How nurses and pharmacists manage behavioral and psychological symptoms of dementia in long-term care

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A nursing mentoring program on geriatric care

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Mentoring Team: What is it?

- The mentoring team is comprised of registered nurses with bachelor's and master's degrees in nursing, experience in geriatric care and expertise in evaluation and clinical interventions.
- A mentoring team was created and overseen by a university professor for 8 years
  - Meetings were carried out on a weekly basis to
    - Discuss clinical cases
    - Present latest relevant research results
    - Coach mentors on different advanced clinical skills at bedside.

Activities for managing BPSD

WHAT ARE THE STEPS?

Planning BPSD interventions

1st step

- Cases are submitted to the mentoring team by staff from hospital, home care, long-term care facilities, or assisted living:
  - Screening of the submitted cases and a priority level is attributed to every case

2nd step

- Meeting with family members (review of life story and other relevant information about the patient)
  - Ask them what they expect of our intervention and what would be a positive result according to their point of view
- Meeting with staff members to gather their perception of the situation, a clear description of BPSD, and knowing what has been tried.
  - Ask them what they expect of our intervention and what would be a positive result according to their point of view
  - BPSD frequency are assessed with CMAI and NPI.

Planning BPSD interventions

3rd step

- Meeting the patient
  - Casual interaction
  - Direct personal care to observe reactions and collaboration level
    - Changing clothes
    - Brushing teeth
    - Washing different parts of the body
    - …
  - Clinical examination
  - Review of medication

Interventions for BPDS

4th step

- Discussion with medical and interprofessional care providers to share relevant information and explain our approach
- Mentor develops a clinical plan and submits it to the weekly mentoring team meeting
- Mentor tests her/his intervention plan and makes necessary adjustments

Interventions for BPDS

5th step

- Mentor presents intervention plan to the clinical team of the patient's institution
- Mentor provides medication recommendations to physician based on the patient's level of BPSD in response to the previous prescribed medication.

Interventions for BPDS

6th step

- Intervention plan is applied for 4 weeks

7th step

- Evaluation of the intervention plan
  - Prior and after the application of the plan, BPSD frequency are assessed with CMAI and NPI.
  - Accordingly, qualitative criteria set out by staff and family members are also evaluated.

Does it work?

Symptômes comportementaux et psychologiques de la démence

Prise en charge des SCPD

Perturbation ou besoin à combler? Une étude descriptive analyse la concordance entre les pratiques planifiées par les infirmières de l'équipe de mentorat du Centre d'excellence sur le vieillissement de Québec et les étapes suggérées par les lignes directrices.

Par **Sylvie Rey**, inf., M.Sc., Ph.D. (c), **Philippe Voyer**, inf., Ph.D. et **Lucille Juneau**, inf., M.Sc.

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Les symptômes comportementaux et psychologiques de la démence (SCPD) sont le quotidien des équipes soignantes qui travaillent auprès de personnes vivant avec la maladie d'Alzheimer ou d'autres types de démence. Environ 50 % des aînés atteints de démence manifestent des SCPD (IPA, 2012). Ces symptômes regroupent un ensemble de manifestations cliniques telles que l'errance, la résistance aux soins, l'agitation verbale ou les idées délirantes (IPA, 2012; MSSS, 2014a). Ils peuvent représenter un défi pour les infirmières en compromettant le bon déroulement des soins et peuvent aussi provoquer des conséquences désastreuses pour l'aîné, ses proches et les autres usagers.

Les SCPD ne sont pas une simple conséquence de la démence. Ils sont plutôt une manifestation comportementale d'un besoin non comblé. Cet aspect fondamental remet en question les interventions qui visent à empêcher la manifestation plutôt que d'en identifier la cause. En effet, ces interventions reposent sur l'administration de médicaments ou la contention plutôt que sur la recherche du besoin à combler, même si ce besoin est parfois évident.

Prenons l'exemple d'un aîné atteint de démence qui, dans un hôpital,

Encadré 1 Méthodologie

Un devis rétrospectif simple a été retenu pour cette étude. Des critères d'inclusion et d'exclusion ont été définis en vue de la sélection des dossiers. Un instrument de collecte de données a été créé à partir des 74 activités recommandées par les lignes directrices sur les SCPD. Il a également été possible de consigner des données descriptives des SCPD. Des fiches signalétiques ont permis de relever les principales caractéristiques des aînés et des infirmières. L'analyse des données s'est effectuée avec des distributions de fréquence, des mesures de tendance centrale et des mesures de dispersion.

Trente-huit dossiers de patients de l'équipe de mentorat du CEVQ ont été retenus. L'échantillon se compose d'une majorité de femmes (n = 21) dont l'âge moyen était de 81,5 ans (66 à 95).

Au moment de l'évaluation par les infirmières de l'équipe de mentorat, les aînés se trouvaient en résidence privée (15), en centre d'hébergement (18) ou à l'hôpital (5). Tous présentaient des troubles cognitifs (5) ou des diagnostics de démence (33). Parmi ces derniers, vingt étaient atteints d'une démence sévère.

Les cinq infirmières de l'équipe de mentorat sont des femmes âgées de 39 à 62 ans. Leur dernier diplôme est un baccalauréat (1), un certificat de premier cycle (2), un diplôme d'études supérieures spécialisées (1) ou une maîtrise (1). Elles ont en moyenne 24 ans d'expérience comme infirmière (15 à 41) et 16,8 ans en soins infirmiers gériatriques (8 à 23).

*Le mémoire de maîtrise de l'auteure Sylvie Rey peut être consulté en ligne : **www.theses.ulaval.ca/2014/30909/**.*

1st study

Does the intervention approach follow recommended clinical guidelines?

Encadré 2 Questions de recherche basées sur les principales recommandations des lignes directrices sur les SCPD

Recommandations	Questions de recherche
Screening procedure – 100%	
Comprehensive clinical assessment – 97% clinical examination and 100% measuring instruments	
Non-pharmacological interventions prioritized – 100%	
Pharmacological interventions when indicated – not measured	
Effectiveness of the intervention plan monitored – 100% - Qualitatively evaluated (100% with family) - Quantitatively evaluated with measuring instruments	

Sources : CCSMPA, 2006; Gagné, 2010; Gagné et Voyer, 2013; IPA, 2012; MSSS, 2014a, 2014b, 2014c.

Frequency of BPSD

Tableau 2 Résultats de l'inventaire d'agitation de Cohen-Mansfield – IACM

Instrument [étendue théorique : 29 - 203]	Étendue des résultats Minimum	Maximum	Moyenne (médiane)	Différence moyenne (médiane)	% de réduction	Valeur du *t*
CMAI	29	85	56,1 (59,0)			- 8,08
	29	67	37,7 (33,5)			
				- 18,4 (- 18)	32,8 %	< 0,0001

Tableau 3 Résultats de l'inventaire neuropsychiatrique de Cummings – INPC

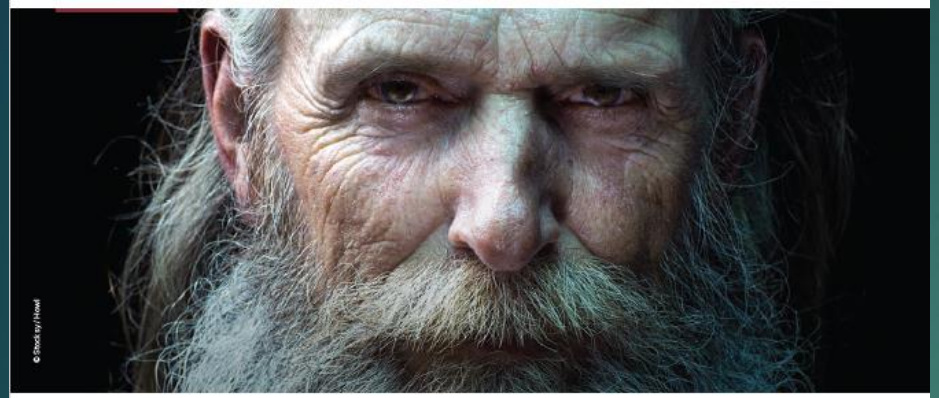
Instrument	Étendue des résultats Minimum	Maximum	Moyenne (médiane)	Différence moyenne (médiane)	% de réduction	Valeur du *t*
Cummings	0	71	33,9 (32,0)			- 8,39
Cummings	0	48	12,2 (8,0)			
				- 21,7 (- 21,0)	64,0 %	< 0,0001

Clinical staff

98% satisfied with the plan!

Tableau 4 Degré de satisfaction des soignants participant à l'application du plan d'interventions

Énoncés	Degré de satisfaction (*n* et %)				
	1	2	3	4	N/A
The plan improved the situation	**66,0 %**	**23,1 %**	**3,2 %**		**7,7 %**
	21 (80,8 %)	3 (11,5 %)	1 (3,8 %)	0	1 (3,8 %)
	19 (73,1 %)	6 (23,1 %)	0	0	1 (3,8 %)
	16 (61,5 %)	6 (23,1 %)	2 (7,7 %)	0	2 (7,7 %)
	16 (61,5 %)	6 (23,1 %)	1 (3,8 %)	0	3 (11,5 %)
	18 (69,2 %)	5 (19,2 %)	1 (3,8 %)	0	2 (7,7 %)
	13 (50 %)	10 (38,5 %	0	0	3 (11,5 %)
Mentors adapted the plan to the reality of their clinical setting	**94,6 %**	**5,4 %**			
	25 (96,2 %)	1 (3,8 %)	0	0	0
	22 (84,6 %)	4 (15,4 %)	0	0	0
	25 (96,2 %)	1 (3,8 %)	0	0	0
	25 (96,2 %)	1 (3,8 %)	0	0	0
	26 (100 %)	0	0	0	0
New skills learned will be transferable to other cases	**65,4 %**	**30,8 %**	**1,9 %**		**1,9 %**
	15 (57,7 %)	10 (38,5 %	1 (3,8 %)	0	0
	19 (73,1 %)	6 (23,1 %)	0	0	1 (3,8 %)
Satisfied with the mentor's approach	**78,2 %**	**19,2 %**			**2,6 %**
	15 (57,7 %)	10 (38,5 %	0	0	1 (3,8 %)
	25 (96,2 %)	1 (3,8 %)	0	0	0
	21 (80,8 %)	4 (15,4 %)	0	0	1 (3,8 %)
	321 (77,2 %)	**74 (17,8 %**	**6 (1,4 %)**	**0**	**15 (3,6 %)**



Symptômes comportementaux et psychologiques de la démence

L'examen clinique infirmier démontre sa pertinence pour déterminer les causes des symptômes comportementaux et psychologiques de la démence et en assurer la prise en charge.

Une étude du Centre d'excellence sur le vieillissement de Québec (CEVQ) démontre l'importance de l'examen clinique infirmier pour déterminer les causes des symptômes comportementaux et psychologiques de la démence (SCPD), cibler les interventions les plus efficaces afin d'en diminuer la fréquence et, par voie de conséquence, améliorer la prise en charge des problèmes de comportements des aînés atteints de troubles neurocognitifs majeurs (TNCM). En voici les faits saillants.

par **LALLA MARIAM HAÏDARA, M. Sc., PHILIPPE VOYER, Ph. D., et PIERRE-HUGUES CARMICHAEL, M. Sc.**

Les symptômes comportementaux et psychologiques de la démence (SCPD) constituent un défi pour les équipes soignantes. Fuites, cris, insultes, coups : les infirmières doivent en déterminer la cause pour améliorer la prise en charge de cette clientèle et mieux la soigner.

Cet article met en lumière l'importance de l'examen clinique infirmier pour y arriver. Il présente une étude rétrospective qui décrit les causes biopsychologiques des SCPD repérées par les infirmières lors de leur examen clinique et les interventions non pharmacologiques qu'elles ont entreprises pour les traiter.

On sait que le vieillissement de la population affecte le système de santé. En 2016, les aînés représentaient 18 % de la population totale du Québec. Ils seront 28 % en 2066 (Institut de la statistique du Québec, 2019). Le vieillissement est corrélé à une prévalence croissante de TNCM. Ces derniers sont associés aux SCPD (Gerlach et Kales, 2018). Il faut donc prévoir que ces symptômes exigeront de plus en plus de soins.

SCPD ET BESOINS COMPROMIS

Les SCPD sont définis comme des signes et des symptômes reflétant une altération de la perception, du contenu de la pensée, de l'humeur ou du comportement (Finkel et al. 1996). Ils regroupent un ensemble de manifestations cliniques telles que l'errance, la résistance aux soins, l'agitation verbale ou les idées délirantes (Draper, Brodaty et Finkel, 2012; MSSS, 2014b). Les SCPD peuvent entraîner des souffrances, une institutionnalisation prématurée, une augmentation du coût des soins et une perte de qualité de vie importante pour les patients et leurs familles (Draper, Brodaty et Finkel, 2012).

En 1996, Algase et al. ont proposé un modèle qui remplace la vision négative des SCPD « perturbateurs ou inadaptés » par une perspective associant ces comportements à l'expression de besoins non satisfaits (Algase et al., 1996). Ainsi, le modèle des besoins compromis d'Algase et al. (1996) démontre que les facteurs à l'origine des SCPD témoignent de besoins insatisfaits qu'il faut chercher à définir.

Le rôle des infirmières, et plus largement leur défi, est de déceler ces facteurs afin de cerner ces besoins. Une fois les facteurs précisés, il devient possible de répondre aux besoins non satisfaits et de modifier positivement les SCPD.

Les études portant sur les personnes atteintes de TNCM montrent que plusieurs besoins compromis peuvent être la cause des SCPD (Landreville, Voyer et Carmichael, 2013; Sampson et al., 2015). Les causes sont d'origine diverse. Elles peuvent, par exemple, être liées à l'état de santé de la personne (douleur), ou encore à son environnement social (approche) ou physique (bruit). Les causes liées à l'approche ou à l'environnement ont été amplement étudiées. Les causes biopsychologiques découvertes à l'aide d'un examen clinique, quant à elles, l'ont été dans une moindre mesure (Algase et al., 1996).

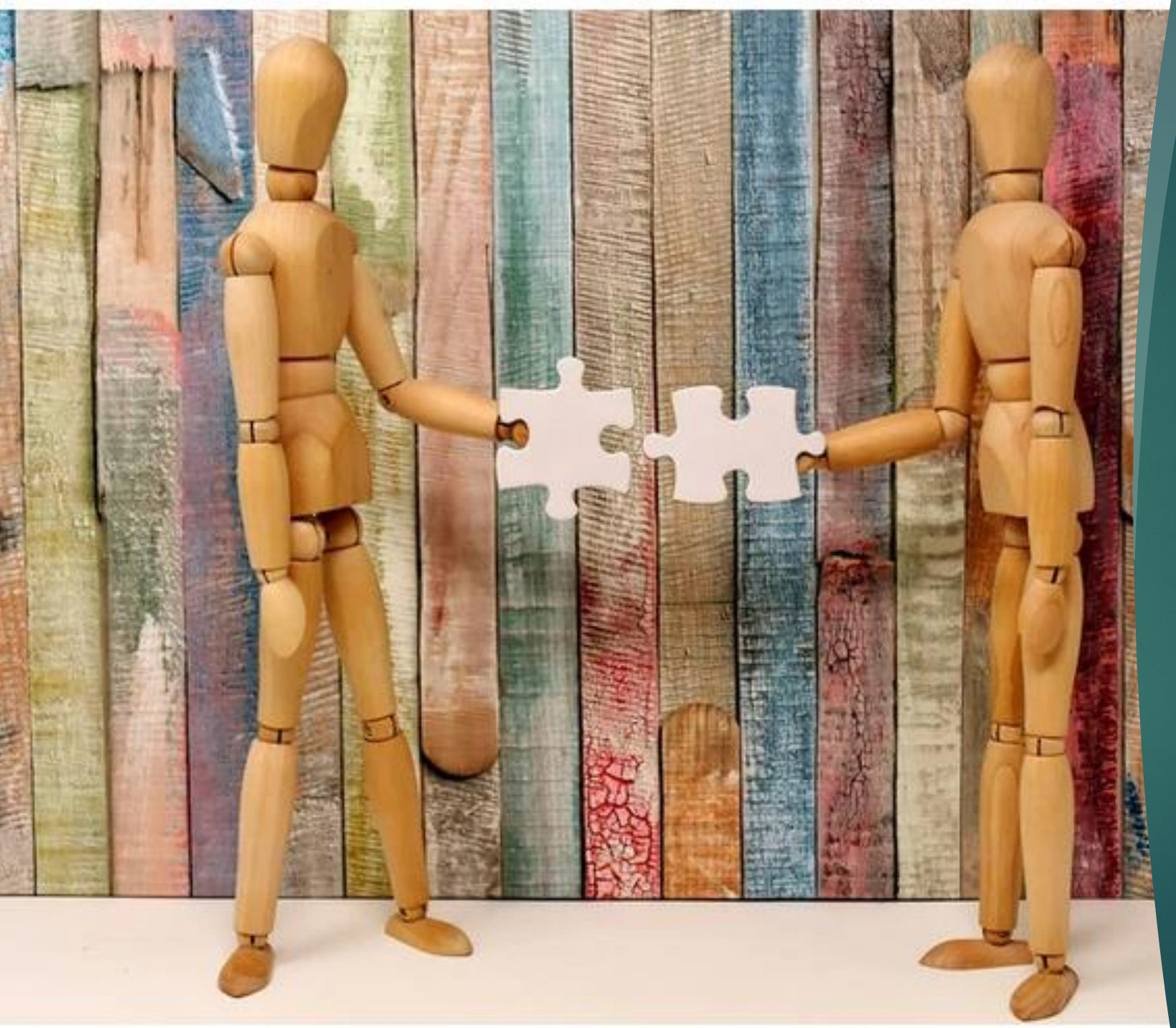
2nd study

How important is the nursing clinical assessment to identify biopyshological causes of BPSD?

All 110 cases clinical causes of BPSD were identified by nurses' assessments

Tableau 2
LES CAUSES BIOPSYCHOLOGIQUES REPÉRÉES LORS DE L'EXAMEN CLINIQUE INFIRMIER

CATÉGORIE D'EXAMEN	PRINCIPALES CAUSES	*N* (110)	%
Examen de l'état mental	Anxiety	75	68
	Depression	47	43
	Perceptual symptoms	25	23
Évaluation des problèmes de santé	Pain	55	50
	Social deprivation	55	50
Signes vitaux (SV)	Various physiological imbalances	46	42
Examen abdominal	Dehydration	40	36
Autres	Pre-morbid personality	55	50
	Communication problems	37	34



Is every planned intervention rationally related to a cause?

PRINCIPALES CAUSES REPÉRÉES	INTERVENTIONS FRÉQUENTES	N	%
Cause anxiety	Interventions: diversion, communication and hand massage	51 39 38	68 52 51
Cause pain	Interventions: medical consultation, management of pain, music therapy	51 43 12	93 78 22
Cause social deprivation	Interventions: occupational stimulation, leisure activities, physical exercises, active listening	45 24 13	82 44 24
Cause personality-related	Interventions: communication adjustment, behavioral approach, decisional approach	34 19 15	62 35 27
Cause depression	Interventions: medical consultation, life review approach, occupational stimulation, leisure activities	41 34 14	87 72 30
Cause various physiological imbalances	: medical consultation	46	100
Cause dehydration	Interventions: hydration intervention, application of hydration cream	31 22	78 55
Communication problems	Interventions: communication adjustment, reframing, active listening	26 16 13	70 43 35
Cause perceptual problems	Interventions: validation and diversion approaches	24 6	96 24

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RESEARCH ARTICLE

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A nursing mentoring programme on non-pharmacological interventions against BPSD: Effectiveness and use of antipsychotics—A retrospective, before–after study

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Abstract

Behavioural and psychological symptoms of dementia (BPSD) are common and have significant implications for patients and caregivers. Non-pharmacological interventions (NPI) have shown to be effective in the management of BPSD. However, the use of antipsychotics to treat BPSD remains ubiquitous. This retrospective, before–after study aimed to examine whether a nurse mentoring programme promoting NPI for BPSD management had a significant association with the use of antipsychotics in older adults with major neurocognitive disorders residing in different settings. Results obtained from the medical files of 134 older adults having benefitted from the mentoring programme demonstrate that this intervention significantly reduced BPSD. The effect on antipsychotics use was modest: a 10% reduction in the use of antipsychotics has been observed among patients for which the NPI were effective. However, the use of antipsychotics remained widespread despite the nursing recommendations of the mentoring team of the Center of Excellence on Aging in Quebec (CEVQ).

KEYWORDS

antipsychotics, behavioural and psychological symptoms of dementia, dementia, non-pharmacological interventions

3rd study

In addition to planning interventions, nurses give recommendations regarding medication

DOES IT MAKE A DIFFERENCE?

TABLE 1 Distribution of different types of BPSD[a] among the study participants

BPSD type		*n*	%[b]
[*N* = 131]	Delusional thoughts	15	11.6
	Hallucinations	5	3.9
	Agitation	82	63.6
	Agressivity	81	62.8
	Depression	12	9.3
	Dysphoria	10	7.8
	Anxiety	67	51.9
	Apathy	8	6.2
	Disinhibition	8	6.2
	Irritability/Instability	42	32.6
	Motor behaviour abnormality	19	14.7
	Sleeping problems	9	7.0
	Lack of appetite	2	1.6
	Resistance to care	27	20.9

[a]Behavioural and Psychological Symptoms of Dementia (BPSD).

[b]Note that the total exceeds 100%, because participants frequently showed more than one type of BPSD.

TABLE 2 Results at the CMAI[a] and the CNIS[b] before and after the mentoring team intervention

Instrument	Mean	*SD*	Difference between means	Range of results		% of reduction	*t*-value
				Min.	Max.		
CMAI, before [*N* = 134]	51.9	15.4		29	97		
CMAI, after [*N* = 134]	37.8	10.0		29	98		
			−14.1			27.2%	<0.001
CNIS, before [*N* = 134]	33.7	16.9		2	81		
CNIS, after [*N* = 134]	11.0	9.7		0	56		
			−22.7			67.4%	<0.001

[a]Cohen-Mansfield Agitation Inventory (CMAI) score (29–203).

[b]Cummings' Neuropsychiatric Inventory Score (CNIS) (0–144).

Do doctors pay attention to nurses' recommendations?

- We found **a significant reduction of about 10%** for the mean number of prescribed antipsychotics between the initial and the follow-up assessment ($p = .03$).

Worth it… well you decide…

- We observed a significant, albeit small, reduction in the 73 residents (80.2%) for which we had data on psychotropic medication both before and after the intervention:
  - 5 cases (6.7%) antipsychotics were stopped following the mentors' recommendations
  - 11 cases (15.1%), the dose or the number of antipsychotics was reduced
  - 57 cases (78.1%) showed no change in prescriptions in spite of the recommendations by nurses.

Does the involvement of pharmacists make a difference?

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Original Study

A New Care Model Reduces Polypharmacy and Potentially Inappropriate Medications in Long-Term Care

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Keywords:
Polypharmacy
potentially inappropriate medications
deprescription
long-term care
nursing home

A B S T R A C T

Objectives: Assess the impact of a new pharmaceutical care model on (1) polypharmacy and (2) potentially inappropriate medication (PIM) use in long-term care facilities (LTCFs).
Design: Pragmatic quasi-experimental study with a control group. This multifaceted model enables pharmacists and nurses to increase their professional autonomy by enforcing laws designed to expand their scope of practice. It also involves a strategic reorganization of care, interdisciplinary training, and systematic medication reviews.
Setting and Participants: Two LTCFs exposed to the model (409 residents) were compared to 2 control LTCFs (282 residents) in Quebec, Canada. All individuals were aged 65 years or older and residing in included LTCFs.
Measures: Polypharmacy (≥10 medications) and PIM (2015 Beers criteria) were analyzed throughout 12 months between March 2017 and June 2018. Groups were compared before and after implementation using repeated measures mixed Poisson or logistic regression models, adjusting for potential confounding variables.
Results: Over 12 months, for regular medications, polypharmacy decreased from 42% to 20% (exposed group) and from 50% to 41% (control group) [difference in differences (DID): 13%, $P < .001$]. Mean number of PIMs also decreased from 0.79 to 0.56 (exposed group) and from 1.08 to 0.90 (control group) (DID: 0.05, $P = .002$).
Conclusions and Implications: Compared with usual care, this multifaceted model reduced the probability of receiving ≥10 medications and the mean number of PIMs. Greater professional autonomy, reorganization of care, training, and medication review can optimize pharmaceutical care. As the role of pharmacists is expanding in many countries, this model shows what could be achieved with increased professional autonomy of pharmacists and nurses in LTCFs.

One of the study aims was:

Reducing inappropriate use of antipsychotics by

- personalizing pharmaceutical care and
- optimal use of professional resources in long-term care.

Design: a controlled demonstration study (PEPS)

A vest with pockets….

Background

- Dispositions of Quebec's law 41

  Any prescription: prolong, adjust (➡ 0)

- Collective prescribing (OC)

  For frequently prescribed medications in LTC or to respond to an urgent situation requiring a timely medication prescription, when access to a physician is difficult

Background

- Increased autonomy of LTC nurses through empowerment: clinical geriatric exam; competencies increased through recent CE training of nurses in QC
- 2018: difficulties with access to physicians in many QC LTC facilities

PEPS is…

an initiative of the Department of Pharmacy of the CIUSSS-CN health-board, in partnership with

- Its administration, medical and other departments
- Residents' committees
- Quebec's INESSS
- Quebec's Ministry of Health (major funding 2017-19)
- Research Centre of the CHU de Québec and CEVQ
- Acknowledgement by OPQ, CMQ, OIIQ and APES

Aims of the PEPS project

- Increase the proportion of LTC residents receiving an appropriate pharmacotherapy by
- Decreasing the number of medications of questionnable benefit
- **Other aims**
  - Decrease medication regimen complexity
  - Maintain residents' comfort
  - Maintain/improve satisfaction with practices for the team, the users and their families

Intervention elements

- Adaptation of law 41 to actual, clinical practice
- Development of new collective prescriptions
- Training/information for pharmacists and the care team
- Pharmacist as an independant prescriber for appendix 2 medications (ex: acetaminophen, laxatifs, creams)
- Critical reviews, adjustments and follow-up of pharmacotherapy
- Implemention of local follow-up committees

Additional intervention elements

1. Pharmacy staff: involvement of a number of pharmacy students
2. Support for clinical practice: Develop tools (ex: decision algorithms), coaching
3. Distribute care tasks to the most appropriate ressource
4. Encourage local autonomy and leadership of teams

Medication review

- Complete and critical review at admission and every 6 months thereafter
- Focus on inappropriate medications in geriatric patients - specifically
  - Validated criteria (Beers 2015, OptimaMed in severe dementia)
  - Benefits and risks within the therapeutic plan
  - Taking life expectancy into acount
  - Resident/family centered (care level !)

Evaluation study

Design:

- Controlled study;
- Open, dynamic cohort: all residents >65 included

Data:

- From computerized residents files:
- demographics, diagnoses on admission, medication

Analyses:

- Time series (0, 3, 6, 9, 12 months)
- Repeated measures mixed logistic regression models
- Adjustment for age, time since arrival, comorbidity score

Results: study sample

Two control sites: 281 residents included

- Chosen to minimize bias :

Two intervention sites: 408 residents

- Pilot/feasibility: to develop and validate the intervention and its tools
- Priorities for selection of homes

  Absence of other research projects (biais)

  Availability and capacity of care teams to absorb clinical changes

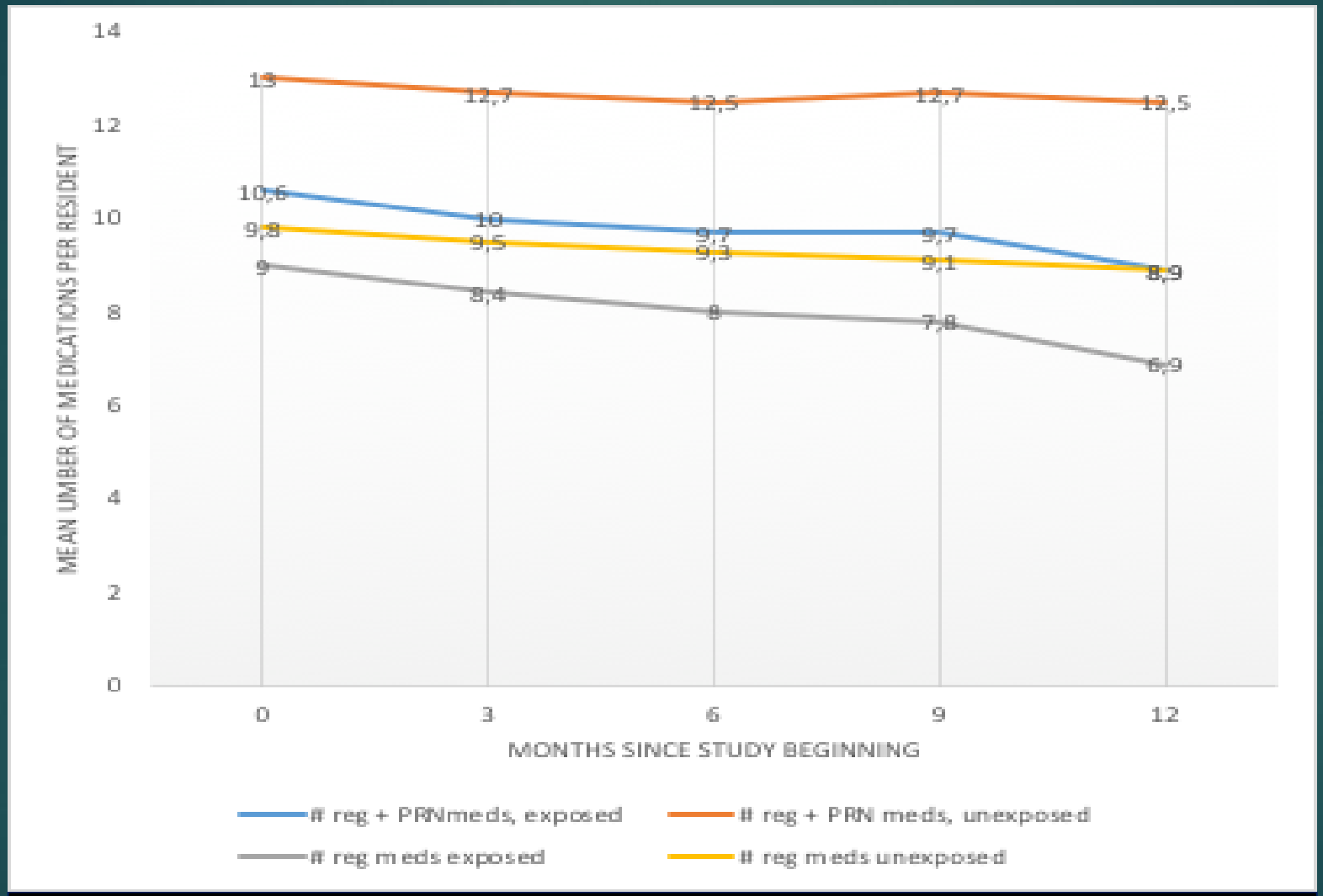
ALL residents

Table 1 : Resident/participant characteristics			
	Non exposed	Exposed	p-value
Number of residents	281	408	n/a
Women, n (%)	185 (66)	268 (66)	0.96
Mean age (sd)	85.8 (7.8)	84.1 (8.6)	0.01
Mean time since admission (yrs, sd)	2.2 (4.4)	2.3 (4.0)	0.77
Charlson comorbidity score	4.43 (2.73)	4.64 (2.67)	0.33

Residents with a dementia diagnosis on admission

Table 2 : Resident/participant characteristics			
	Non exposed	Exposed	p-value
Number of residents	154	258	n/a
Women, n (%)	103 (67)	173 (67)	0.97
Mean age (sd)	87.0 (6.9)	85.1 (8.2)	0.02
Mean time since admission (yrs, sd)	2.5 (2.4)	2.6 (3.0)	0.73
Charlson comorbidity score	5.0 (2.7)	5.3 (2.6)	0.28

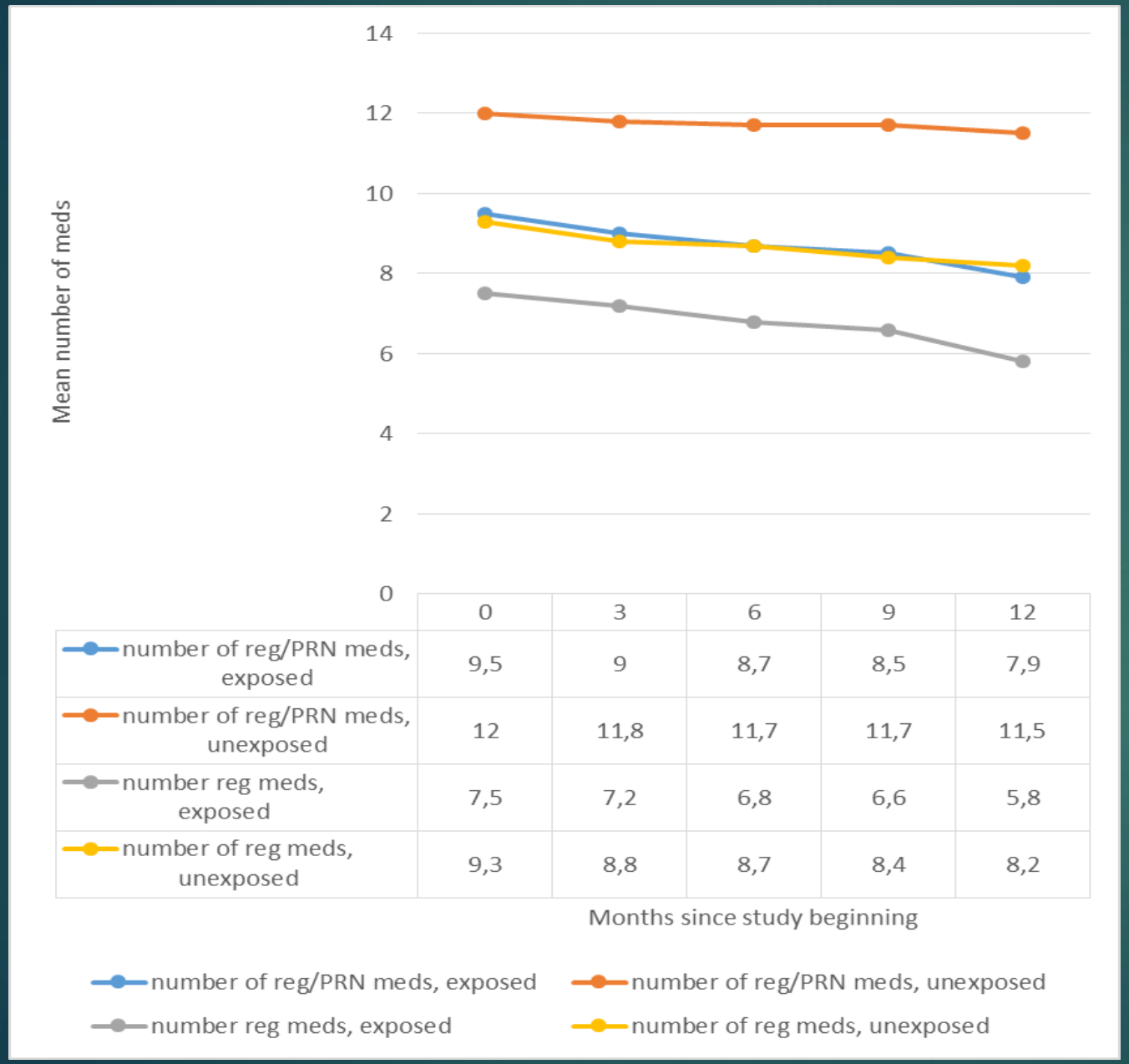
Mean number of regular and ALL medications among ALL residents included in the study



Adjusted for age, time since arrival and comorbidity score

p-values <0.01 for diff in diff tests for regular and ALL medications

Mean number of regular and ALL medications among residents with dementia

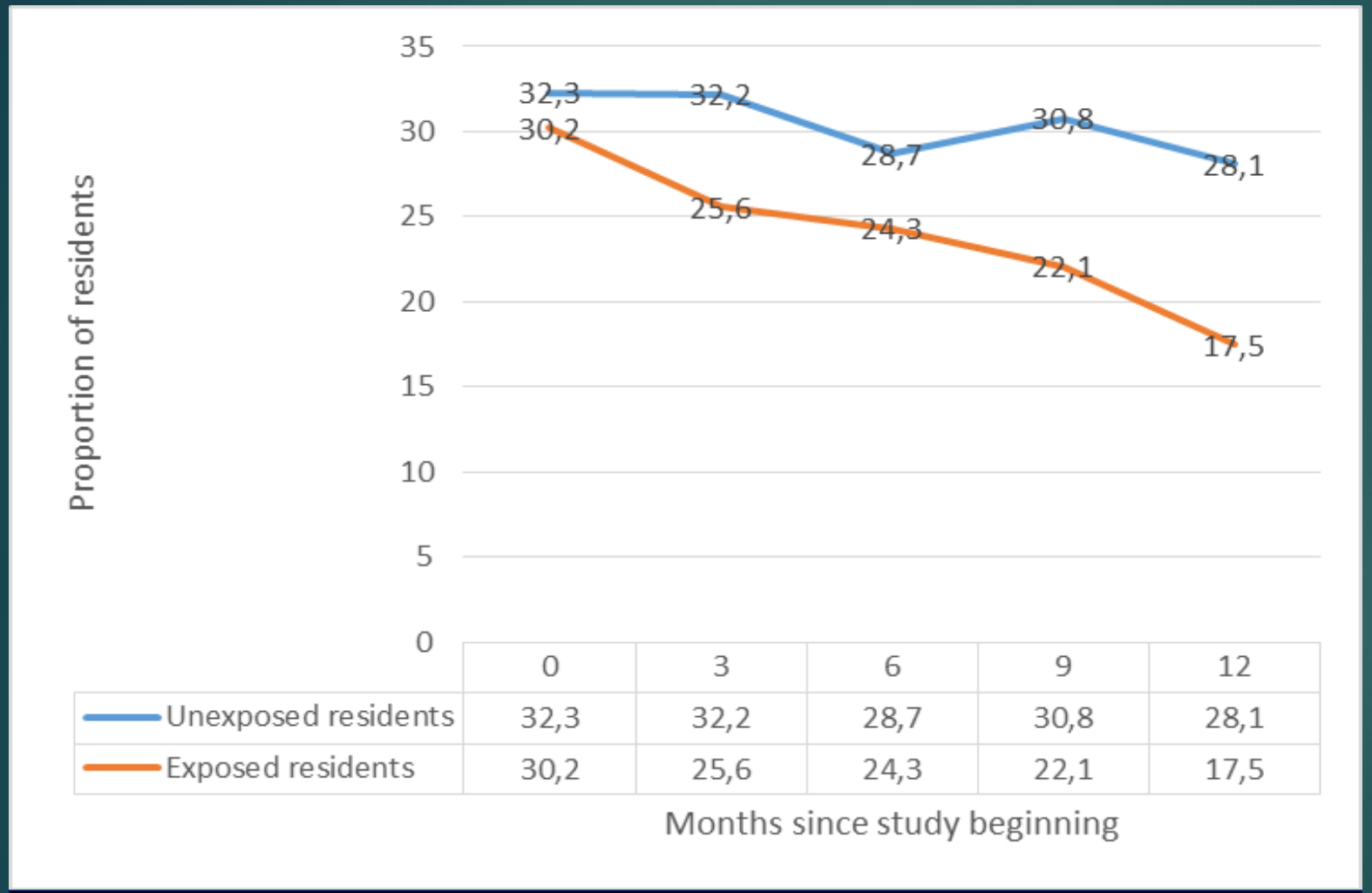


	0	3	6	9	12
number of reg/PRN meds, exposed	9,5	9	8,7	8,5	7,9
number of reg/PRN meds, unexposed	12	11,8	11,7	11,7	11,5
number reg meds, exposed	7,5	7,2	6,8	6,6	5,8
number of reg meds, unexposed	9,3	8,8	8,7	8,4	8,2

Adjusted for age, time since arrival and comorbidity score

p-values <0.01 for diff in diff tests for regular and ALL medications

Proportion of residents receiving at least one possibly inappropriate regular antipsychotic among ALL residents

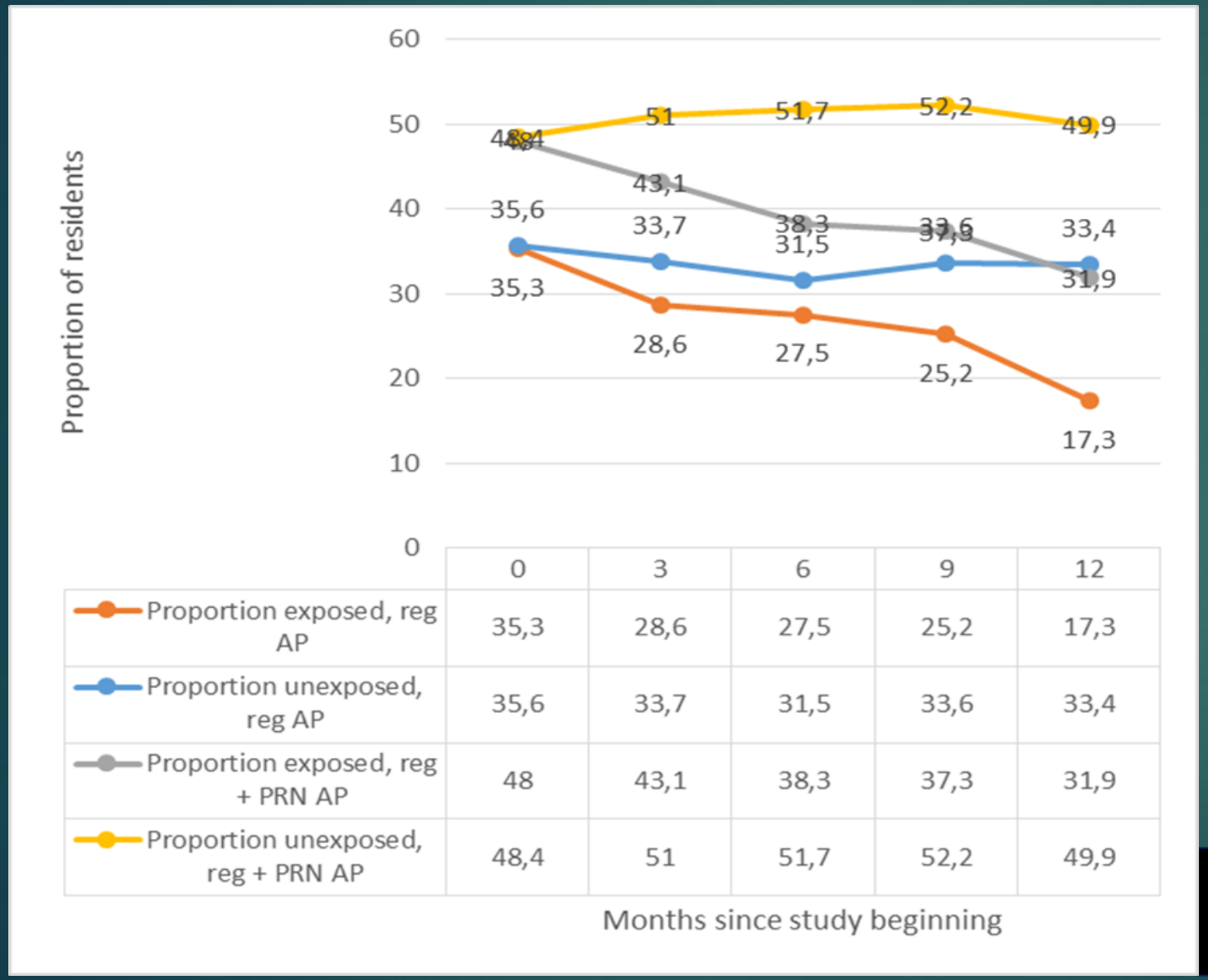


Adjusted for age, time since arrival and comorbidity score

Haloperidol: 45%
Quetiapine 23%
Risperidone 21%
Olanzepine 10%

p=0.08 for the diff in diff test

Proportion of residents receiving at least one possibly inappropriate antipsychotic among residents with dementia



Regular antipsychotics
Haloperidol: 42%
Quetiapine 23%
Risperidone 24%
Olanzepine 9%

p= 0.02 for the diff in diff test

Adjusted for age, time since arrival and comorbidity score

Main results after 12 months

- Mean number of all medications decreased from 10.6 to 8.9 among the exposed and from 12.96 to 12.5 in the control group, $p < 0.01$
- Decrease in all inappropriate medications (PIM) smaller and ns
- Proportion of ALL residents with at least one regular probably inappropriate antipsychotic fell by 4.2% among the unexposed and 12.7% among the exposed, $p = 0.08$
- Proportion of residents with dementia and at least one regular antipsychotic fell by 2.2% among the unexposed and 18% among the exposed, $p = 0.02$

Recommendations from the care team

To implement or further develop PEPS:

- Train and inform all care team members to make them aware of changes in clinical practice and to reassure them
- Clarify each member's roles and get consensus on how to function
- Offer ressources and tools to all team members in order to support them
- Make sure there is good communication and follow-up within the team
- Implement a regular follow-up and reminders for the PEPS model (create indicators?)

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Any questions ☺ ???