

# Relationship between leadership in advanced practices and improvement of professional nursing practices.

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## INTRODUCTION

This is a change of orientation for the nursing profession, for which the possibility of advanced practice at Master 2 level in France gives them greater autonomy in decision-making in the field of care. Leadership competence defined by Northouse as "a process by which an individual influences a group of individuals to achieve a common goal" could encourage the use of good professional practices in teams. Our research is based on the potential interactions between leadership and patient outcomes related to improved professional practices. The objective of this scientific poster is to identify the factors that contribute to this correlation and to report on the results of qualitative descriptive studies conducted in Switzerland and Canada.

## METHODS

The search was conducted in the PubMed and Google Scholar databases for resources published between 2010 and 2019, in both French and English. The keywords used in the relevant search equations translated into mesh terms are: [practice nurse], [leadership], [advanced practice], and [patient outcomes]. The exclusion criterias were specific care units and unavailability in full text. A total of 234 studies met our inclusion criterias. Four descriptive qualitative studies were selected according to the relevance of their abstract. The analysis of the articles was based on the SPIDER tools and the Université Laval grid.

## RESULTS

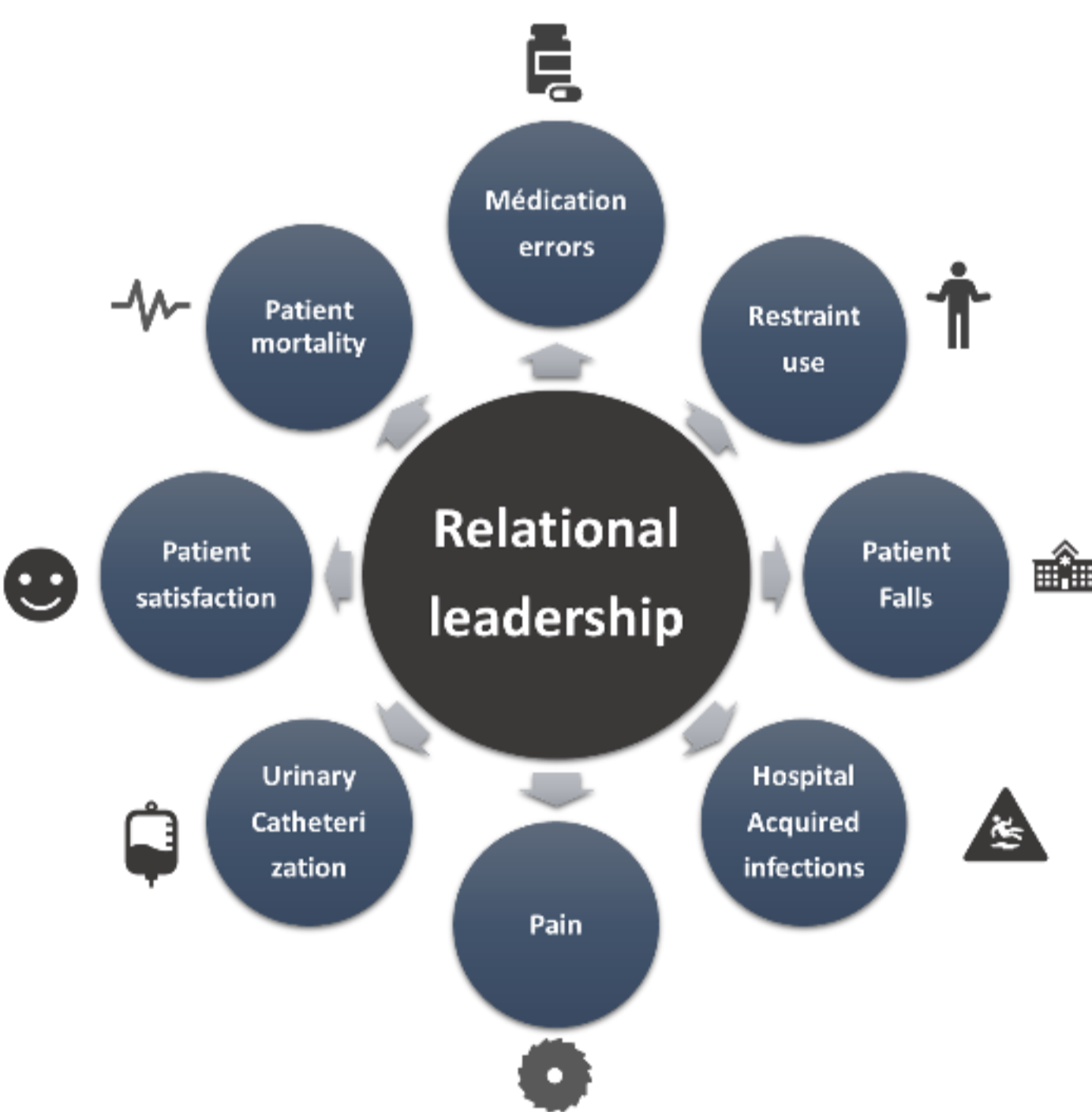
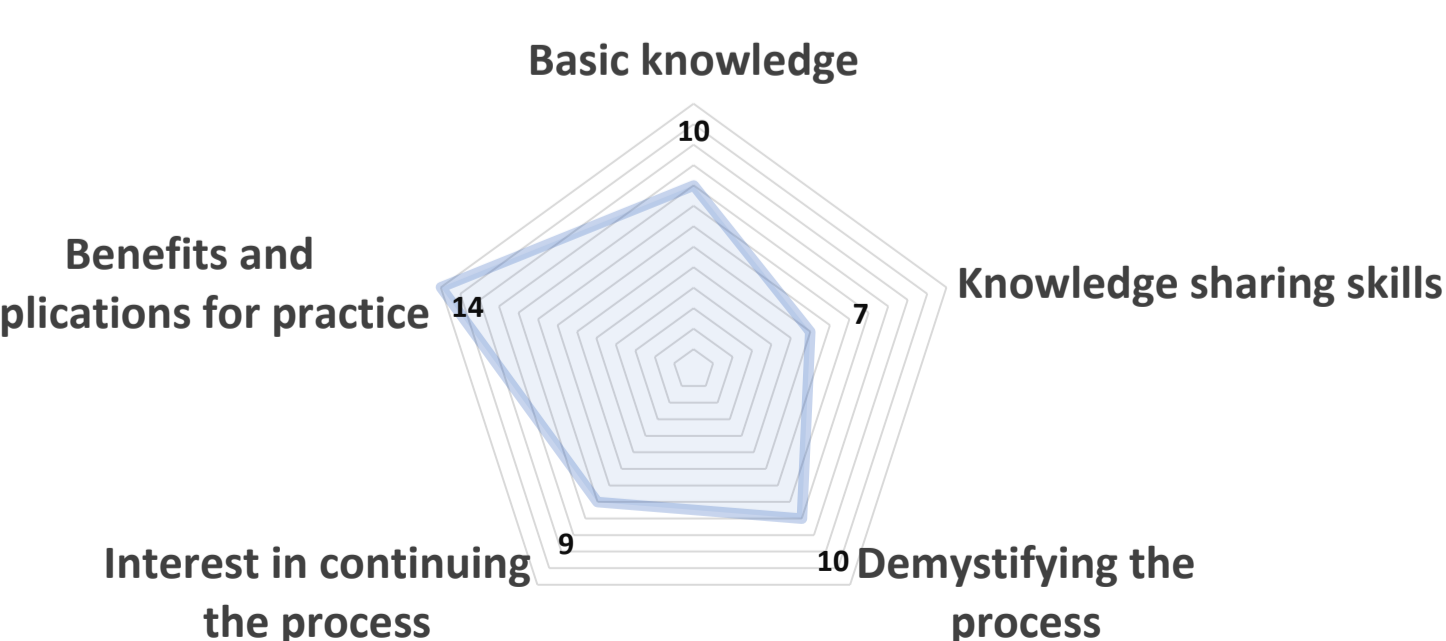


Figure 1 shows significant results from a systematic review of 20 studies demonstrating a correlation between relational leadership and selected patient outcomes.

Figure 1. Positive, significant associations of relational leadership in patient Care .



A pilot study conducted in Canada with 14 nurses, including 6 advanced practice nurses, was designed to evaluate an intervention to integrate research findings into nursing practice through the training of leaders. All participants (n=14) reported a **change or improvement in professional practices and a transfer of new knowledges to their care units.**

Figure 2. Analysis of interviews after participants training to integrate research results into professional practice .

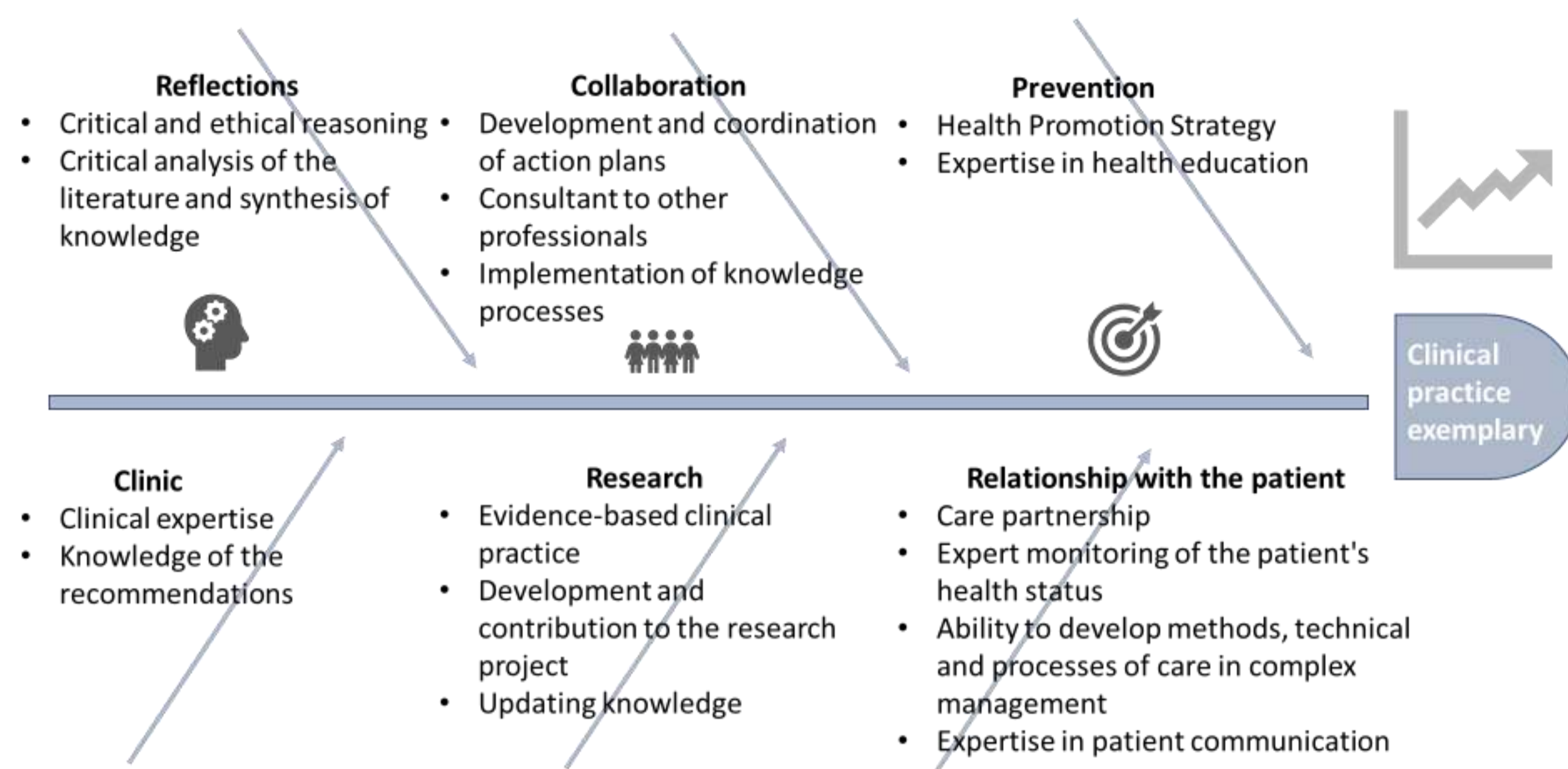


Figure 3. "Clinical practice exemplary" Competency of the Sherman *et al.* adapted model for the development of nursing leadership competencies in advanced practice .

The adapted model of Sherman *et al.* reflects the reality of advanced practice in Switzerland and Quebec. The "clinical practice exemplary" competency reinforces the initial model of Sherman *et al.* by emphasizing the ability to lead evidence-based practice change. The objective was to propose a leadership development model for teaching and clinical practice.

Leadership concepts	Approach	Context	Capacities
Transactional leadership	Structure and task oriented	<ul style="list-style-type: none"> <li>Predictable and stable</li> <li>Style adapted to managers and executives</li> </ul>	<ul style="list-style-type: none"> <li>Development of expectations</li> <li>Motivation of staff members</li> <li>Organization of time and place</li> </ul>
Transformational leadership	People and relationship oriented	<ul style="list-style-type: none"> <li>Organizational complexity and uncertainty</li> <li>Leadership style adapted to the complexity of advanced practice interventions</li> </ul>	<ul style="list-style-type: none"> <li>Clear vision of common objectives</li> <li>Leading major changes</li> <li>Supporting employees to higher levels of development</li> <li>Promotes team cohesion</li> <li>Individual and institutional maturity</li> </ul>

Table 1. Concepts or themes of leadership in nursing studies

Table 1 identifies the two most frequently cited forms of leadership in the studies. Transformational leadership skills seem to be the most appropriate for the context of advanced practice.

## CONCLUSION

The studies included in the research show significant results on the correlation between leadership practice and improved professional nursing practices. Several positive factors are identified such as the training of leaders in the transfer of research knowledge, as well as the leadership skills and capacities of nurses in advanced practices. However, the authors unanimously specify that the expected effects are dependent on the relational factor, the motivation or the psychological capacities of the leader. Regardless of the individual, the socio-economic context, the organizational context of the structure and the recognition of the added value of the nurse's leadership in advanced practice are the key to initiating practice change. It will be necessary to enrich the literature with studies on the leadership of future nurses in advanced practice, with the challenges of the healthcare system in France.

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- J. Gagnon, F. Côté, G. Mbourou *et al.* La pratique infirmière informée par des résultats de recherche : la formation de leaders dans les organisations de santé, une avenue prometteuse. *Recherche en soins infirmiers*. 2011;2;105 :76-82.
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## Background

According to ANAES, Alzheimer's disease is defined as a central nervous system neurodegenerative disorder characterized by a lasting and progressive deterioration of cognitive functions.

During the course of the disease some psycho-behavioral disorders of varying intensity appear, confronting carers and caregivers with difficulties in managing them, which has a negative impact on the quality of care and on patient's living conditions.

This is the reason why health care teams and caregivers to face new challenges. How effective is relational care on these disorders? Nowadays, we have limited available resources and we mostly have medical treatment. This response is inadequate and goes against the current HAS recommendations, which promote limited drug prescriptions. In this work, I shall report on the practical approach to relational care upon the prevalence of psycho-behavioral symptoms in patients with Alzheimer's disease.

## Methods

A search was conducted in the grey literature and the Pubmed database for resources published between 1996 and 2014 in French and English. The keywords "dementia", "caregiver/patient relationship" and "difficult behavior" were used in every relevant combination. The inclusion criteria were Alzheimer's disease and non-pharmacological treatment. This yielded a total of 8 records, from which we excluded 3 because some of them had co-morbidity such as Lewy body dementia, behavioral disorders related to physical restraint after evaluation.

## Conclusion

Patient care for Alzheimer's disease is delicate. Indeed, there is no effective curative treatment and the repercussions for the patient and their families and friends are particularly severe. In addition to the essential medical monitoring that is central to the management of patients with dementia, non-drug approaches have been developed using a variety of techniques.

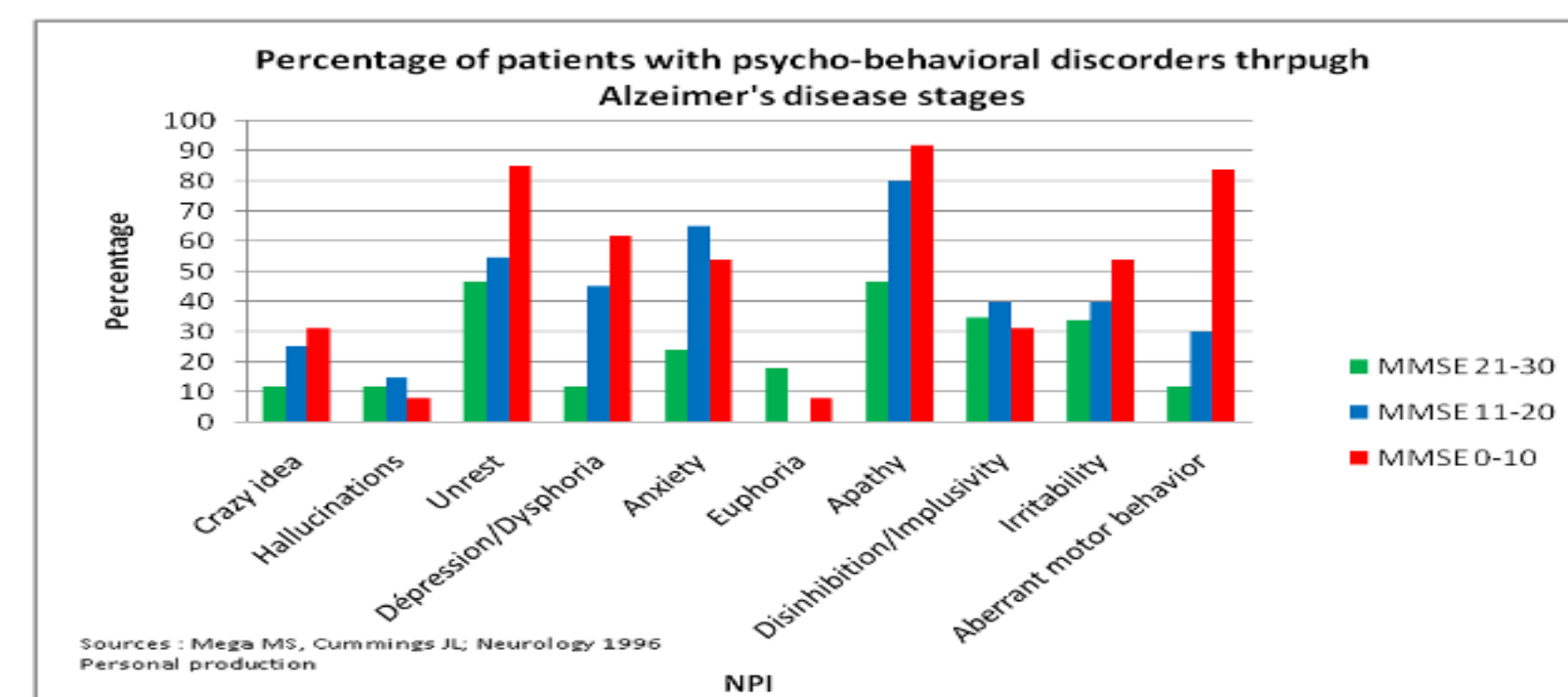
The limited number of studies does not enable us to approach of the effectiveness of these methods. However, the prognostic benefits remain very modest because no improvement in cognitive decline has so far been proven. Nevertheless, the benefit in terms of comfort and living conditions seems certain. Today answers should not only be scientific and medicinal. Being distinct without being distant could be the right distance to adopt for the people around for the person suffering from Alzheimer's disease.

## Références



## Results

### Correlation between the 10 behavioral domains (NPIs) and their relationship to cognitive impairment (MMSE)



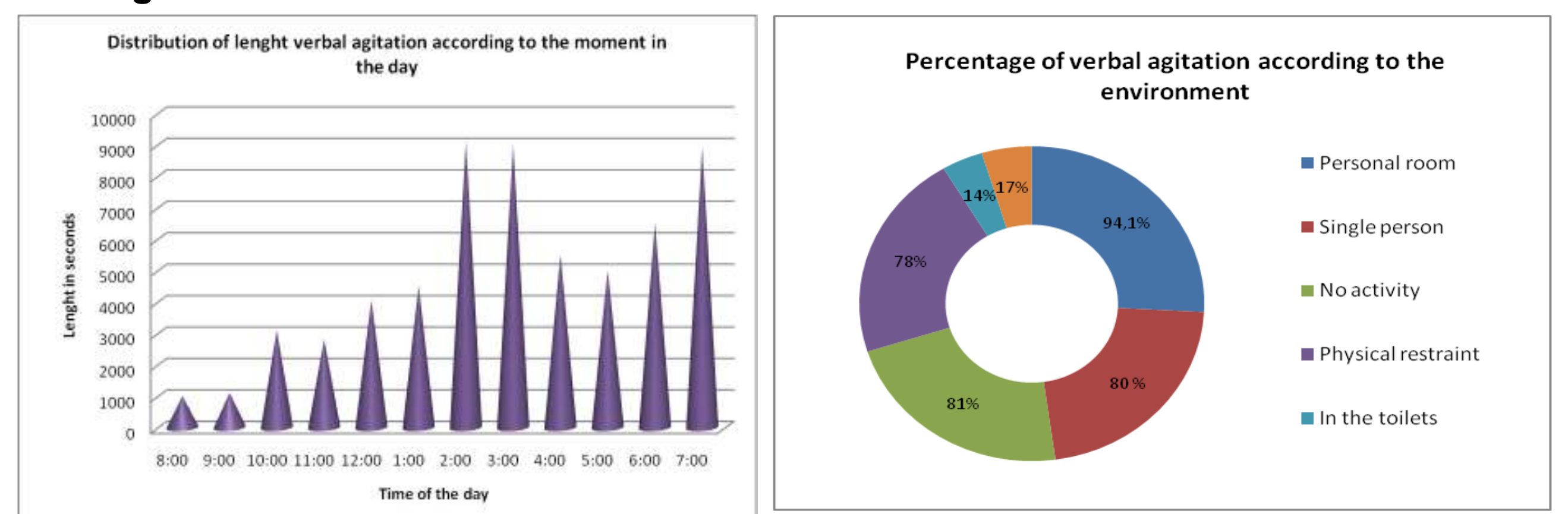
### Snoezelen



The snoezelen room uses sensory functions for relaxation and cognitive stimulation. This concept, born in the Netherlands in the 1970s, consists in awakening the 5 senses. This non-drug method is based on 3 main activities: relaxation, discovery and interactivity. In order to calm fears, reduce behavioral problems and promote communication, people are exposed to a calm and stimulating climate.

Sources : Patient Education and counseling, Vol 58-Issue 3 Sept 2005.

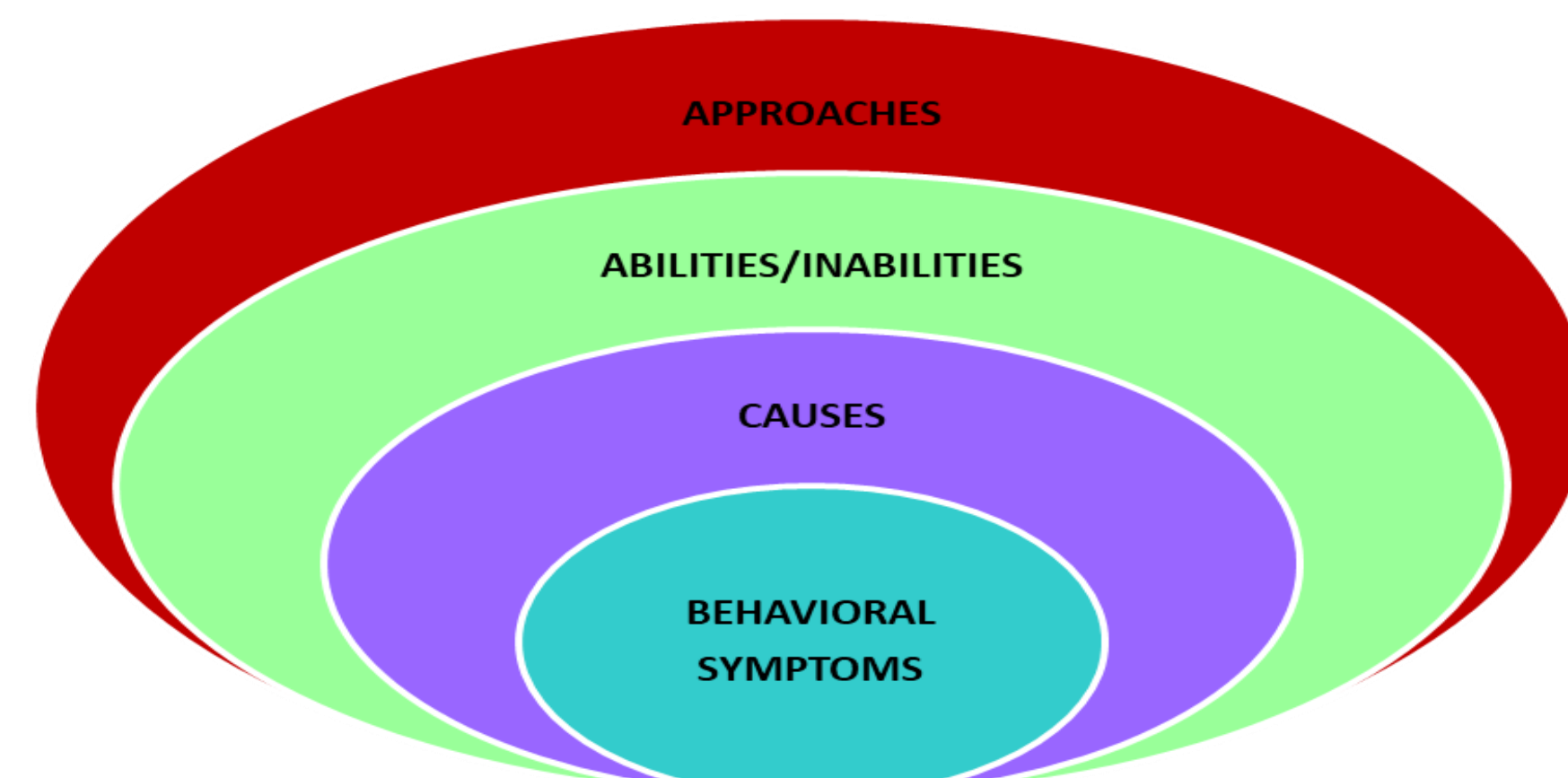
### Verbal agitation and environment



Sources: European Journal of Applied Psychology 57 (2007) 157-165-Personal production

This Canadian study demonstrates the association of contextual elements with verbal agitation behaviors and the distribution of verbal agitation according to the time of the day. It highlights the twilight syndrome defined by Evans.

### Strengthen the skills of caregivers and family carers



Sources : West J Nurs Res OnlineFirst, published on June 27, 2007-Personal production

### Competency building intervention model for cavers and family caregivers

Providing training of the people around the patient is one of the essential levers to change mentalities. It enables them to think about on everyday situations in order to change attitudes and lead to changes in professional practices. Then they will be able to understand the situations of refusal of care. According to literature, an approach of the situation with a calm attitude makes it possible to establish the dialogue it reduces tensions on both sides and find a point of balance.

## Introduction:

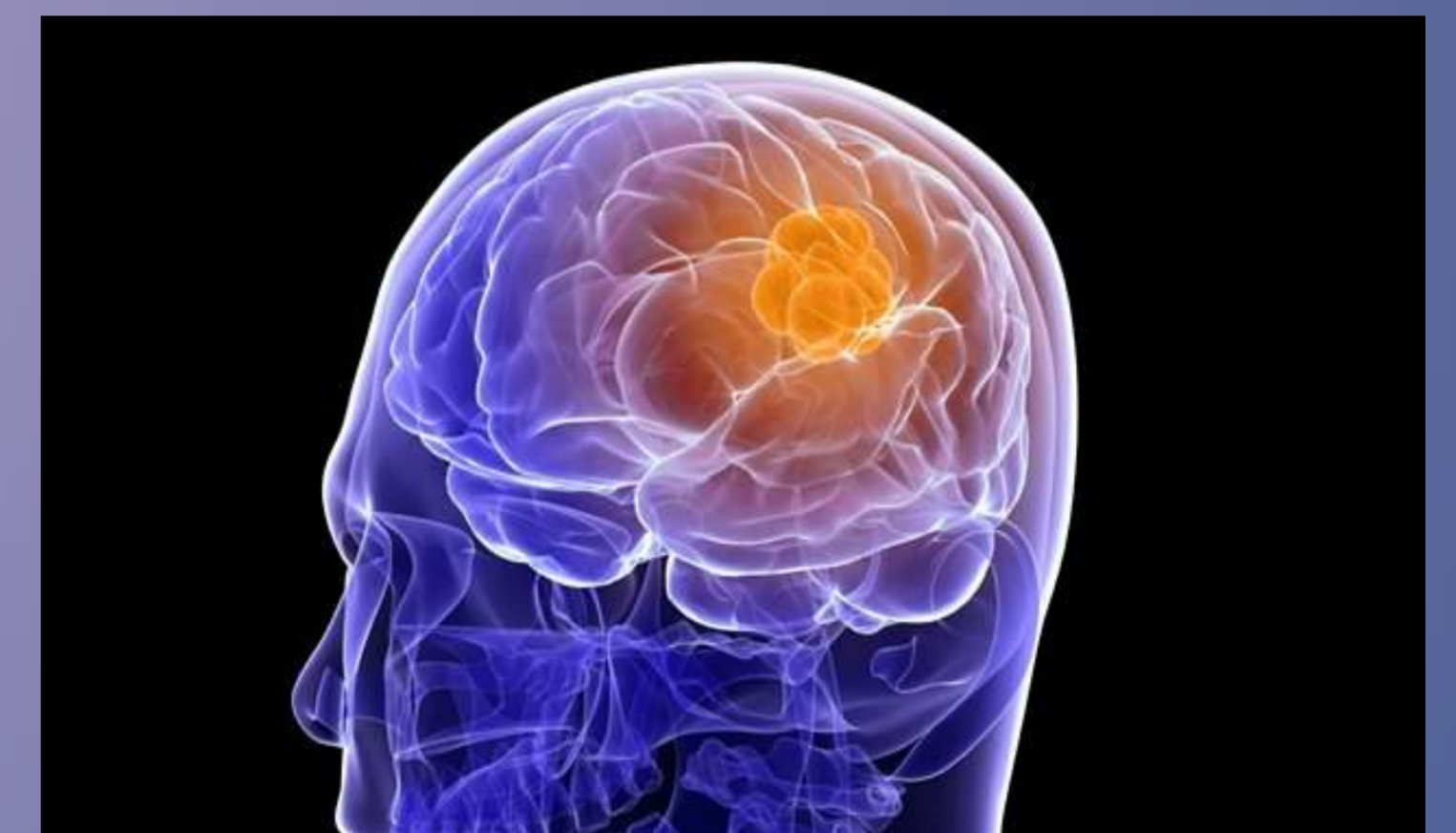
In the neuro-oncology unit in Nancy, patients treated for a high-grade brain tumor (WHO grade IV glioblastoma) receive treatment by surgery, radiotherapy and chemotherapy, one of the chemotherapy drugs used is temozolomide. One of the hematological side effects encountered is thrombocytopenia. In some situations this toxicity can be severe and prolonged up to a grade 4 with a rate lower than 20 G / L and require a transfusion support. The risk of intracranial bleeding can have serious consequences. The platelet count for which we organize hospitalization for prophylactic transfusion support is not clearly determined. I am going in this work to carry out a research in the scientific literature to try to determine this rate.

## Method :

I established a Mesh term equation (brain neoplasms and thrombocytopenia and platelet transfusion and temozolomide) and initiate a search in the Pub Med biomedical science database. I got a result of 5 articles, and selected 2 articles that brought us elements of answer. I chose the articles in which it was specified for which grade of haematological toxicity a transfusion support was planned. Due to the small number of scientific articles found I completed my work by questioning the international recommendations of specialized scholarly societies. I then compiled a summary table of the recovered data by sorting them by publication dates.

## Results :

Scientific articles, recommendations of learned societies, oral communication	Grade of thrombocytopenia for which a transfusional support is set up (CTCAE version 4)
Article 2007 (1) prospective randomized study	Grade 3 et 4
Article 2013 (2) clinical audit	Grade 3
2016 (3) ANOCEF recommendations	Grade 4
2017 (4) ASCO	Grade 4
2018 (5) ESMO oral communication	Grade 4



## Conclusion:

To date in clinical practice we are organizing a preventive transfusion support when the platelet count goes below the threshold of 20 G / l. The latest recommendation from the American Society of Clinical Oncology states that it is useful to provide transfusion support at a platelet count below 10 G / L This guideline is based on a review of the literature concerning all solid tumors and is not specific to the problem of brain tumors, and the strength of the recommendation is moderate. We lack scientific data to date to formally answer the question. It would be useful to carry out a study on the risks incurred by thrombocytopenic patients with brain tumors.

## References :

- (1) Neuro Oncol. 2007 January; 9 (1): 47-52. Epub 2006 Nov. 15 The impact of thrombocytopenia caused by temozolomide and radiation in newly diagnosed adults with high grade glioma. Gerber DE 1, Grossman SA, Zeltzman M, MA Parisi, Kleinberg L.
- (2) Clin Neurol Neurosurg. 2013 September; 115 (9): 1814-9. doi: 10.1016 / j.clineuro.2013.05.015. Epub 2013 June 12th. Predictors of temozolomide induced clinically significant acute haematological toxicity in patients with high grade gliomas: clinical audit. Gupta T 1, Mohanty S, Moiyadi A, Jalali R. (3) recommendations for the administration of systemic therapies in adult neuro-oncology, version 2 November 2016.
- (4) Platelet Transfusion for Patients With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Update Charles A. Schiffer, Kari Bohlke, Meghan Delaney, Heather Hume, Anthony Magdalinski J., Jeffrey J. McCullough, James L. Omel, John M Rainey, Paolo Rebutta, Scott D. Rowley, Michael B. Troner, and Kenneth C. Anderson
- (5) Oral communication of the European Society for Medical Oncology: anemia and thrombocytopenia caused by cancer and cancer treatment: how to prevent to manage best? Matti Apro MD Esmo preceptorship program supportive and palliative care.

## Introduction

Diabetes is the most common cause of the end-stage renal disease both in emerging and developed countries across the world. Morbi-mortality is higher in diabetes patients than in non diabetes. A study reported that 44% of patients initiated dialysis therapy have a primary diagnosis of diabetes. This study aims at describing preventive conditions in order to improve management of diabetes with patients treated by dialysis and to reduce risk-factors.

## Methods

Four papers published between 2002-2011 were selected using Google Scholar website and searching for treatment, prevention and management of type 2-diabetes in dialysis session in Anglo-Saxon countries (USA and Great-Britain). The search excluded kidney transplanted patients and type 1-diabetes. Keywords were : management, diabetic, diabetes « type 2 », dialysis.

## Results

Campaigns of prevention, education and management of diabetes in dialysis have positive effects of care's perception, health status and quality of life of patients. Studies showed that a regular follow-up of patients by health professionals during the dialysis session (experimental group) can significantly reduce specific risk factors such as amputation, hospitalisation, rate of HbA1c and increase the quality of life compared to the control group (without regular customized follow-up). Patient's behavior changed and they learnt to self-manage their diabetes. Treatments are regularly up-dated and glycemic controls are systematically done during dialysis session.

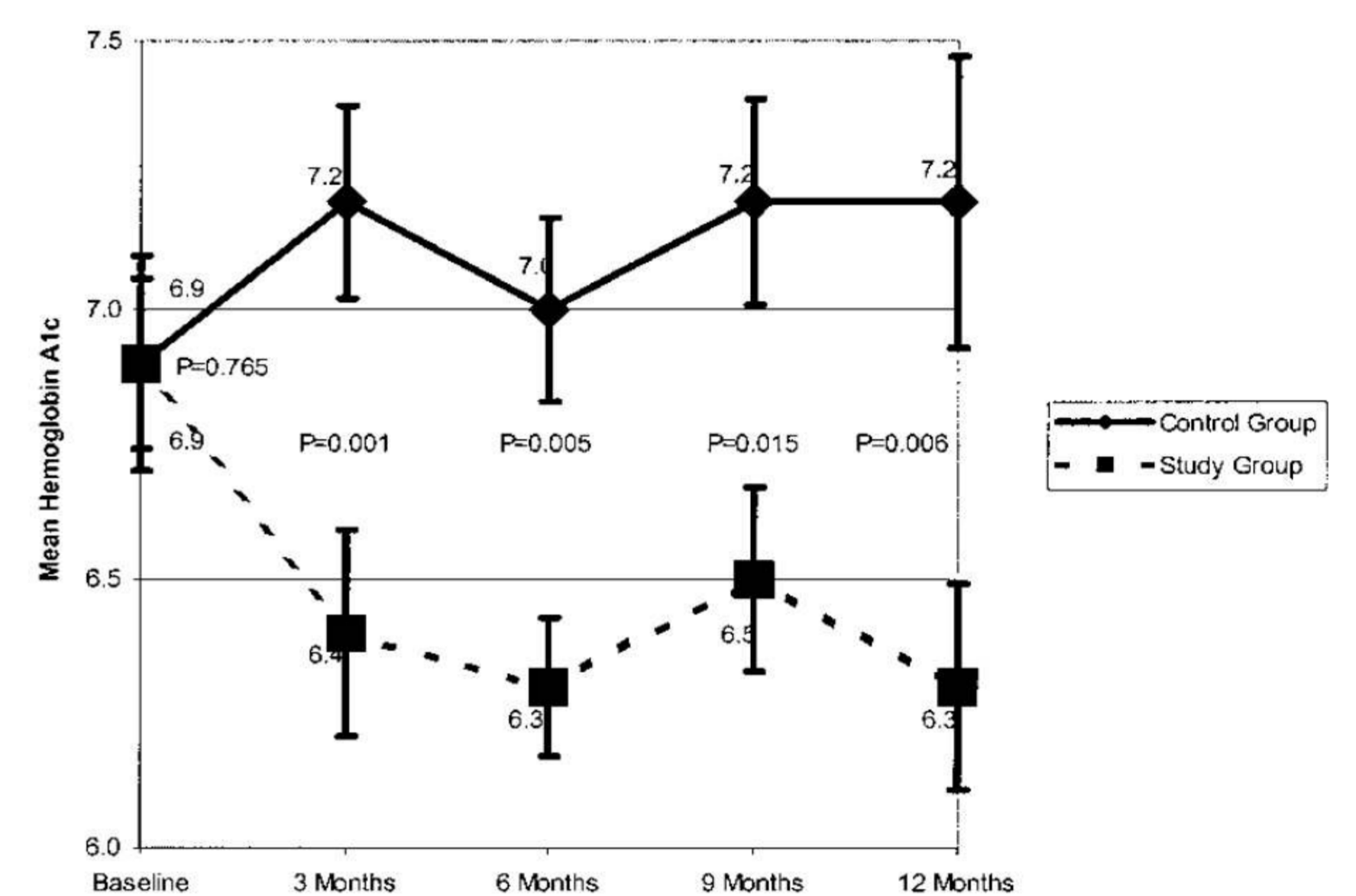


Fig 1. Changes in HbA<sub>1c</sub> levels.

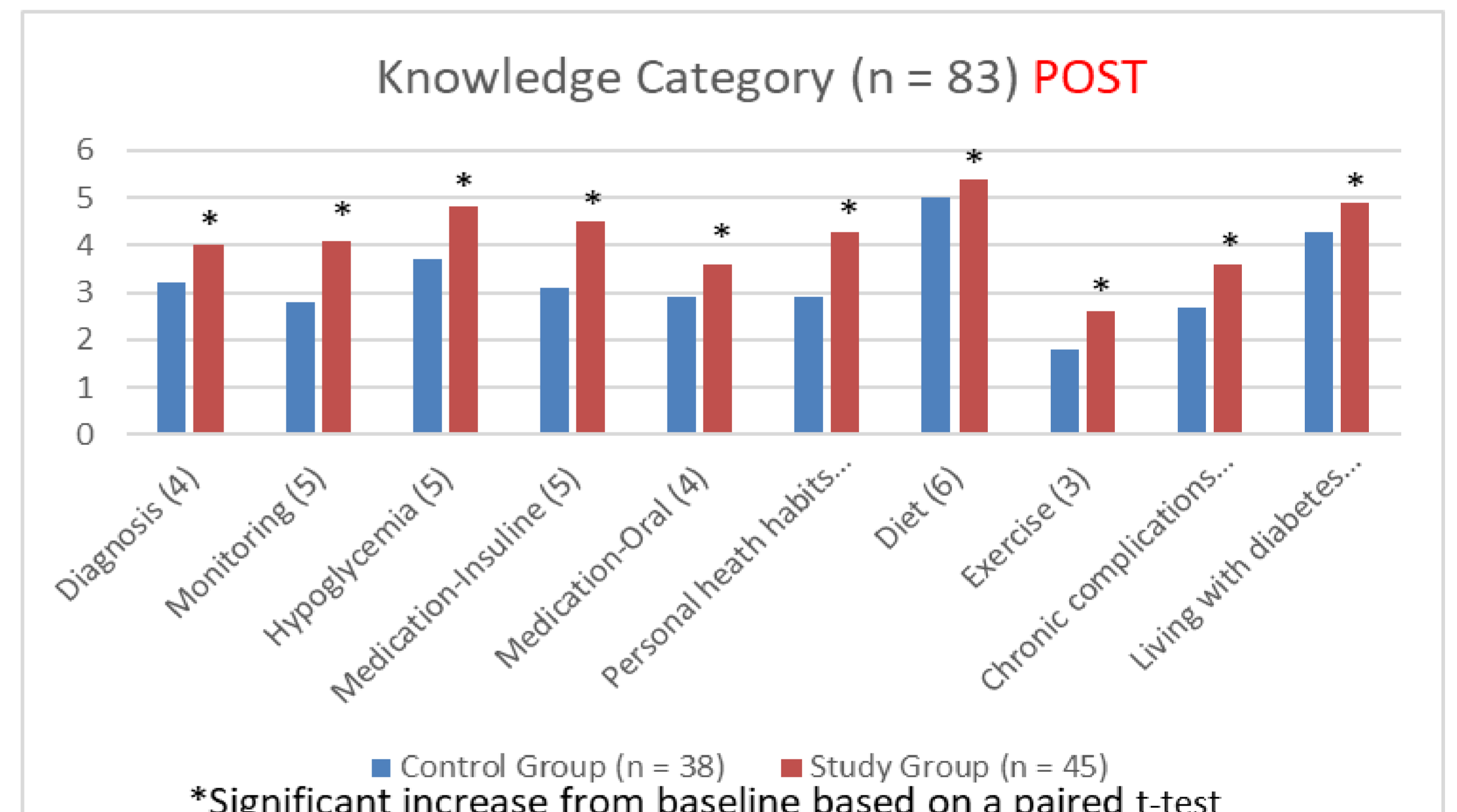
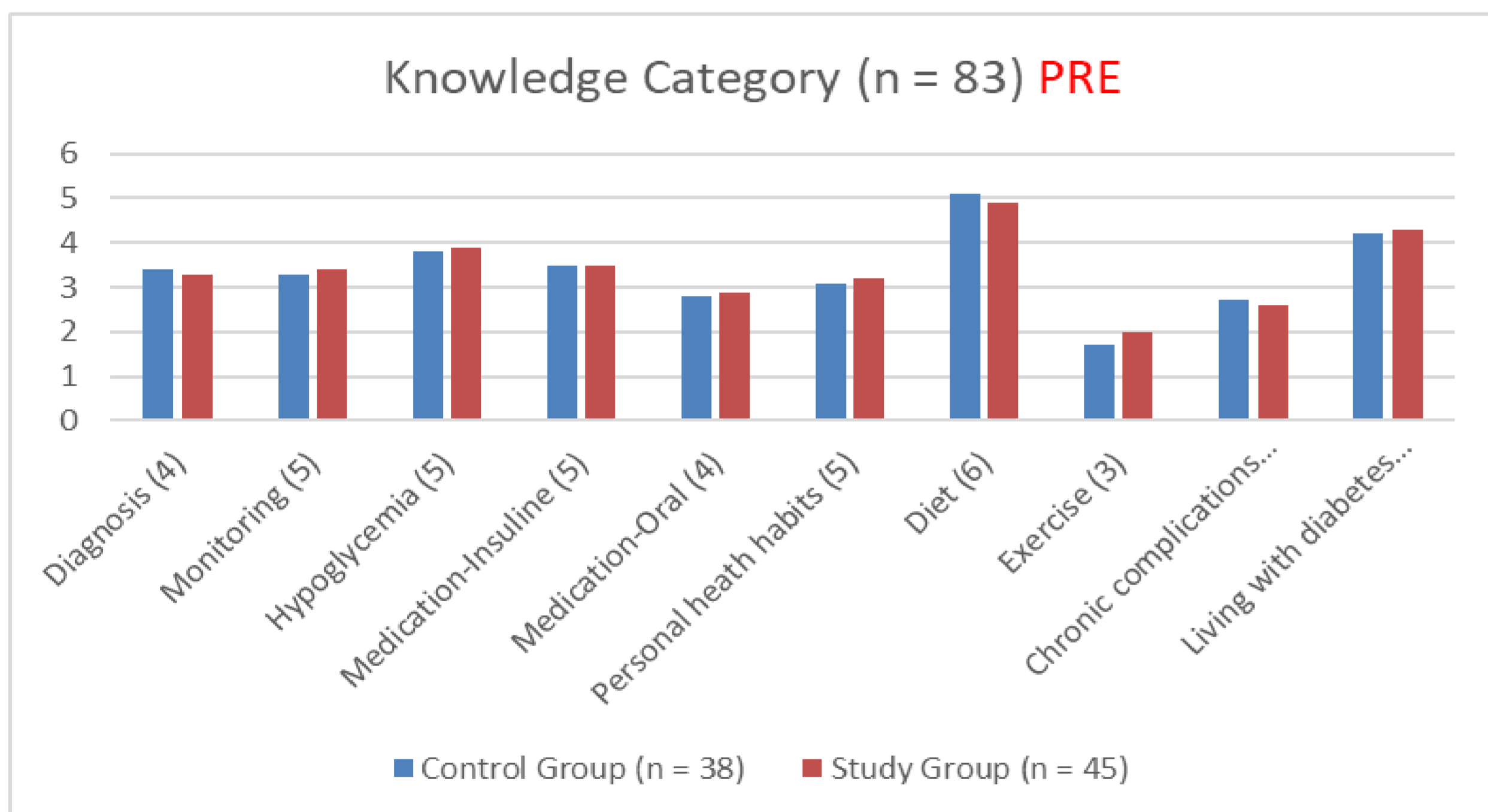


Fig 2. Comparison of Patients With Diabetes Randomized to Care Managers Versus Control Group : Diabetes Knowledge : Individual Categories.

## Conclusion

This study showed that diabetes patients in dialysis have specific needs related to their high burden of risk factors (cardiac, retina degeneration and diabetes foot). A multidisciplinary approach and an early customized care management (before end-stage renal dialysis) are required to reduce diabetes risk factors. It involves a collaboration between nephrologists and diabetologists. Education, prevention using regular observation and self-management of diabetes could improve glycemic control and impact patient's behavior however the way to manage long-lasting change of habits in chronic patients and the cost and fundings of these preventive conditions are the next issues.

## Références



## INTRODUCTION

Asthma is the most common chronic disease in children. In France, one in ten children suffers from it. Younger are more frail and sickly, the child's respiratory and immune systems are still maturing. Asthma is a heterogeneous inflammatory pathology with a genetic component as well as environmental and behavioural factors. Ambient air and air pollution are aggravating factors of the disease. Air quality has improved in recent decades, but the prevalence of asthma continues to increase.

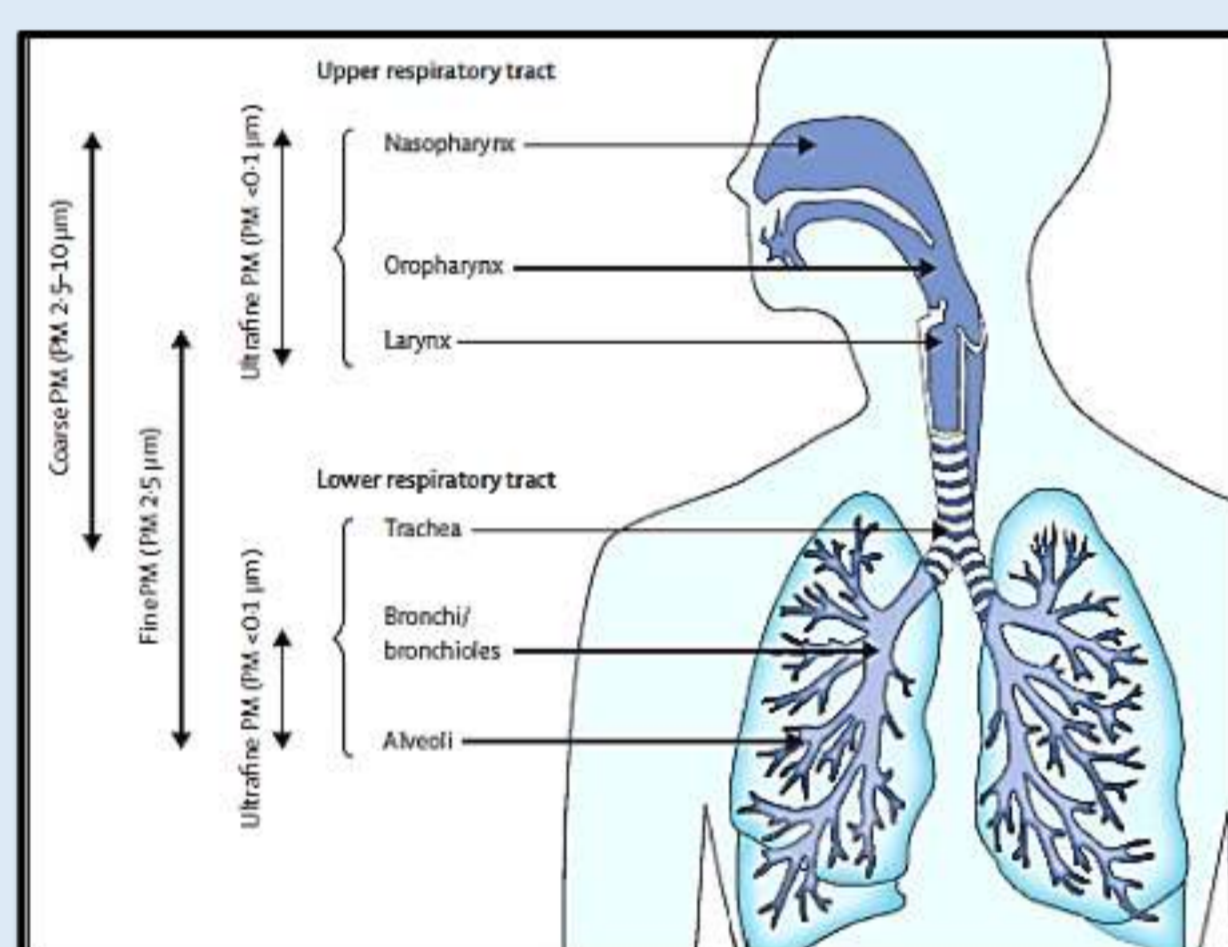
The purpose of our study is to highlight the link between road traffic close to places of life, and the control and development of asthma in children.

## METHODS

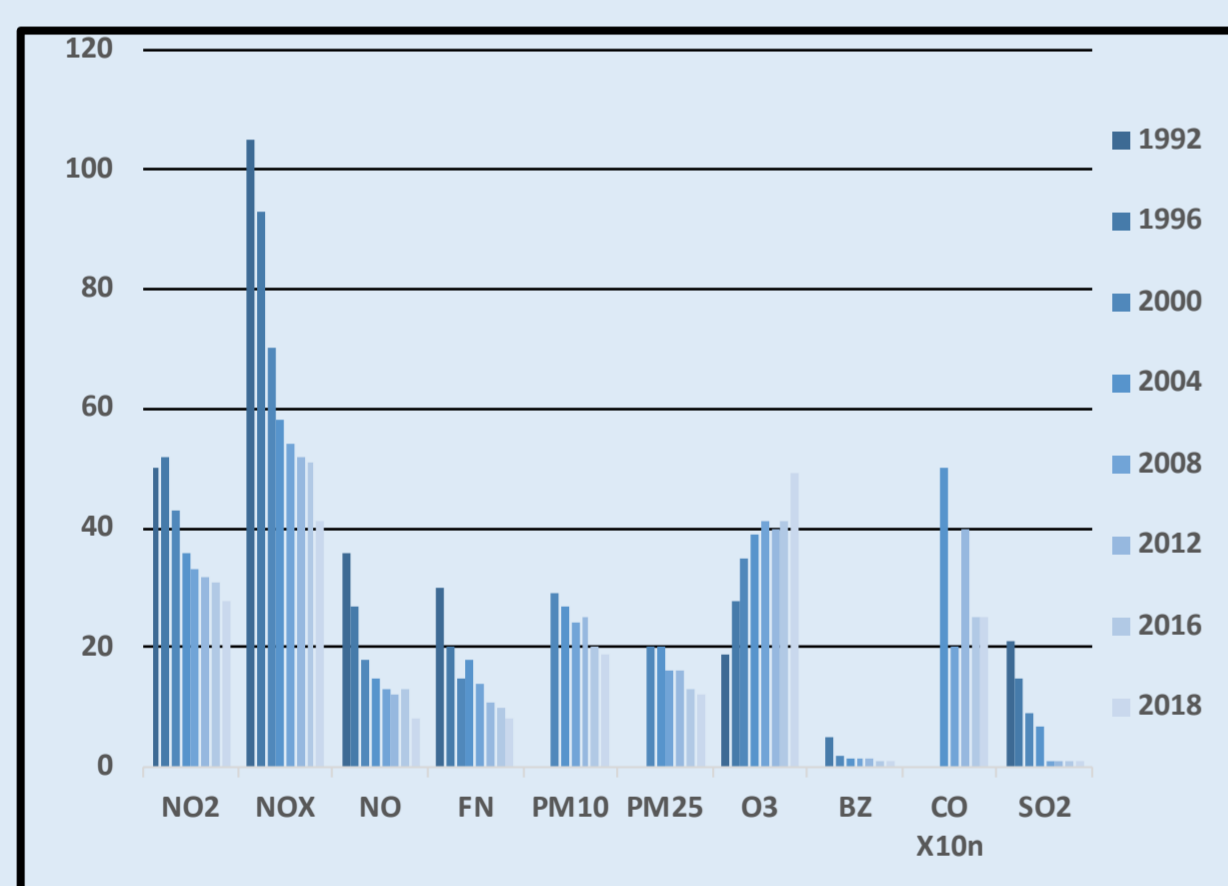
A search was conducted in PUBMED, ULYSSE and GOOGLE SCHOLAR for resources published between 1991 and 2019 in french and english. The keywords « allergy », « asthma », « urban pollution » and « traffic jam » were used in all relevant combinations. Inclusion criteria were to select french studies concerning asthmatic children living in urban areas and diagnosed by a doctor. The exclusion criteria were to eliminate international studies concerning prenatal exposure or adult's allergy and asthma. Finally, a comparative analysis was conducted in order to answer the problematic.

## RESULTS

Location of fine particulate pollution in airways



Average annual level of air particles in Paris from 2000 to 2018



Reducing pollution and resulting deaths in the population of children under 15 years in 9 French cities

Pollution level	Respiratory mortality	Hospitalised under 15 years
10µg/m <sup>3</sup>	316	748
- 50%	209	531
-10%	42	106

### French Studies to evaluate effects of urban pollution on children's asthma

VESTA Study	<b>Fine particulate matter, especially from diesel, increases the production of nasal IGE in children with asthma (1)</b>
Nasal inflammation and fine particles	<b>In urban areas exposure to fine PM2.5 particles confirm allergic nasal inflammation with a percentage of eosinophyls and exudation mediators in asthmatic children (2)</b>
ISAAC Study	<b>Causal role of fine particles in atopy development and bronchial hyperactivity and asthma (3)</b>
EGEA Study	<b>The risk of non-control of asthma was increased in subjects who were more exposed to ozone and particulate matter below PM10. (4)</b>
Air and health surveillance programm in 9 cities	<b>If air pollution levels were reduced to 10 g/m<sup>3</sup> out of the 9 Cities, a total of 2,800 anticipated deaths in the population and 750 hospitalizations for respiratory failure in children under the age of 15 would be preventable each year. (5)</b>

1) 217 children asthmatic subjects/217 sample. Paris, Nice, Toulouse, Clermont-Ferrand, Grenoble.

2) 41/44, Urban city of Paris.

3) 4910/427, Bordeaux, Clermont-Ferrand, Créteil, Marseille, Reims, Strasbourg.

4) 2120, Grenoble, Lyon, Marseille, Montpellier, Paris.

5) 21 millions, Bordeaux, Le Havre, Lille, Lyon, Marseille, Paris, Rouen, Strasbourg, Toulouse.

## CONCLUSION

Studies confirm the harmful role of pollution on childhood asthma. It induces bronchial hyperactivity and nasal inflammation. It is responsible for the non-control and emergence of new cases. Fine particulate matter is largely derived from road traffic and diesel particles.

Preventing the asthma epidemic in children can be achieved by :

- effectively controlling air pollution : reducing the diesel car fleet, reducing traffic on days of pollution peaks,
- keeping children away from areas of heavy traffic,
- implementing urban development strategies and promoting the development of green spaces in cities.

## REFERENCES

