



REVISIONES

Evaluation of critical transportation of patients: A systematic review

Avaliação do transporte crítico de pacientes: Uma revisão sistemática

Evaluación del transporte crítico de pacientes: Una revisión sistemática

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ABSTRACT:

Objective: To evaluate, according to the literature, the main factors considered facilitators and/or aggravating in the transportation of patients in critical condition.

Method: This study is a systematic review performed using the PICO method.

Results: The selected journals comprised a time space in the last 10 years, with six journals eligible, based on the established criteria. The results report that the themes found in this review demonstrate an alignment between care practice and literature, but, for a transportation without adverse events, there must be a union between the management and the professionals involved.

Conclusion: Although the findings demonstrate a great concern regarding the quality of care and team preparation, the authors believe that more studies should be encouraged since teamwork, despite being complex, is the key to performing the procedures with effectiveness.

Key words: critical care; transportation of patients; nursing.

RESUMO:

Objetivo: Avaliar segundo a literatura quais são os principais fatores que são considerados facilitadores e/ou agravantes na realização do transporte de pacientes em estado crítico.

Método: Este estudo trata-se de uma revisão sistemática realizada com método PICO

Resultado: Os periódicos selecionados compreendiam um espaço temporal nos últimos dez anos, onde 6 periódicos foram elegíveis, baseado nos critérios estabelecidos. Os resultados relatam que os temas encontrados nesta revisão demonstram um alinhamento entre a prática assistencial e a literatura, porém para que o transporte seja realizado sem eventos adversos, é necessário que haja união entre a gestão e os profissionais envolvidos.

Conclusão: Embora os achados demonstrem uma grande preocupação em relação à qualidade na assistência e no preparo da equipe, os autores acreditam que mais estudos devem ser fomentados uma vez que o trabalho em equipe apesar de ser complexo, é a chave para a realização dos procedimentos com efetividade.

Palavras-chave: cuidados críticos; transporte de pacientes; enfermagem.

RESUMEN:

Objetivo: Evaluar, según la literatura, cuáles son los principales factores considerados facilitadores y/o agravantes en la realización del transporte de pacientes en estado crítico.

Método: Este estudio se trata de una revisión sistemática realizada con el método PICO

Resultado: Los periódicos seleccionados comprendían un espacio temporal en los últimos diez años, donde 6 periódicos fueron elegibles, basado en los criterios establecidos. Los resultados relatan que los temas encontrados en esta revisión demuestran una alineación entre la práctica asistencial y la literatura, pero para que el transporte sea realizado sin eventos adversos, es necesario que haya unión entre la gestión y los profesionales involucrados.

Conclusión: Aunque los hallazgos demuestren una gran preocupación en relación a la calidad en la asistencia y en la preparación del equipo, los autores creen que más estudios deben ser fomentados una vez que el trabajo en equipo, a pesar de ser complejo, es la clave para la realización de los procedimientos con efectividad.

Palabras clave: Cuidados Críticos; Transporte de Pacientes; Enfermería.

INTRODUCTION

Hospitals are highly specialized centers that meet, in their admissions, at tertiary level of the current health care system, patients in serious condition. However, these units do not have all complex machinery necessary for the completion of exams at the bedside. To determine precisely the therapeutic or diagnostic clarification, intra-hospital transportation of patients is necessary, being essential the use of some technologies to monitor and ensure the support of life. ⁽¹⁾

The decision to transport a patient in critical condition should be based on careful evaluation of the multiprofessional team in relation to the benefits and potential risks, taking into account primarily if the information provided by the results of the exams or procedures requested will represent a real impact on the conduct to be chosen. ⁽²⁾

However, in both practice as the literature, the transportation of these patients occurs mechanically, exposing the multiprofessional team to undesirable risks. This automation hinder implementing the construction of the hospital care plan and, subsequently, the effective planning of transportation ⁽³⁾

The careful structuring of a planning directly influences the reduction of risks. Nevertheless, this variable alone becomes ineffective without proper qualification and without the continuous education of professionals involved in this event, which are essential during the management of hospitalized individuals, aiming at preventing and minimizing the possible complications.

As professionals, we need to improve the evidence-based practice, implementing the solution of the problems highlighted during the care process daily, fostering the

development of studies that aim to support the nursing process and to demonstrate the impact of these actions, enhancing the quality of care provided. ⁽⁴⁾

This study will be guided through the link between the scientific production on the transportation of critical patients and on the performances of the nurse, in order to obtain such results.

This research may subsidize the formulation of future care protocols involving the transportation of critical patients, as well as the reduction of exposure of patients to intrinsic and extrinsic risks inherent to the procedure, thus improving their safety.

The objective of this article is to conduct surveys of scientific productions that address the theme exposed through the PICO methodology, then analyze, through literature and articles, the main factors considered facilitators and/or aggravating in the transportation of patients in critical condition.

Therefore, nursing professionals must be qualified and remain focused for any eventuality that may contribute to the worsening of the patient, acting in a cohesive manner during the complications occurred. This study aims to contribute to the improvement of nursing care provided to critically ill patients, as well as foster new discussions and further researches about the presented theme.

The weakness involving the safety culture results in a sequence of events that may favor the onset of errors, but, for this not to happen, the professionals and the institution itself need to be tuned in the process of creating barriers and incorporating best practices. ⁽⁵⁾

In this sense, the methodological rigor underscores the need to check, during the entire transportation, whether nursing professionals incorporate the practices for reduction or elimination of risks that can cause damage to the patients.

With the objective of establishing new arrangements, the Brazilian government, in 2013, through the Ministry of Health, drew up the National Program of Patient Safety, aiming, through care, educational and programmatic measures, at the implementation of risk management and centers for patient safety in several areas of attention of health establishments. ⁽⁶⁾

Furthermore, the actions of the Ministry of Health through inspections stand out, enabling the identification of potential sources of damage, in addition to representing a practice of continuous and systematic observation, ascertaining compliance with the standards established in law. ⁽⁶⁾

METHODOLOGY

The study is based on the reference of a descriptive review of the literature, consisting in analyses of the scientific literature and collection and analysis of data that has already been produced on this theme, using the PICO method.

The choice of method is justified because it is one of the sources of evidence with great capacity of organizing the growing number of scientific information in recent years. ⁽⁷⁾ This methodology is based on scientific evidence-based researches,

emerging from the need to validate the results of several researches that propose the same study. ⁽⁷⁾

The eligibility criteria were composed of textual productions that describe which factors contribute to the safe transportation of patients or which aggravate and cause deleterious effects to the transportation of patients. The established limits were the study language, availability of the article and year of publication, journals in Portuguese or English, fully available and that comprised a temporal space over the past ten years, i.e., scientific production published between 2008 and 2018. The studies that did not address the theme were excluded from the study.

The searches for the scientific productions published were performed through a data survey in the Virtual Health Library - VHL), in the Federal University of the State of Rio de Janeiro, between October and December 2018, which offers free access to numerous journals, with indexed databases, such as LILACS (Latin American and Caribbean Literature in Health Sciences), SciELO (Scientific Electronic Library Online) and BDNF (Nursing Databases). The choice of the database occurred based on its offer of integrated access to sources of information produced by the Brazilian network on health sciences information.

The studies were selected through the PICO research method, applying, respectively, the descriptors: Critical care, Nursing and Transportation of patients, using the Boolean operator "and". After excluding duplicated articles, the productions were selected through the title and abstract, obeying the pre-established inclusion and exclusion criteria. The journals with full text were grouped according to year and journal and then evaluated through full reading of the text.

The data obtained were organized, processed and stored in a spreadsheet and allocated in tables.

RESULT

Through the strategy used, 38 registered journals were selected, of which one was duplicated. After the screening of the title and abstract, 15 articles were selected for reading of the full text. Of these, six articles met the eligibility criteria, composing the proposed discussion.

Figure 1 details the selection.

Figure 1: Flowchart of the process of search, selection and inclusion of articles.

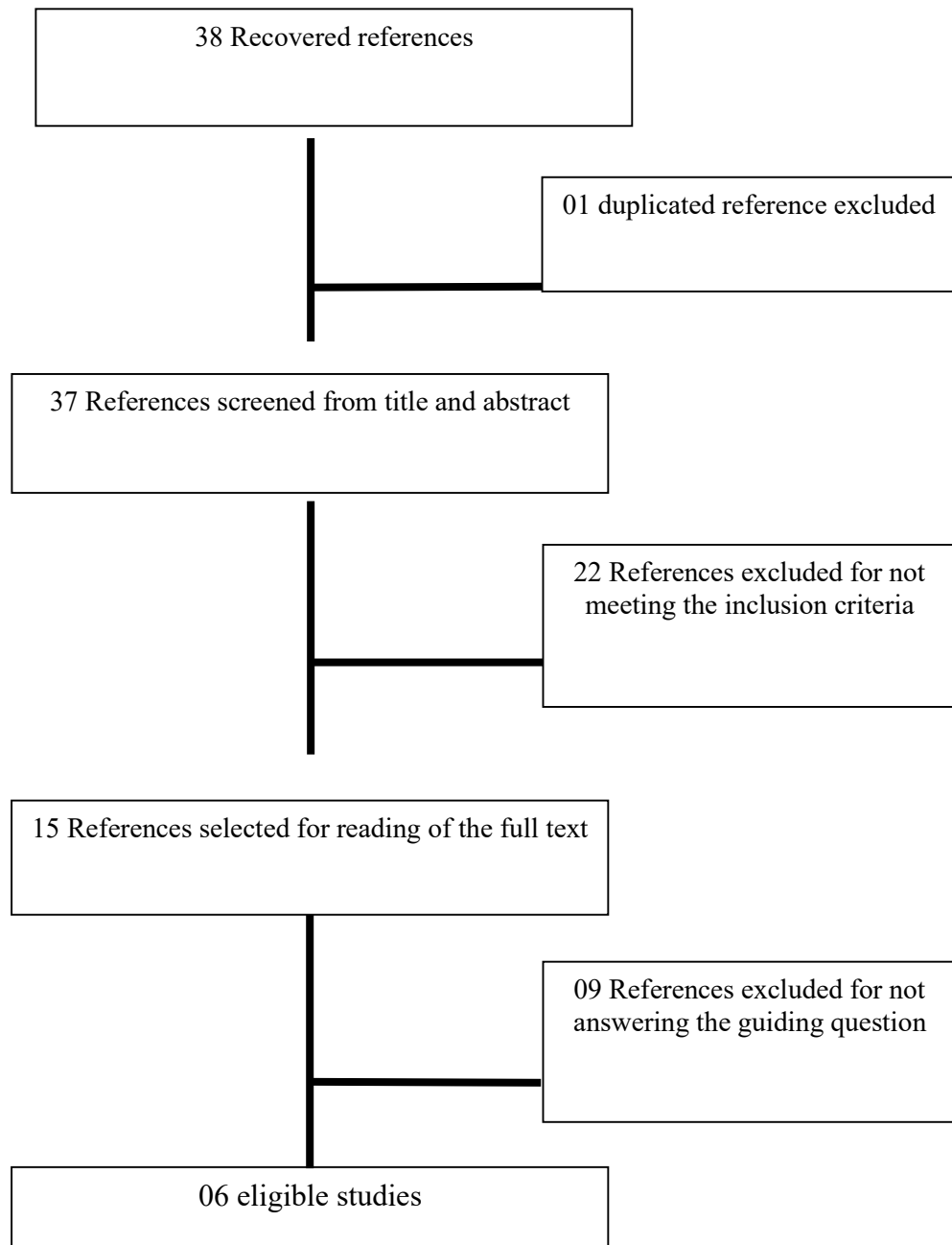
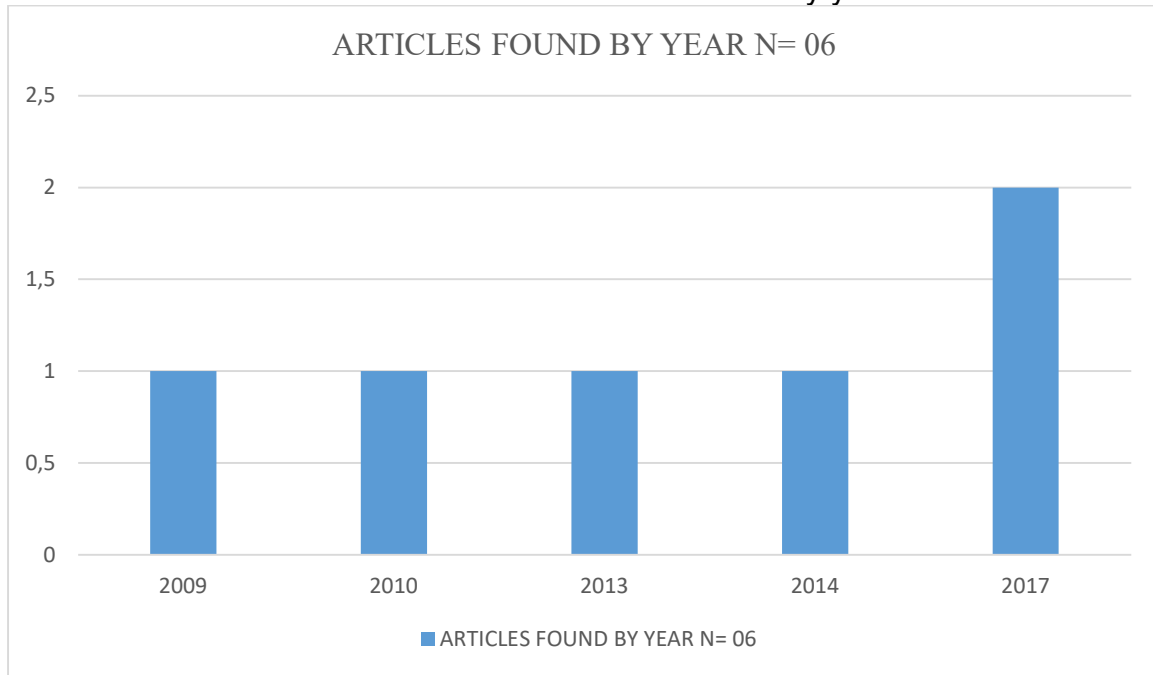


Chart 1: Amount of articles found by year.



Although the theme has a close proportion of publications annually, it does not have a significant increase of publications involving the themes: critical care, nursing and transportation of patients. In 2017, there was the largest quantity of publications, compared to previous years.

Chart 2: Main themes addressed for the transportation of critical patients.

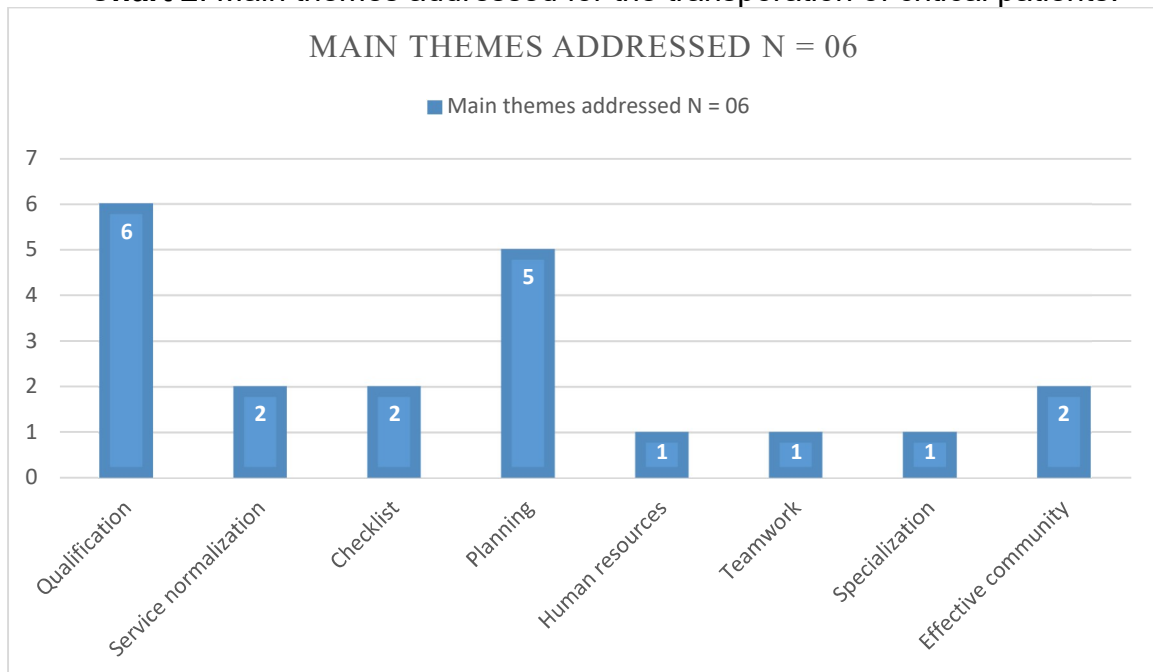


Chart 2 indicates the main topics discussed on the chosen theme, with qualification as the most discussed topic, followed by planning of activities. Other topics discussed, despite little mentioned, are relevant for a successful transportation.

Chart 3: Main themes addressed that hinder the transportation of critical patients.

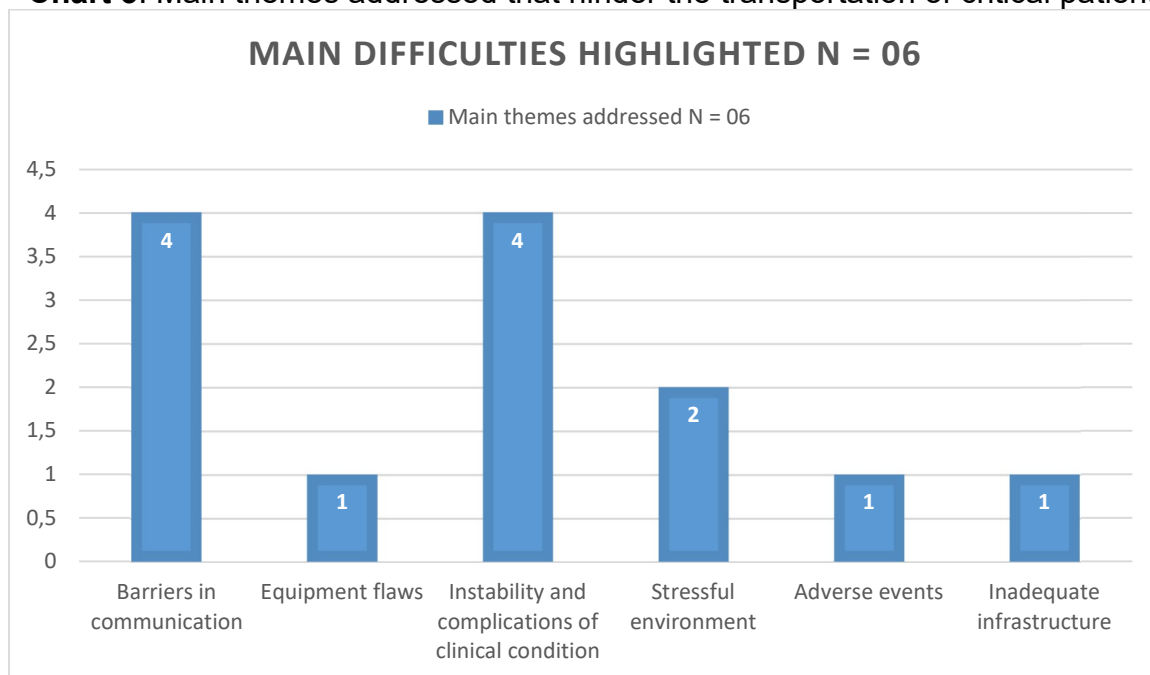


Chart 3 highlights, according to the authors, the main themes addressed that hinder the successful transportation of critical patients.

DISCUSSION

First category: Factors that contribute to a successful transportation.

To ensure a successful decision-making process, the professionals involved need to understand the factors involved in the decision-making process. The importance of individuals with knowledge and specific skills carrying out the transportation is translated through greater chances of success, because the reflection and the repetition of attitudes in their thinking are keys to assimilate the theory through training with the experience in health care practice. ⁽⁸⁻¹¹⁾

The nursing governing council in Brazil, in its Resolution 558, of 2018, states that the nursing professional should ensure, during the entire transportation, prevention of adverse events, through the careful evaluation of risks and complications, providing the inputs necessary for the possible interventions. ⁽²⁵⁾

The constant search for care quality at health services has caused a reorganization, promoting new ways to ensure that transportation is carried out, since its indication, planning and implementation, minimizing the most possible risks to the transported patient. This development through clinical evidence has generated new standards and logistics, avoiding aggravating the patient's condition, making transportation safer and more efficient. ⁽²⁷⁾

Two other factors discussed that are fundamental to the effectiveness of transportation are effective communication and teamwork. Effective communication appears as one of the factors that increase patient safety and that can prevent complications related to

material or human resources, such as conflicts or questions relating to the procedures that will be performed by the multidisciplinary team. ⁽¹¹⁻¹²⁾

The teamwork, although in only one of the articles, is essential for the provision of quality care, minimizing the chances of errors. Nevertheless, when comparing groups of professionals who worked in hierarchical organizations with non-hierarchical groups, the second group exhibited a greater collaboration, trust and satisfaction at work that indirectly lead to better service quality and increase the levels of patient safety. ⁽¹⁰⁾

The planning involving hospitalized individuals in critical condition involves quick thinking, risk management and decision-making, once this theme represents one of the greatest challenges for the health professionals involved, by incorporating various types of technologies, whether light, hard or light-hard, ensuring a safe care. Even if all precautions are taken, some data indicate that, in intrahospital transportations starting from a safe environment, the percentage of adverse events can vary from 4.2% to 70% of chances of complications. ⁽⁸⁻¹²⁾

Second category: factors that hinder the transportation of critical patients.

The noises in the communication and changes in the patient's clinical conditions are the most frequently reported events, followed by stressful environment. Despite the little discussion on the themes of equipment flaws, adverse events and adequate infrastructure, these represent basic care in relation to the commitment to patient safety.

The effectiveness in communication between health professionals presents enormous chances of raising the care quality, but, when failures occur in this process, the assistance becomes unsafe and fragile, allowing the professionals involved to become less aware, creating less possibility that they may be assertive. ⁽⁸⁻¹¹⁾

Some authors consider the transportation of patients as a tense and traumatic service, resulting from the intense work and risk factors that are constantly present. In some cases, the overload and dissatisfaction of work may be associated with the stressing factor. ⁽¹³⁾

Unstable patients have higher chances of complications when performing the transportation. The author also mentions that one of the most observed changes is the failure in the control of cardiac and respiratory functions. ⁽¹¹⁾ Another author reports that most of the patients being studied during the transportation presented systolic and mean arterial pressure oscillations. ⁽⁸⁾

The reason for these changes suffered by patients may not relate to technical errors, but to the patient's instability or threshold of pain when moving during transportation. ⁽²⁶⁾ Another author affirms that there is a predominance of hemodynamic instability when performing the transportation, with emphasis on changes in blood pressure that increased proportionally in relation to time of transportation. ⁽²⁸⁾

Some reports in the literature concluded that, during transportation of critical patients in the intra-hospital modality, 82.6% of adverse events are related to the instability of the patient. ⁽²⁹⁾

Another study used to compose this research describes that the events with higher prevalence, according to the proposed safety indicators, are physiological changes of the patients, difficulty in relation to communication and equipment flaws. ⁽¹⁴⁾

The challenges for controlling adverse events need to be considered collective and grouped into organizational structures, involving governmental, institutional and administrative policies, in addition to the standardization of service and commitment to the service and the patient. ⁽¹⁵⁾

Although the equipment is essential for the transportation of patients in critical condition, we emphasize that the most successful path is to invest in human resources, because they are fundamental to the effectiveness of the transportation, in addition to avoiding high rates of error.

CONCLUSION

In relation to nursing care, we noticed that, although a great responsibility in preventing adverse events focuses on nursing, its actions are related and dependent. The articles presented here demonstrate that, in the practical field, nursing professionals recognize the challenges and the difficulties encountered during the safe transportation.

The bibliographic survey conducted showed that an efficient care quality coupled with positive results in the transportation of critical patients is a consequence of the union of the management of processes and collective works.

The results presented in this study demonstrated a growing concern of health institutions and professionals involved in relation to organization and preparation of the team and to the quality in direct and indirect care of the patient.

Despite the clinical importance related to this research, the presented proposals require further discussion, once the teamwork is complex and effective communication is the key to success. With this study, we hope to offer subsidies for new researches and stimulate the search for new data, which broaden the discussions of this issue.

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