing care guidelines for APD, making it an effective way to minimize risks and complications, triggering the development of skills to guide the safety of APD at home.
Home Visit Program Improves Technique Survival in Peritoneal Dialysis	To examine the effect of a regular HV program on clinical outcomes such as technical survival, peritonitis and hospitalization rates during one year of follow-up.	The case group was significantly older ($p = 0.048$), with a lower degree of autonomy ($p = 0.033$) than the control group. During the observation period, 11 episodes of technical failure were observed. A significant reduction in the failure rate of the technique was found in the case group ($p = 0.004$). Survival analysis showed a significant extent of PD treatment in patients supported by the HV program (52 vs. 48.8 weeks, $p = 0.018$). There was no difference between the two groups in terms of peritonitis and hospitalization, however, trends towards a reduction of peritonitis rates, as well as the prevalence and duration of those related to PD problems were identified in the case group.	The HV program improves the survival of pd patients and could reduce the Gram-positive peritonitis rate and hospitalization.
Nursing practice in home care: an integrative literature review	To analyze scientific production about the nurse's performance in home care in health.	It was identified that the work of nurses in home care has complexity and diversity of actions using soft, soft-hard technologies especially, and hard. The challenges related to the formative process for home care are reported in the literature. Nurses use knowledge and scientific recommendations combined with reflection in practice.	The nurse's performance in the home space is fundamental and broad. Relational and educational actions stand out, and it is necessary even in technical care, predominance of the need for training for home care.
<i>As práticas assistências de enfermagem na diálise peritoneal: uma revisão</i>	To identify in the literature nursing care practices to patients in PD procedure.	In the PD process, care can be categorized as follows: pre, intra and post-procedure, all according to the basic human needs of patients. At home, nurses should assess the home environment and suggest the necessary changes.	Nurses play an indispensable role in care of patients undergoing dialysis, in order to minimize risks and improve the lives of patients.
<i>Conocimiento teórico y apego al procedimiento de diálisis peritoneal Del paciente o su familiar</i>	To determine the level of theoretical knowledge and fixation for the dialysis procedure of the patient or family.	The Patient Group obtained a higher rate (75.35%) than the Family Group (71.45%). In the technique in general there was adherence of 80.3% of the steps, obtaining the highest FG index (81.92%) than PG (78.63%).	Patients and families showed deficit in both areas and should be assessed periodically to detect failures in the technique and knowledge, which predispose the patient to a preventable complication.
Lack of motivation. A new Modifiable risk factor for peritonitis in patients undergoing peritoneal dialysis	To determine whether the housing pattern, PD exchange technique or patient motivation can be modifiable risks to peritonitis.	Home hygiene, exchange technique and motivation were above average in 53%, 56% and 60%, respectively. Unmotivated depressed patients were significantly more likely to develop peritonitis compared to motivated depressed patients.	Lack of motivation predicted peritonitis particularly if associated with depression. More studies are needed focusing on specific motivation scoring schemes and psychosocial support that can lead to better results.
The home visit in peritoneal dialysis: relevant aspects to nursing care	To describe HV on PD from the eyes of users who enter outpatient PD and discuss the meaning of HV for such subjects.	HVs are perceived as a subjective dimension of users who undergo PD and their families.	HV is a rich moment of nurse and user interaction and a great tool for optimizing care for the individual in their home.
Evaluation of real-time use of electronic patient-reported outcome data by nurses with patients in home dialysis clinics.	To assess nurses' perspectives on the usefulness and impact of ePRO administration in home dialysis clinics and assess the patient's perception of nursing care satisfaction after the use of ePROS	The five themes that emerged from the interviews with nurses: improving the focus of nurses, directing interdisciplinary follow-up, offering support to patients during the process, interpreting the results of visual display and integrating to the flow work. The scores in the Client Questionnaire suggested that patients believed they received excellent care (97%) and that nurses understood their needs perfectly (90.9%).	Nurses reported that real-time and PRO data sharing reported their practice. Although there was no statistically significant change, some patients reported changes and benefits with the use of PROs. More research is needed to provide guidance on how ePRO data can improve person-centered care.

motivation may develop peritonitis if associated with depression.⁽²⁰⁾ However, more studies should be conducted with a focus on this psychosocial aspect.

Discussion

PD is a home therapy and patient survival is related to patient adherence, understanding and acceptance of treatment and indication of PD at home. The presence of a HV program can improve adherence to treatment and its results.⁽¹⁷⁾ The patients' training shows that health education performed by nurses contribute for the better knowledge of patients, family members and caregivers in various situations of home care.^(7,16) Training is one of the determinants for the success of therapy, being fundamental in the prevention of peritonitis.⁽⁷⁾ When starting treatment in home PD, every patient undergoes training conducted by the nurse of the dialysis center. This training is followed by the recommendations of the guidelines of the International Society for Peritoneal Dialysis (ISPD),⁽²¹⁾ being constituted of theoretical and practical classes, appropriate according to the needs of each patient and/or family member, so that there is an understanding of the procedure.⁽²²⁾ A study showed that depression can trigger peritonitis in pd patients.⁽²⁰⁾ Depression can lead to an increase in mortality and morbidity in dialysis patients, compromising adherence to treatment.⁽²³⁾

Nursing needs to go down a path to focus on its specific problems, using theoretical references, in order to enable a structure of knowledge that foundations its practice. Dorothea Orem's Nursing Theory emerged in the 1950s and has self-care as its basic concept. It has been addressed in several studies conducted with patients who have the diagnosis of CKD, because it has concepts about self-care or self-care deficit.^(24,25) Nurses appropriate the concepts of Orem for the planning of care and establishment of the nursing actions necessary to meet the therapeutic demand. The identification of self-care deficits by nurses corroborates the support and training of family members as agents of the patient's self-care, when the requirements were

decreased or absent. Peritonitis rates were cited by authors,^(17,20) but only one⁽¹⁸⁾ assessed the effect of a HV program on the PD technique, on the effect of adherence and failures. Ordinance 385, of April 25, 2016, redefines home care to PD patients within SUS scope, in the modality of home care. Home Care Service (HCS) is characterized by the set of actions to promote health, prevention and treatment of diseases, in addition to the rehabilitation of health that is performed at home, aiming at continuity and comprehensive care.⁽²⁶⁾

A study identified knowledge deficits in the PD procedure, both patient and family members.⁽¹⁹⁾ As institutional practice HV contributes satisfactorily to: the follow-up of treatment at home; made it possible to know and follow the reality of families; intervened as soon as possible in detected failures; clarified doubts with an educational focus. The socioeconomic assessment performed in HV supported the patient and family for specific care purposes.^(3,27) The periodic performance of HV keeps the patient and/or caregiver skilled and supervised by the nursing team in relation to the conditions of the household, equipment, inputs (hygiene and cleaning materials). The maintenance of the appropriate conditions allows the effective performance of the home procedure of PD. In the context, HV is a rich moment of knowledge exchange between professionals and patient/caregivers who can participate actively, critically, questioning and reflect on the real needs, as transforming subjects of the health process.^(3,28) It is recommended to carry out reports and primary studies of this theme, in order to demonstrate and contribute to the identification of the best scientific evidence. Primary studies on the theme investigated were limited in the national and international literature, which indicates the need to establish efforts and stimulate the dissemination of researches and results obtained. The research question of the review showed the need for the presence of nurses as health team professionals and indispensable in the planning of HV as responsible for the care assessment to be established. The knowledge synthesis of this review corroborates that HVs performed by nurses become an effective and holistic action for patients and family, in order to

ensure self-care and the maintenance of the proposed treatment, as well as the reduction of the lack of adherence and complications. As limitations, no studies were identified that addressed HV as a support for nursing care in PD.

Conclusion

Studies have shown that patient health education, family members and caregivers on home PD is essential for peritonitis prevention. For this to occur effectively, it is necessary that health professionals, especially nurses, are qualified for this care. Nurses provide holistic assistance to patients and family members, and ensure the maintenance of the proposed treatment. Intervening preventively through continuing education is an indispensable fact for home treatment. This integrative review identified descriptive, quantitative, qualitative and literature reviews studies, with levels of evidence V, VI and VII. It is noteworthy that the state of the art of the theme has been demonstrated, which corroborates to stimulate the development of future studies with levels of evidence I, II and III, in addition to providing subsidies for the understanding and adherence of patients to treatment and prescription in PD.

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