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Chaire pharmaceutique Michel-Saucier en santé et vieillissement

6e Rapport annuel 2013-2014

La Chaire pharmaceutique Michel Saucier en santé et vieillissement

La Chaire pharmaceutique Michel-Saucier en santé et vieillissement

A été créée grâce à la générosité

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La titulaire est

Cara Tannenbaum, M.D., M.Sc.

MOT DE LA TITULAIRE

La sixième année de la Chaire pharmaceutique Michel-Saucier en santé et vieillissement se place sous le signe d'accroître la responsabilisation. Précédemment, nous avons créé des liens, étendu notre renommée. Nous nous sommes fait entendre et nous avons animé le changement. Toutes ces étapes nous ont conduit à accroître la responsabilisation des différents acteurs impliqués dans les soins pharmaceutiques à la personne âgée.

Portée par le souffle d'Empower (l'étude sur la saine gestion des médicaments), la Chaire a pris la tribune un peu partout dans le monde pour parler de l'importance de réduire les ordonnances non appropriées chez les personnes âgées. Le Veteran Affairs Health System aux États-Unis, les organisations de santé publique de Suisse, de Belgique et d'Allemagne, les médecins et les pharmaciens partout au Canada, et le groupe expert «Beers» de l'American Geriatrics Society, tous nous ont demandé de partager nos connaissances, certains en diffusant les différentes brochures et d'autres en élaborant de nouvelles politiques.

Notre passage à l'émission «Une pilule, une petite granule» sur les ondes de Télé-Québec a suscité beaucoup d'intérêt dans la population. Nous avons ajouté des brochures sur les antipsychotiques et sur les sulfonylurées à notre programme.

L'intérêt grandissant pour notre travail a permis de diffuser à grande échelle l'information sur l'utilisation non appropriée des médicaments en les rendant accessibles en ligne. Des licences de droits d'auteur sont disponibles.

Ma nomination à titre de directrice scientifique à l'Institut sur la santé des hommes et des femmes des Instituts de recherche en santé du Canada servira à faire progresser l'optimisation des soins pharmaceutiques à la personne âgée, par exemple en étudiant les différences sexospécifiques en pharmacodynamie et en pharmacocinétique et sur l'utilisation d'ordonnances non appropriées.

Nous n'arrêterons pas sur notre lancée. Déjà, l'étude Empower 2 (D-Prescribe) laisse entrevoir d'excellents résultats préliminaires. Nous contribuons à un cours interprofessionnel qui enseigne comment «Faire face au profil» et «Oser dé-prescrire» pour les personnes âgées. En janvier, nous organisons un comité consultatif national sur la gestion sécuritaire de la médication pour les aînés. L'exercice 2014-2015 s'annonce chargé et prometteur. Nous vous remercions de votre confiance.

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1. Accroître la responsabilisation

1.1 Des professionnels de la santé

À l'aide de publications - principalement la large diffusion de matériel éducatif créé et validé par notre étude Empower, de conférences, de formations et de rayonnement international, nous avons pu accroître la responsabilisation des professionnels de la santé face aux soins pharmaceutiques à la personne âgée.

En 2013-2014, nous avons donné plus d'une dizaine de conférences, tant dans des milieux de soins de première ligne que lors de conférences scientifiques et de colloques :

- Colloque «Recherche sur le vieillissement à l'Université de Montréal» : «Que viennent faire l'argent et les médicaments dans la recherche sur le vieillissement?», Montréal, janvier 2014.
- Séminaire annuel du CSSS Cavendish : «A gender-oriented approach to geriatric syndromes», Montréal, février 2014.
- Conférence annuelle du Canadian Society of Consultant Pharmacists : «Medication Management in the Elderly», Toronto, mars 2014.
- Conférence scientifique du Centre régional de santé Fleury : «L'optimisation de la médication chez la personne âgée», Montréal, avril 2014.
- 34e conférence scientifique annuel de la Société canadienne de gériatrie : «Managing Therapeutic Competition in Older Heart Failure Patients», Edmonton, avril 2014.
- Séminaire de biologie psychiatrique - Duke University : «Tapering Sedative-Hypnotic Medication in Older Adults», Durham, North Carolina, août 2014.
- Réunion scientifique à l'Institut universitaire de gériatrie de Montréal : «Les benzos chez les personnes âgées : y a-t-il encore quelque chose à dire et à faire?», Montréal, septembre 2014.
- Conférence annuelle de l'Association des pharmaciens des établissements de santé du Québec : «La déprescription», Trois-Rivières, novembre 2014.
- Réunion scientifique à l'Hôpital de réadaptation Marie-Clarac : «La déprescription», Montréal, novembre 2014.
- Conférence scientifique annuelle du CSSS Les Sommets : «Faire le ménage du pilulier», Mont St-Gabriel, novembre 2014.

Nous avons aussi publié des articles de nature académique qui ont intéressé les professionnels de la santé. Ces travaux visaient à augmenter leurs connaissances sur les effets néfastes de la polymédication chez les personnes âgées.

- Tannenbaum C, Johnell K. Managing therapeutic competition in patients with heart failure, lower urinary tract symptoms and incontinence. 2014 Feb;31(2):93-101.

- Kashyap M, Belleville S, Mulsant BH, Hilmer SN, Paquette A, Tu LM, Tannenbaum C*. Methodological challenges in determining longitudinal associations between anticholinergic drug use and incident cognitive decline. J Am Geriatr Soc. 2014 Feb;62(2):336-41.

- Zou D, Tannenbaum C*. Educational needs, practice patterns and quality indicators to improve geriatric pharmacy care. Can Pharm J (Ott). 2014 Mar;147(2):110-7.

- Tannenbaum C*, Martin P, Tamblyn R, Benedetti A, Ahmed S, Tamblyn R. Reduction of inappropriate benzodiazepine prescriptions among older adults through direct patient education: the EMPOWER cluster randomized trial. JAMA Int Med 2014;174(6):890-8. *Featured in the NEJM Journal Watch April 15.

- Tannenbaum C*, Sheehan NL. Understanding and preventing drug-drug and drug-gene interactions. Expert Rev Clin Pharmacol. 2014; 7(4):533-44.

- Tannenbaum C. Time efficient interventions by general practitioners curb benzodiazepine consumption among long-term users. Evid Based Ment Health. 2014 Sep 19. pii: ebmental-2014-101934.

- Tannenbaum C. Hospital admissions: can we slow down the revolving door? CMAJ. 2014 Oct. 21;186(15):1125-6.

- Tannenbaum C. Translating health education into behavior change for older adults. The Gerontological Society of America's 67th Annual Scientific Meeting, Washington, DC, November.

Nous avons également été présents lors de congrès nationaux et internationaux. À plusieurs reprises, les étudiants de la Chaire ainsi que sa titulaire ont donné des présentations, soit orales ou par affichage. Nous attirons votre attention sur la présentation de Philippe Martin qui s'est mérité le Prix Edmund V. Cowdry pour la meilleure présentation scientifique par un étudiant au doctorat, lors de l'assemblée annuelle de la Société canadienne de gériatrie, en avril 2014, à Edmonton, Alberta

- Godmaire G., Grenier S., Tannenbaum C. (2014) Is urinary incontinence associated with a history of falls among chronic benzodiazepine users? 2014 Annual Scientific Meeting of the Canadian Geriatrics Society in Edmonton, Alberta. April.

- Bystrzycki M., Duong S, Tannenbaum C. (2014) Drug-related problems in the elderly home care population: what is the impact of the pharmacist home visit on medication adjustment? 2014 Annual Scientific Meeting of the Canadian Geriatrics Society in Edmonton, Alberta. April.

- Martin P, Benedetti A, Tamblyn R, Ahmed S, Tannenbaum C. (2014) Direct patient education reduces inappropriate benzodiazepine prescriptions among older adults: the EMPOWER cluster randomized trial. 2014 Annual Scientific Meeting of the Canadian Geriatrics Society in Edmonton, Alberta. April.

- Tannenbaum C, Singh D, Diaby V. Cost-effectiveness of insomnia treatment strategies when falls are considered. 2014 Annual Scientific Meeting of the American Geriatrics Society in Orlando, Florida. May.

- Tannenbaum C. Managing therapeutic competition in older adults with urinary incontinence. The Gerontological Society of America's 67th Annual Scientific Meeting, Washington, DC, November.

Le groupe d'experts BEERS de l'American Geriatrics Society nous a demandé de fournir notre expertise dans l'élaboration des lignes directrices qu'il développe concernant les ordonnances non appropriées chez les aînés.

1.2 Des milieux scientifique et universitaire

Nous poursuivons nos travaux de recherche avec des subventions en cours et de nouvelles subventions obtenues cette année.

- Tannenbaum, C. Prix Betty-Havens **50 000 $**
  2014
  Instituts de recherche en santé du Canada

- Tannenbaum, C., Ahmed, S., Tamblyn, R.,Benedetti, A. **681 617 $**
  2013-2017
  Effectiveness of a consumer-targeted pharmacist-led educational intervention to reduce inappropriate prescriptions
  Instituts de recherche en santé du Canada

- Grenier, S., Tannenbaum, C., et al. **241 790 $**
  2014-2016
  L'efficacité du programme d'aide au succès du sevrage chez les personnes âgées désirant arrêter leur consommation de benzodiazépines
  Instituts de recherche en santé du Canada

- Sirois, C., Emond, V.,Tannenbaum, C., et al. **100 000 $**
  2014-2015
  La polypharmacie chez les aînés: une revue systématique de la littérature
  Instituts de recherche en santé du Canada

- Préville, M., et al., Tannenbaum C. et al. **422 457 $**
  2011-2014
  Factors associated with health services use and psychotropic medication in older adults with mental health disorders
  Fonds de recherche du Québec en santé

IRSC CIHR
Instituts de recherche en santé du Canada Canadian Institutes of Health Research

Québec
Fonds de la recherche en santé du Québec

La Chaire a poursuivi son travail de supervision d'étudiants, tant au 2e cycle, au 3e cycle qu'au post-doctorat. Cette année, elle accueille Mathieu Boulin, un pharmacien ayant fait ses études à l'Inserm en France et venu faire un post-doctorat à l'Université de Montréal. Ce dernier s'est mérité une bourse MITACS offerte par Merck. Philippe Martin, quant à lui, poursuit ses études doctorales grâce à une subvention du Fonds de recherche du Québec en santé.

Mathieu Boulin, étudiant au post-doctorat, Boursier MITACS
Sciences pharmaceutiques, Université de Montréal, 2014-2015
Sulfonylurea Medications, Hypoglycemia and Falls in Older Diabetic Patients

Philippe Martin, étudiant au doctorat, Boursier FRQS
Sciences pharmaceutiques, Université de Montréal, 2012-2016
Consumer-Targeted Interventions to Reduce Inappropriate Prescribing

Maya Bystrzycki, étudiante à la maîtrise
Sciences pharmaceutiques, Université de Montréal, 2012-2014
Drug-Related Problems among Home-Bound Older Adults

Julien Levan, étudiant à la maîtrise
Sciences pharmaceutiques, Université de Montréal, 2012 2014
Added Value of Pharmacist Home Visits for Reducing Inappropriate Prescriptions

Maude Saint-Onge, étudiante à la maîtrise,
Sciences pharmaceutiques, Université de Montréal, 2013-2015
Validation of the Clinical Frailty Index for Retrospective Chart Reviews

Marie-Claude Lefebvre, étudiante à la maîtrise
Sciences pharmaceutiques, Université de Montréal, 2013-2015
To What Extent Do Embolic Risk, Bleeding Risk and Frailty Explain Rates of Anticoagulation for Atrial Fibrillation in Older Hospitalized Adults

Maude Glazer Cavanagh, étudiante à la maîtrise
Sciences pharmaceutiques, Université de Montréal, 2013-2015
Is the Assessment of Fall Risk by Cardiologists an Emotional Decision or an Evidence-Based Approach?

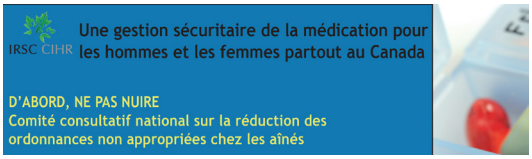
Ann-Sophie Lapointe, résidente en gériatrie
Médecine, Université de Montréal, 2013-2014
Evidence-based Pharmaceutical Opinions on Sulfonylurea Agents for Diabetes

1.3 Des décideurs

La Chaire a fait partie du Comité de la polypharmacie mis sur pied par l'Institut national de santé publique du Québec. Le comité a travaillé toute l'année pour élaborer, diffuser et recueillir les réponses à un sondage remis à tous les intervenants en soins pharmaceutiques du Québec. Le sondage visait à connaître leurs perceptions et leurs besoins face à la polypharmacie. Les résultats sont en cours d'analyse et permettront de rédiger des recommandations qui seront publiées l'an prochain.

À l'été, la Chaire a fait parvenir une lettre de demande d'appui au Conseil de la Fédération qui regroupe tous les premiers ministres des provinces canadiennes pour les sensibiliser aux problèmes liés à la polymédication chez les aînés. Le Conseil s'est dit sensible et intéressé à soutenir la cause. Cet appui (voir lettre en annexe) nous a incité à tenir le premier comité consultatif canadien sur la réduction des ordonnances non appropriées sous l'égide des IRSC en janvier 2015. Nous comptons sur la présence de décideurs, d'intervenants de première ligne, d'organismes de défense des droits des patients, de représentants du public pour atteindre les objectifs suivants :

- identifier les meilleurs moyens d'améliorer les soins pharmaceutiques à la personne âgée tout en réduisant l'impact des coûts des médicaments sur les soins de santé;
- élaborer des politiques pour soutenir la pratique et la qualité de vie des aînés aux prises avec de multiples maladies chroniques;
- établir les meilleurs moyens de favoriser le développement et la dissémination des protocoles de sevrage basés aux médecins, aux pharmaciens et aux usagers.



Liste des invités

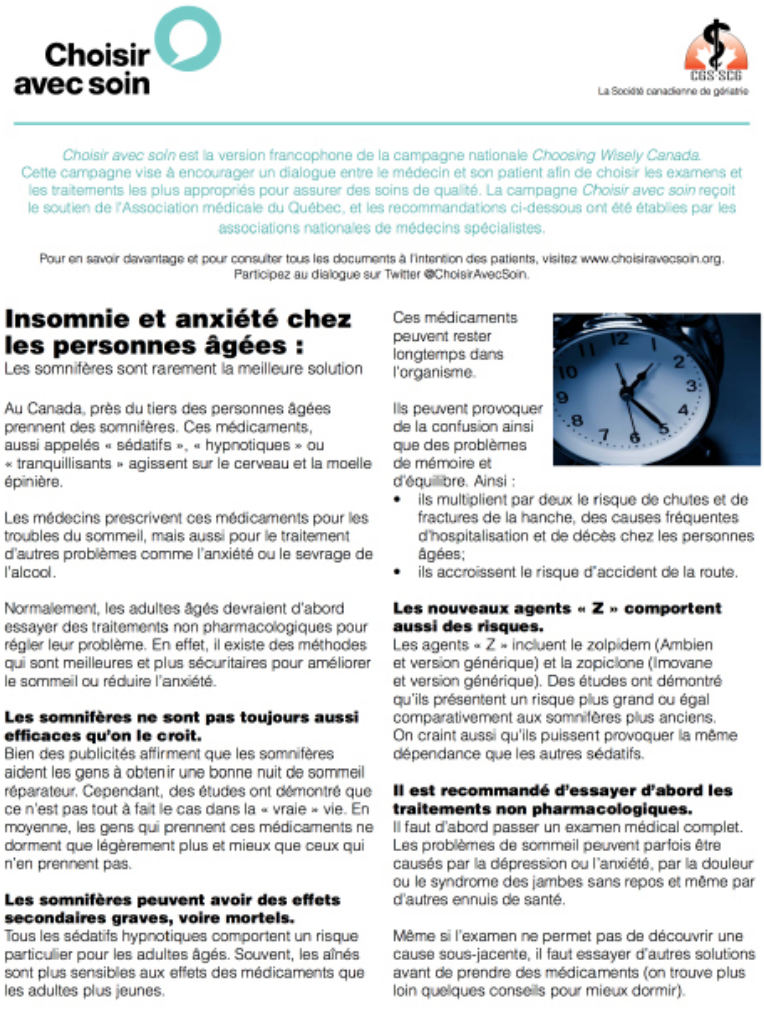
Agence canadienne des médicaments et des technologies de la santé
Agence de santé publique du Canada
Alberta Health Services
Association canadienne de soins et services à domicile
Association des infirmières et infirmiers du Canada
Association des pharmaciens du Canada
Association médicale canadienne
Canadian Association of Retired Persons
Choisir avec soin
Collège québécois des médecins de famille
Fondation canadienne pour l'amélioration des services de santé
Gouvernement de l'Ontario
Institut canadien d'information sur la santé
Institut canadien pour la sécurité des patients
Institut national de santé publique du Québec
Institut pour la sécurité des médicaments aux patients du Canada
Ministère de la santé et des services sociaux du Québec
Ontario Medical Association
Ontario Pharmacists Association
Ordre des pharmaciens du Québec
Patient Advocates
Réseau canadien de surveillance sentinelle en soins primaires
Réseau sur l'innocuité et l'efficacité des médicaments
UBC Centre for Health Services and Policy Research
Women's Brain Health Initiative
Women's College Hospital

1.4 Du public et des médias

Notre participation à une émission grand public sur les ondes de Télé-Québec, «Une pilule, une petite granule», a suscité beaucoup d'intérêt. Plusieurs téléspectateurs nous ont contacté pour obtenir la brochure et de l'information pour cesser les ordonnances non appropriées.

Une conférence présentée lors des Belles Soirées de l'Université de Montréal a rejoint un plus large public en étant rediffusée sur les ondes du Canal Savoir. La conférence s'intitulait : «Vivre plus vieux ou mieux vivre vieux : pourquoi pas les deux!». http://www.canalsavoir.tv/videos_sur_demande/73

Nous avons également collaboré à l'élaboration de dépliants pour la campagne Choisir avec soin qui vise à encourager un dialogue entre le médecin et son patient afin de choisir les examens et les traitements les plus appropriés pour assurer des soins de qualité. Notre expertise a été sollicitée dans l'élaboration des différents dépliants, notamment celui sur l'insomnie et l'anxiété chez les personnes âgées.



Choisir avec soin

CGS SCG
La Société canadienne de gériatrie

Choisir avec soin est la version francophone de la campagne nationale *Choosing Wisely Canada*. Cette campagne vise à encourager un dialogue entre le médecin et son patient afin de choisir les examens et les traitements les plus appropriés pour assurer des soins de qualité. La campagne *Choisir avec soin* reçoit le soutien de l'Association médicale du Québec, et les recommandations ci-dessous ont été établies par les associations nationales de médecins spécialistes.

Pour en savoir davantage et pour consulter tous les documents à l'intention des patients, visitez www.choisiravecsoin.org.
Participez au dialogue sur Twitter @ChoisirAvecSoin.

Insomnie et anxiété chez les personnes âgées :
Les somnifères sont rarement la meilleure solution

Au Canada, près du tiers des personnes âgées prennent des somnifères. Ces médicaments, aussi appelés « sédatifs », « hypnotiques » ou « tranquillisants » agissent sur le cerveau et la moelle épinière.

Les médecins prescrivent ces médicaments pour les troubles du sommeil, mais aussi pour le traitement d'autres problèmes comme l'anxiété ou le sevrage de l'alcool.

Normalement, les adultes âgés devraient d'abord essayer des traitements non pharmacologiques pour régler leur problème. En effet, il existe des méthodes qui sont meilleures et plus sécuritaires pour améliorer le sommeil ou réduire l'anxiété.

Les somnifères ne sont pas toujours aussi efficaces qu'on le croit.
Bien des publicités affirment que les somnifères aident les gens à obtenir une bonne nuit de sommeil réparateur. Cependant, des études ont démontré que ce n'est pas tout à fait le cas dans la « vraie » vie. En moyenne, les gens qui prennent ces médicaments ne dorment que légèrement plus et mieux que ceux qui n'en prennent pas.

Les somnifères peuvent avoir des effets secondaires graves, voire mortels.
Tous les sédatifs hypnotiques comportent un risque particulier pour les adultes âgés. Souvent, les aînés sont plus sensibles aux effets des médicaments que les adultes plus jeunes.

Ces médicaments peuvent rester longtemps dans l'organisme.

Ils peuvent provoquer de la confusion ainsi que des problèmes de mémoire et d'équilibre. Ainsi :

- ils multiplient par deux le risque de chutes et de fractures de la hanche, des causes fréquentes d'hospitalisation et de décès chez les personnes âgées;
- ils accroissent le risque d'accident de la route.

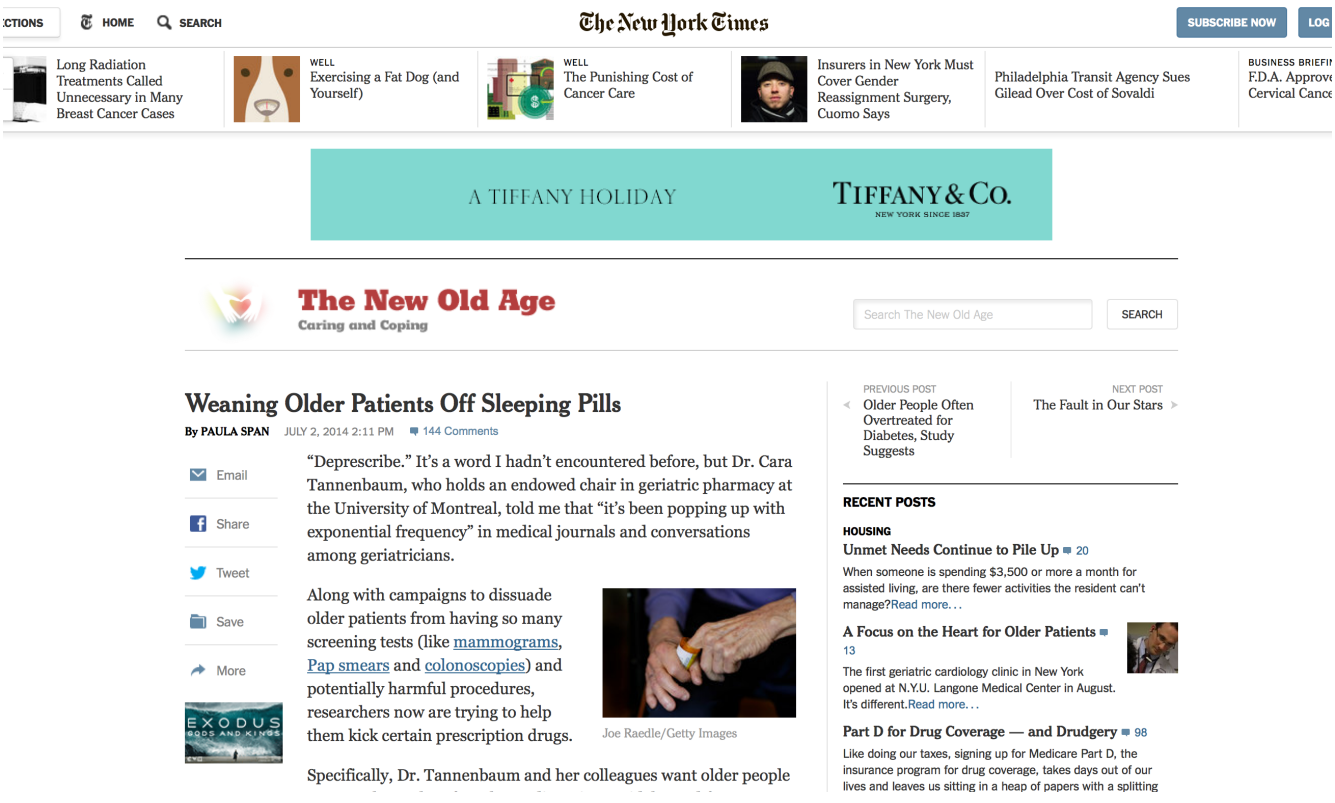
Les nouveaux agents « Z » comportent aussi des risques.
Les agents « Z » incluent le zolpidem (Ambien et version générique) et la zopiclone (Imovane et version générique). Des études ont démontré qu'ils présentent un risque plus grand ou égal comparativement aux somnifères plus anciens. On craint aussi qu'ils puissent provoquer la même dépendance que les autres sédatifs.

Il est recommandé d'essayer d'abord les traitements non pharmacologiques.
Il faut d'abord passer un examen médical complet. Les problèmes de sommeil peuvent parfois être causés par la dépression ou l'anxiété, par la douleur ou le syndrome des jambes sans repos et même par d'autres ennuis de santé.

Même si l'examen ne permet pas de découvrir une cause sous-jacente, il faut essayer d'autres solutions avant de prendre des médicaments (on trouve plus loin quelques conseils pour mieux dormir).

Le Women's Brain Health Initiative a mis en ligne une conférence «Let's talk about prescription drugs and women's brain». http://womensbrainhealth.org/mindovermatter_videos

La publication des résultats de l'étude EMPOWER dans le Journal of the American Medical Association a retenu l'attention des médias. Nous détaillons la revue de presse à la section 2. L'article se retrouve en annexe. Les résulats de l'étude Empower ont démontré un taux de sevrage chez 27 % des participants à l'étude dans le groupe Intervention et de 5 % dans le groupe Contrôle.



CTIONS HOME SEARCH

The New York Times

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WELL The Punishing Cost of Cancer Care

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Weaning Older Patients Off Sleeping Pills

By PAULA SPAN JULY 2, 2014 2:11 PM 144 Comments

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"Deprescribe." It's a word I hadn't encountered before, but Dr. Cara Tannenbaum, who holds an endowed chair in geriatric pharmacy at the University of Montreal, told me that "it's been popping up with exponential frequency" in medical journals and conversations among geriatricians.

Along with campaigns to dissuade older patients from having so many screening tests (like mammograms, Pap smears and colonoscopies) and potentially harmful procedures, researchers now are trying to help them kick certain prescription drugs.

Joe Raedle/Getty Images

Specifically, Dr. Tannenbaum and her colleagues want older people

PREVIOUS POST Older People Often Overtreated for Diabetes, Study Suggests

NEXT POST The Fault in Our Stars

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HOUSING

Unmet Needs Continue to Pile Up 20

When someone is spending $3,500 or more a month for assisted living, are there fewer activities the resident can't manage?Read more...

A Focus on the Heart for Older Patients 13

The first geriatric cardiology clinic in New York opened at N.Y.U. Langone Medical Center in August. It's different.Read more...

Part D for Drug Coverage — and Drudgery 98

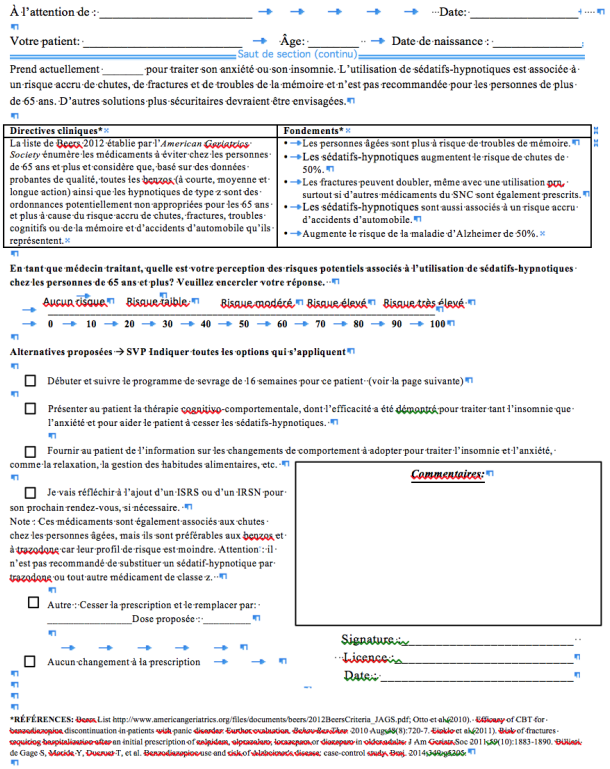
Like doing our taxes, signing up for Medicare Part D, the insurance program for drug coverage, takes days out of our lives and leaves us sitting in a heap of papers with a splitting

2. Pleins feux sur l'étude D-Prescribe

L'étude D-Prescribe fait figure de précurseur dans la saine gestion des médicaments pour les personnes âgées. Aucune autre étude, sauf pour EMPOWER, n'a ciblé le patient comme l'agent principal pour la dé-prescription de médicaments non appropriés. Cette étude poursuit sur la lancée d'EMPOWER. En plus de tester l'effficacité de la brochure sur le sevrage des benzodiazépines, D-Prescribe inclut trois autres classes de médicaments : les antihistaminiques de première génération, les anti-inflammatoires non-stéroïdiens et les sylfonylurées à longue action. Cette étude inclut également un volet d'évaluation de l'impact d'opinions pharmaceutiques expliquées.

Pour la réaliser, nous avons obtenu la collaboration de trois chaînes de pharmacies : Brunet, Pharmaprix et Uniprix. Chaque pharmacie de la grande région de Montréal a éét invitée à collaborer au projet. Au 1er décembre 2014, nous comptions :

Nombre de pharmaciens collaborateurs	46
Nombre total de participants	153


À l'attention de :_____ Date: _____

Votre patient: _____ Âge: _____ Date de naissance : _____

Saut de section (continu)

Prend actuellement _____ pour traiter son anxiété ou son insomnie. L'utilisation de sédatifs-hypnotiques est associée à un risque accru de chutes, de fractures et de troubles de la mémoire et n'est pas recommandée pour les personnes de plus de 65 ans. D'autres solutions plus sécuritaires devraient être envisagées.

Directives cliniques*	Fondements*
La liste de Beers 2012 établie par l'*American Geriatrics Society* énumère les médicaments à éviter chez les personnes de 65 ans et plus et considère que, basé sur des données probantes de qualité, toutes les benzos (à courte, moyenne et longue action) ainsi que les hypnotiques de type z sont des ordonnances potentiellement non appropriées pour les 65 ans et plus à cause du risque accru de chutes, fractures, troubles cognitifs ou de la mémoire et d'accidents d'automobile qu'ils représentent.	• Les personnes âgées sont plus à risque de troubles de mémoire. • Les sédatifs-hypnotiques augmentent le risque de chutes de 50%. • Les fractures peuvent doubler, même avec une utilisation ponctuelle, surtout si d'autres médicaments du SNC sont également prescrits. • Les sédatifs-hypnotiques sont aussi associés à un risque accru d'accidents d'automobile. • Augmente le risque de la maladie d'Alzheimer de 50%.

En tant que médecin traitant, quelle est votre perception des risques potentiels associés à l'utilisation de sédatifs-hypnotiques chez les personnes de 65 ans et plus? Veuillez encercler votre réponse.

Aucun risque — Risque faible — Risque modéré — Risque élevé — Risque très élevé

0 — 10 — 20 — 30 — 40 — 50 — 60 — 70 — 80 — 90 — 100

Alternatives proposées → SVP Indiquer toutes les options qui s'appliquent

☐ Débuter et suivre le programme de sevrage de 16 semaines pour ce patient (voir la page suivante)

☐ Présenter au patient la thérapie cognitivo-comportementale, dont l'efficacité a été démontré pour traiter tant l'insomnie que l'anxiété et pour aider le patient à cesser les sédatifs-hypnotiques.

☐ Fournir au patient de l'information sur les changements de comportement à adopter pour traiter l'insomnie et l'anxiété, comme la relaxation, la gestion des habitudes alimentaires, etc.

☐ Je vais réfléchir à l'ajout d'un ISRS ou d'un IRSN pour son prochain rendez-vous, si nécessaire.

Note : Ces médicaments sont également associés aux chutes chez les personnes âgées, mais ils sont préférables aux benzos et à trazodone car leur profil de risque est moindre. Attention : il n'est pas recommandé de substituer un sédatif-hypnotique par trazodone ou tout autre médicament de classe z.

☐ Autre : Cesser la prescription et le remplacer par: _____ Dose proposée : _____

☐ Aucun changement à la prescription

Commentaires:

Signature : _____

Licence : _____

Date : _____

*RÉFÉRENCES: Beers List http://www.americangeriatrics.org/files/documents/beers/2012BeersCriteria_JAGS.pdf; Otto et al (2010). Efficacy of CBT for benzodiazepine discontinuation in patients with panic disorder: further evaluation. Behav Res Ther 2010 Aug;48(8):720-7. Gibbs et al (2011). Risk of fractures requiring hospitalization after an initial prescription of zolpidem, alprazolam, lorazepam or diazepam in older adults. J Am Geriatr Soc 2011;59(10):1883-1890. Billioti de Gage S, Moride Y, Ducruet T, et al. Benzodiazepine use and risk of Alzheimer's disease: case-control study. Eur J Epidemiol 2014;29(8):569-579.

3. Revue de presse : l'étude EMPOWER

Outre les retombées de l'étude pour les patients :
- réduction de l'utilisation d'ordonnances non appropriées
- réduction du risque de chutes, de fractures et d'accidents d'automobile
- amélioration de la mémoire

La publication des résultats d'EMPOWER a attiré l'attention de grands médias américains : Fox News, New York Times pour ne nommer que ceux-là. De plus, la Veterans Health Administration nous a contacté pour offrir aux vétérans américains notre outil éducatif dans le but d'améliorer la santé de milliers d'Américains.

De la Suisse, la «Swiss Patient Safety Foundation» a demandé la permission d'utiliser nos brochures et de les traduire en allemand.

Des demandes nous sont également parvenues d'ailleurs en Europe, comme la Grande-Bretagne et la Belgique, et de partout au Canada et dans différentes régions du Québec (l'Outaouais et la Gaspésie entre autres).

La revue de presse comprend des parutions dans les publications suivantes :

Le Devoir (article de Pauline Gravel)
CHEQ FM (entrevue radiophonique avec Gaston Cloutier)
MedicalResearch.com (entrevue Web)
CBC (entrevue radiophonique avec Pauline Dakin)
CBC The National (entrevue télévisée avec Briar Stewart)
The Globe and Mail (article de Kelly Grant)
FOX News (article de Anne Harding, REUTERS)
Radio-Canada International (entrevue radiophonique avec Lynn Desjardins)
Professionsanté.ca (entrevue Web avec Fabienne Papin) - deux articles
The New York Times (article de Paula Span) - deux articles et un blog
El Mundo (article de Maria Valerio) - Espagne
Chicago Tribune (article de Anne Harding)
Québec Science (article de Marine Corniou)
Perspective Infirmière (entrevue de Kathleen Couillard)

Le communiqué de presse a été repris par les médias suivants :

Newswise.com
Dailyrx.com
Geripal.org

ANNEXES

Premier of Prince Edward Island

Premier ministre de l'Île-du-Prince-Édouard

July 14, 2014

Ms. Cara Tannenbaum, MD, MSc
The Michel Saucier Endowed Chair in Geriatric Pharmacology, Health and Aging
La Chaire pharmaceutique Michel-Saucier en santé et vieillissement
Professor of Medicine and Pharmacy
Université de Montréal
Centre de Recherche
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Montreal, QC H3W 1W5

Dear Dr. Tannenbaum:

Thank you for your letter dated June 16, 2014 regarding the Health Care Innovation Working Group (HCIWG) and over-prescription of drugs to seniors.

I welcome this opportunity to respond to you in my capacity as incoming Chair of the Council of the Federation.

I appreciate hearing from your organization and the commitment that you have to making over-prescription of drugs to seniors a priority. I will be sure to share this letter and request with the HCIWG Co-chairs and officials. The collaborative work of the HCIWG, under the direction of Canada's Premiers, has identified appropriateness, pharmaceuticals (including both generics and brand name drugs), and seniors as priority themes. Over the past two years, we as Premiers, have proven that as the leaders in health care innovation we can drive real change in Canada's health systems and ensure that all Canadians have access to quality and sustainable health care. While we recognize that the issue you have raised is of significance to many Canadians, please note that, due to the large number of requests that we receive and the limited time available, not all matters of importance can be formally addressed at our meeting. Presentations by outside organizations are only made in very exceptional circumstances at Council of the Federation meetings.

Once again, thank you for your letter.

Sincerely,

Robert Ghiz
Vice-Chair, Council of the Federation
Premier of Prince Edward Island

cc: Premiers
Dr. Wendy Levinson, Chair Choosing Wisely Canada
Stephen Samis, Vice President, Programs, Canadian Foundation for Health

Original Investigation

Reduction of Inappropriate Benzodiazepine Prescriptions Among Older Adults Through Direct Patient Education
The EMPOWER Cluster Randomized Trial

Cara Tannenbaum, MD, MSc; Philippe Martin, BSc; Robyn Tamblyn, PhD; Andrea Benedetti, PhD; Sara Ahmed, PhD

IMPORTANCE The American Board of Internal Medicine Foundation Choosing Wisely Campaign recommends against the use of benzodiazepine drugs for adults 65 years and older. The effect of direct patient education to catalyze collaborative care for reducing inappropriate prescriptions remains unknown.

OBJECTIVE To compare the effect of a direct-to-consumer educational intervention against usual care on benzodiazepine therapy discontinuation in community-dwelling older adults.

DESIGN, SETTING, AND PARTICIPANTS Cluster randomized trial (EMPOWER [Eliminating Medications Through Patient Ownership of End Results] study [2010-2012, 6-month follow-up]). Community pharmacies were randomly allocated to the intervention or control arm in nonstratified, blocked groups of 4. Participants (303 long-term users of benzodiazepine medication aged 65-95 years, recruited from 30 community pharmacies) were screened and enrolled prior to randomization: 15 pharmacies randomized to the educational intervention included 148 participants and 15 pharmacies randomized to the "wait list" control included 155 participants. Participants, physicians, pharmacists, and evaluators were blinded to outcome assessment.

INTERVENTIONS The active arm received a deprescribing patient empowerment intervention describing the risks of benzodiazepine use and a stepwise tapering protocol. The control arm received usual care.

MAIN OUTCOMES AND MEASURES Benzodiazepine therapy discontinuation at 6 months after randomization, ascertained by pharmacy medication renewal profiles.

RESULTS A total of 261 participants (86%) completed the 6-month follow-up. Of the recipients in the intervention group, 62% initiated conversation about benzodiazepine therapy cessation with a physician and/or pharmacist. At 6 months, 27% of the intervention group had discontinued benzodiazepine use compared with 5% of the control group (risk difference, 23% [95% CI, 14%-32%]; intracluster correlation, 0.008; number needed to treat, 4). Dose reduction occurred in an additional 11% (95% CI, 6%-16%). In multivariate subanalyses, age greater than 80 years, sex, duration of use, indication for use, dose, previous attempt to taper, and concomitant polypharmacy (10 drugs or more per day) did not have a significant interaction effect with benzodiazepine therapy discontinuation.

CONCLUSIONS AND RELEVANCE Direct-to-consumer education effectively elicits shared decision making around the overuse of medications that increase the risk of harm in older adults.

TRIAL REGISTRATION clinicaltrials.gov Identifier: NCT01148186

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The US Patient Protection and Affordable Health Care Act encourages greater use of shared decision making in health care through provision of evidence-based information that apprises patients of the risks and benefits of different treatments.[1] Based on the concepts of patient-centered medicine and patient preferences, consumer education is a core tenet of promoting collaborative self-management for cost containment and health improvement.[2,3] However, the effect of involving patients in the decision to curtail medical treatments and resources is viewed by some as expecting too much.[4]

In 2012, the American Board of Internal Medicine (ABIM) Foundation launched its Choosing Wisely campaign to help physicians and patients select which interventions should be discontinued to reduce the overuse of medical resources that increase the risk of harm.[5] As part of this campaign, the American Geriatrics Society advised physicians and patients to refrain from using benzodiazepines as first-line treatment for insomnia in older adults.[6] The decision to target benzodiazepines derives from the potential for benzodiazepines to elicit cognitive deficits and increase the risk of falls and hip fractures.[7-10] Benzodiazepines comprise 20% to 25% of inappropriate prescriptions in the elderly,[11,12] with a reported prevalence of use ranging from 5% to 32% in community-dwelling older adults.[13-15] Although physicians recognize the risks associated with benzodiazepines, almost 50% continue to renew prescriptions, citing patient dependence and benefit as justification for their actions.[16-19]

The effect of direct-to-consumer patient education and empowerment to reduce benzodiazepine prescriptions has not yet been fully examined.[20] Direct-to-consumer advertising of prescription drugs by the pharmaceutical industry has clearly been shown to influence patient demand for medicines.[21] However, there is concern that inconsistent enforcement of the US Food and Drug Administration (FDA) requirement to provide consumers with a balanced presentation of risks and benefits in the drug information package, and the lack of subsequent revision to include data on drug harms from postmarketing pharmacoepidemiological research, has led to inappropriate overuse of some prescription drugs.[21,22] Educational interventions aimed at achieving patient empowerment around medication overtreatment has potential to catalyze shared decision making to deprescribe. Patient empowerment is a process that aims to "help people gain control, which includes people taking the initiative, solving problems, and making decisions, and can be applied to different settings in health and social care and self-management."[23]

The objective of the EMPOWER (Eliminating Medications Through Patient Ownership of End Results) cluster randomized trial was to test the effectiveness of direct patient education about drug harms on benzodiazepine therapy discontinuation among community-dwelling adults 65 years and older receiving long-term benzodiazepine therapy. Secondary objectives were to assess rates of dose reduction in addition to complete cessation and to conduct a process evaluation of subsequent events after receipt of the intervention. Cluster randomization served to prevent contamination between participants in the same pharmacy.

Methods

Design, Setting, and Participants

A 2-arm, parallel-group, pragmatic cluster randomized clinical trial was conducted in Quebec, Canada. The trial protocol has been published.[24] The Research Ethics Board of the Centre de Recherche de l'Institut Universitaire de Gériatrie de Montreal approved the study protocol on July 26, 2009. All patients signed an informed consent form prior to the screening interview. Recruitment occurred between July 2010 and November 2012.

The study included 30 community pharmacies (cluster units) in the greater Montreal area. Eligibility criteria for clusters included local community pharmacies with 20% or more of their clientele consisting of older adults and a minimum of 50 eligible participants. A full list of pharmacies within 200 km of the research center was obtained through collaboration with the pharmacy chain's headquarters. This list was randomized, and pharmacies were systematically contacted by the research team to assess interest in participating.

The sampling frame for individual participants was a list of all adults 65 years and older receiving long-term benzodiazepine therapy from each participating pharmacy, provided to pharmacists by the central database system of the pharmacy chain. Eligibility criteria for individual participants included a minimum of 5 active prescriptions, one being an active benzodiazepine prescription (short, medium, or long acting) dispensed for at least 3 consecutive months prior to screening. Participants with polypharmacy (>5 medications) were recruited to extend the generalizability of the findings from this trial to the typical elderly benzodiazepine user with multimorbidity and associated polypharmacy. Exclusion criteria included a diagnosis of severe mental illness or dementia, an active prescription for any antipsychotic medication and/or a cholinesterase inhibitor or memantine in the preceding 3 months, and residence in a long-term care facility. All clients meeting study criteria received a recruitment mailing followed by telephone call invitations from their pharmacists. Patients who expressed interest in participating in the study were directed to the study team and screened for eligibility via in-home interviews with a research assistant. Clients who were unreachable after 3 attempts were not recontacted. During the in-home interview, patients with evidence of cognitive impairment, defined by a screening score less than 21 on the Montreal Cognitive Assessment, were excluded.[25] Baseline demographic data and information on the indication for and duration of benzodiazepine use, as well as any previous attempts at discontinuation, were collected. Health status was determined (excellent, very good, good, fair, or poor). The presence of an anxiety disorder was ascertained by a score of 9 or higher on the Geriatric Anxiety Inventory.[26]

Intervention

The patient empowerment intervention consisted of an 8-page booklet based on social constructivist learning and self-efficacy theory, and its development and testing have been previously detailed.[24] The intervention comprises a self-

assessment component about the risks of benzodiazepine use, presentation of the evidence for benzodiazepine-induced harms, knowledge statements designed to create cognitive dissonance about the safety of benzodiazepine use, education about drug interactions, peer champion stories intended to augment self-efficacy, suggestions for equally or more effective therapeutic substitutes for insomnia and/or anxiety, and stepwise tapering recommendations.[24] Tapering recommendations consist of a visual 21-week tapering protocol showing a picture-based diminishing schedule of full-pill, half-pill, and quarter-pill consumption. The visual schematic for the deprescribing protocol was proposed by consumers during the development and usability testing of the intervention to enable application to any benzodiazepine, regardless of dose. The intervention asks participants to discuss the deprescribing recommendations with their physician and/or pharmacist. The information is included in a letter-size paper handbook, with the language set at a sixth-grade reading level and written in 14-point font to facilitate accessibility to the material. The intervention was personalized according to the participant's pharmacy profile to include the name of the specific benzodiazepine the participants was taking. The intervention was mailed to the intervention group within 1 week of group allocation while the usual care (wait list) group received the educational tool 6 months following group allocation. A full version of the intervention is available in the eAppendix in the Supplement.

Outcomes

The primary outcome was complete cessation of benzodiazepine use in the 6 months following randomization. Cessation was defined as an absence of any benzodiazepine prescription renewal at the time of the 6-month follow-up that was sustained for 3 consecutive months or more, in the absence of substitution to another benzodiazepine. This was ascertained via pharmacy renewal profiles, which contained information on drugs purchased, dates of purchase, dose, and quantity served. Dose reduction was defined as a 25% or greater dose reduction compared with baseline sustained for 3 consecutive months or more. A baseline average daily dose per month was established using pharmaceutical profiles for the 6 months before randomization. Dose reduction was then calculated by comparing patients' average daily dose per month at 6 months after randomization compared with baseline. All doses were converted to lorazepam equivalents. To ensure an accurate representation of the pharmaceutical profiles, a list of pharmacies visited by participants was collected at baseline. At follow-up, patients were queried whether they switched pharmacies. A complete follow-up with the pharmacy in use at the 6-month follow-up was completed for all study participants. One investigator (P.M.) and 1 research nurse, blinded to group allocation, independently assessed outcomes according to a prespecified protocol. Agreement was obtained in 94% of cases, with differences adjudicated by a third investigator (C.T.).

Process Evaluation

After the primary end point had been ascertained using the pharmacy renewal profiles and in order to understand the events that occurred after receipt of the intervention, a 6-month semistructured interview was conducted by telephone with participants in the intervention group. Interviews lasted approximately 30 minutes. Participants were queried whether they had discussed the possibility of tapering their benzodiazepine medication with a physician, pharmacist, or both (yes/no); what was decided during these discussions (open ended); whether tapering was attempted (yes/no); if any difficulties were encountered during the tapering process (open ended); reasons why any attempts failed (open ended); justification of why participants felt they did not want to discontinue their benzodiazepine medication (open ended); and satisfaction about learning about the risks of benzodiazepine use (yes/no).

Randomization and Allocation Concealment

A 1:1 allocation ratio was assigned by an independent statistician using nonstratified blocked randomization for groups of 4 pharmacies using computer-generated random digits. The study was described as a "medication safety study for older adults" without mention of benzodiazepines in particular; thus, participants remained blinded to the intervention at the time of enrollment. Group allocation was concealed from both the pharmacists and their clients by telling them that the intervention would be delivered to the clients at some point during the next year.

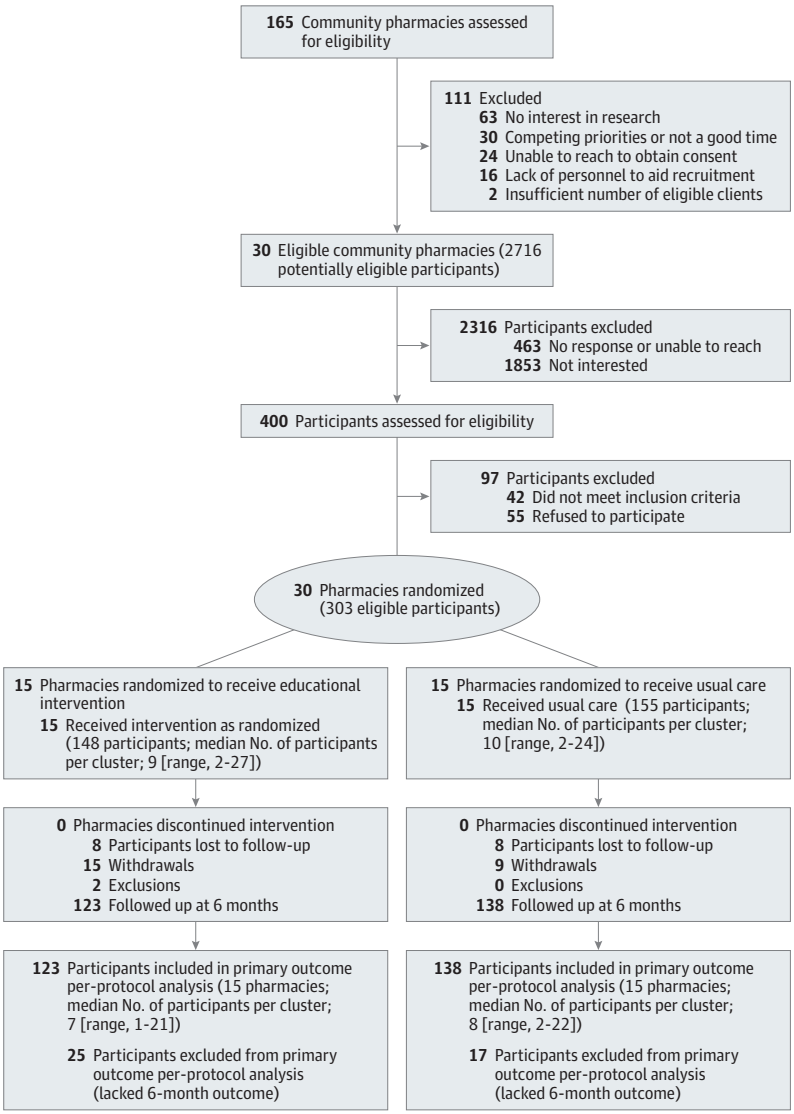
Sample Size

The study was powered at 80% (2-sided test α level of .05) to detect a minimal 20% difference in benzodiazepine therapy discontinuation due to the use of the intervention.[19,27-33] On the basis of the study results, we calculated a coefficient of variation (kappa) of 0.62, an intracluster correlation (ICC) of 0.008, and a median cluster size of 10.1, which resulted in a maximum design effect of 1.03. A minimal sample size per group of 60 individuals was therefore required.[34]

Statistical Methods

Differences in baseline characteristics between groups were compared. To assess the primary outcome, we estimated the unadjusted risk difference (prevalence of the outcome) and 95% confidence intervals via generalized estimating equations (GEEs) using the participant as the unit of analysis, the pharmacy as the cluster, an exchangeable correlation coefficient to account for clustering effects of participants within each pharmacy, and discontinuation as a dichotomous outcome, assessed for each participant at 6 months after randomization. Both intent-to-treat (ITT) and per-protocol analyses were performed. Participants who were lost to follow-up were designated as having neither discontinued nor reduced the dose of benzodiazepines in ITT analyses. Generalized estimating equations with an identity link and an exchangeable correlation structure were used to account for possible correlation between individuals in the same cluster.[35] The number needed to treat was calculated as the inverse of the difference in absolute event rates between the experimental and control groups.[36] In secondary analyses, to control for possible confounding effects between groups, multiple logistic regression

Figure 1. Trial Flow



models were used, with age (<80 years vs ≥80 years), sex, education (high school or less vs college or university), health status (fair and poor vs other), benzodiazepine use for insomnia (yes/no), anxiety disorder detected with the Geriatric Anxiety Inventory (yes/no), benzodiazepine dose (<0.8-mg/d lorazepam equivalent vs ≥0.8 mg/d),[37] previous attempt at tapering (yes/no), duration of benzodiazepine use (<5 years or ≥5 years), and number of medications (<10 per day vs ≥10 per day) included in the model. To determine whether any of the aforementioned-listed characteristics differentially impacted on cessation rates, analyses were performed to estimate risk differences for each of the subgroups using interaction terms in the GEE model under ITT and per-protocol conditions. Proportions of participants reporting having discussed discontinuation with a physician or pharmacist were calculated. Responses to the open-ended questions about failure to initiate discontinuation or abandonment of the tapering protocol were analyzed by content analysis according to emergent themes. All statistical analyses were run using RStudio 0.97.310.0, R-3.0.2, with statistics subpackage for GEE (RStudio Inc), an integrated development environment for R.

Results

Study Participants and Follow-up

A total of 165 community pharmacies were consecutively contacted over a 2-year period. Of these, 30 pharmacies (18%) consented. The most common reasons for nonparticipation in the project included lack of interest in participating in a research project (n = 63 [38%]), competing priorities (n = 30 [27%]), inability to reach the pharmacy owner to obtain consent (n = 24 [15%]), and inadequate personnel to aid recruitment (n = 16 [10%]) (**Figure 1**). The centralized electronic pharmacy records database identified 2716 potentially eligible clients in the participating pharmacies who were 65 years and older and who

Table 1. Participant Characteristics at Baseline

Variable	Intervention (n = 148)	Control (n = 155)
Age, mean (SD) [range], y	75.0 (6.5) [65-91]	74.6 (6.2) [65-95]
Female, %	70.3	68.4
College or university education, %	21.6	25.8
Lives alone, %	46.6	54.8
Self-reported fair or poor health, %	35.8	34.8
Montreal Cognitive Assessment, mean (SD) [range], score	25.4 (2.4) [21-30]	25.4 (2.5) [21-30]
Self-reported indication for benzodiazepine use, %		
Insomnia	60.8	60.0
Anxiety	45.9	49.0
Pain	2.7	3.2
Other	6.8	6.5
Anxiety disorder, %[a]	32.4	30.3
Benzodiazepine dose in mg of lorazepam equivalents per day, mean (SD) [range]	1.2 (0.8) [0-4.8]	1.3 (0.8) [0-4]
Benzodiazepine type, %[b]		
Short acting	29.1	24.5
Intermediate acting	66.2	72.9
Long acting	4.7	2.6
Duration of benzodiazepine use, mean (SD) [range], y	9.6 (8.7) [0.3-48.0]	11.2 (8.3) [0.5-40.0]
Previously attempted cessation, %	45.2	49.4
No. of medications per day	9.9 (3.9 6) [4-24]	9.9 (3.4) [4-21]

[a] Score of 9 or greater on the Geriatric Anxiety Index.

[b] Short-acting benzodiazepines: oxazepam and alprazolam; intermediate-acting benzodiazepines: lorazepam, bromazepam, clonazepam, and temazepam; and long-acting benzodiazepines: flurazepam and diazepam.

regularly renewed benzodiazepine prescriptions. Approximately 1 in 6 spoke with their pharmacist and agreed to meet with the research team. Four hundred clients were screened for eligibility, and 75% agreed to participate and were eligible to enroll in the trial. In total, 30 clusters and 303 eligible participants were randomized. Figure 1 depicts the study flow of the clusters and the participants for the trial. The median (range) number of participants per cluster was 10 (2-27).

Of the 303 participants randomized, 261 were available for 6-month follow-up (86%). There was no difference in the baseline characteristics of participants who withdrew or were lost to follow-up between or within trial arms. The mean (SD) age of the participants at baseline was 75 (6.3) years, 69% were women, and one-quarter (24%) had earned a college degree. The most common self-reported indications for taking a benzodiazepine were insomnia (60%) and/or anxiety (48%). Participants used benzodiazepines for mean duration of 10 years and had an average daily dose consumption of 1.3-mg equivalents of lorazepam (**Table 1**).

Outcomes

In ITT analyses, complete cessation was achieved in 40 of 148 participants (27%) compared with 7 of 155 controls (5%) (prevalence difference, 23%; 95% CI, 14%-32%) (**Table 2**). There was a crude 8-fold higher likelihood of achieving discontinuation among those who received the intervention compared with controls (odds ratio, 8.1; 95% CI, 3.5-18.5) and an adjusted odds ratio of 8.3 (95% CI, 3.3-20.9) when all baseline characteristics were accounted for. **Figure 2** illustrates the risk differences for discontinuation of benzodiazepines in subgroups of participants by treatment allocation using ITT analysis. No significant interactions were observed between the intervention assignment and participant characteristics, suggesting that the effect of the intervention was robust across variable predisposing characteristics. An additional 11% (95% CI, 6%-16%) of individuals who received the intervention achieved dose reductions. The number needed to treat for any discontinuation or dose reduction was 3.7 in ITT analyses (Table 2). Per-protocol analysis yielded similar results.

Patient Empowerment and Process Evaluation

Six-month telephone follow-up interviews with all participants in the intervention group who completed the trial (n = 123) revealed that 62% initiated discussions about benzodiazepine therapy discontinuation with their physician and/or pharmacist, and 58% attempted discontinuation (**Table 3**). The majority (72%) of participants desiring discontinuation opted to follow the tapering protocol provided. Others required a customized tapering protocol because more than 1 benzodiazepine was being used or because the type of benzodiazepine pills or capsules could not easily be halved or quartered and substitution was required to appropriately taper. Of the 71 participants who attempted cessation, 38 (54%) were successful; 16 (22%) achieved dose reduction, of which one-third was continuing the tapering process; and 17 (24%) failed. Withdrawal symptoms such as rebound insomnia or anxiety occurred in 42% of participants attempting to taper. No major adverse effects requiring hospitalization were reported. Of the 40 participants, 5 (13%) who discontinued benzodiazepine therapy received substitutions with trazodone (3 cases), paroxetine (1 case), or amitriptyline (1 case). In 7 individuals who attempted to taper, complete discontinuation was discouraged by their health professional. Among the 52 recipients who elected not to taper, discouragement by their physician or pharmacist was the most common reason provided (n = 17 [33%]), followed by fear of withdrawal symptoms (n = 13 [25%]), lack of concern about taking benzodiazepines (n = 12 [23%]), and difficult life circumstances (n = 6 [12%]). Several participants reported that their physician discouraged use of the tapering protocol because of a perceived absence of adverse effects from their benzodiazepine use. Of the 123 participants, 120 (98%) acknowledged satisfaction with receiving medication risk information.

Discussion

Delivery of an empowerment intervention to engage older adults in discussing the harms of benzodiazepine use with their physician and/or pharmacist yielded a benzodiazepine discontinuation rate of 27% compared with 5% in the control group

Table 2. Prevalence, Risk Difference, and Odds Ratios for Discontinuation and Discontinuation Plus Benzodiazepine Dose Reduction at the 6-Month Follow-up

Variable	Participants, No.	Outcome, No. (%)	Risk Difference (95% CI)[a]	No. Needed to Treat	Crude OR (95% CI)	Adjusted OR (95% CI)[b]
Discontinuation of benzodiazepine use						
Intention to treat analysis						
Intervention	148	40 (27.0)	0.23 (0.14-0.32)	4.35	8.05 (3.51-18.47)	8.33 (3.32-20.93)
Usual care	155	7 (4.5)				
Intracluster correlation			0.008		0.008	0.010
Per protocol analysis						
Intervention	123	38 (30.9)	0.26 (0.16-0.36)	3.85	8.53 (3.69-19.76)	8.10 (3.34-19.66)
Usual care	138	7 (5.1)				
Intracluster correlation			0.007		0.007	0.005
Discontinuation plus benzodiazepine dose reduction						
Intention to treat analysis						
Intervention	148	56 (37.8)	0.27 (0.18-0.37)	3.70	5.05 (2.66-9.59)	5.49 (2.78-10.84)
Usual care	155	17 (11.0)				
Intracluster correlation			0.006		0.006	0.010
Per protocol analysis						
Intervention	123	54 (43.9)	0.34 (0.22-0.45)	2.94	6.33 (3.10-12.92)	6.73 (3.12-14.55)
Usual care	138	16 (11.6)				
Intracluster correlation			0.030		0.030	0.020

[a] 95% Confidence intervals were calculated using robust standard errors.

[b] Adjusted for age, sex, education, health status, indication of benzodiazepine use for insomnia, anxiety disorder, benzodiazepine dose, previous attempt at tapering, duration of benzodiazepine use, and number of medications.

6 months after the intervention. An additional 11% of recipients achieved dose reductions. The effect of the intervention was robust across age, indication, dose, and duration of benzodiazepine use.

Strengths and Weaknesses of the Study

Strengths of this study include systematic recruitment of participants via community pharmacies; blinding of the study hypothesis from participants, physicians, pharmacists, and evaluators; and objective assessment of drug discontinuation rates from pharmacy prescription renewal profiles. Compared with previous studies, this trial exclusively targeted seniors older than 65 years, examined patient empowerment as a means of initiating shared decision making around potentially harmful medication, and addressed the issue from the patient's rather than the physician's perspective.[19,27-29,38,39] One limitation is the 6-month time frame for outcome reporting. Longer follow-up times could reveal relapse rates or higher discontinuation rates as several participants who achieved dose reductions were still following the tapering protocol at study end point. Recruitment rates for pharmacies (18%) and individual participants (11%) were low and excluded potential participants with cognitive impairment. Despite this, selection bias is unlikely because neither pharmacists nor participants were aware of the primary outcome of the study other than it being a medication safety study for older adults. Pharmacies were recruited systematically across socioeconomic and geographic living areas around Montreal, and although data on participant income could not be collected, no differences between groups were observed on other variables that correlate with poverty in the senior population such as female sex, educational status, and polypharmacy.[40,41] Subgroup analyses may have been underpowered to detect differences. Cursory content analysis of the events that followed receipt of the intervention may have been limited by patient recall and the nonintimate nature of the 6-month follow-up. The process of shared decision making around benzodiazepine therapy discontinuation and physicians' motivations for counseling against benzodiazepine therapy discontinuation could not be evaluated because there was no direct contact with physicians during the trial.

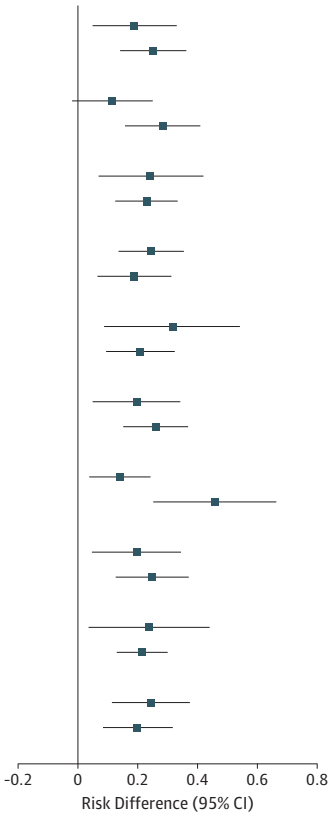
Relevance of the Findings and Implications for Clinicians

Our findings suggest that direct-to-consumer education successfully leads to discussions with physicians and/or pharmacists to stop unnecessary or harmful medication. Discontinuation or dose reduction of benzodiazepines occurred in more than one-third of the participants who received the empowerment intervention. The Beers criteria for inappropriate use of medications provide guidance for 53 drugs to be avoided in the elderly.[10] This trial only addressed deprescription of benzodiazepine medication, which arguably may be one of the most difficult classes of medication to withdraw because of psychological and physical dependence.[15,42]

Previous studies have examined the effect of other types of brief interventions by physicians on patient discontinuation of benzodiazepine use, as well as pharmacist-initiated communication with general practitioners to deprescribe potentially inappropriate medication.[31,43,44] Sending a letter of advice from family physicians to patients achieved a discon-

Figure 2. Risk Differences for Discontinuation of Benzodiazepines in Subgroups

Subgroup	Risk Difference, (95% CI)	ICC
Sex		
Men	0.19 (0.06 to 0.32)	0
Women	0.25 (0.15 to 0.35)	0.022
Age, y		
≥80	0.11 (-0.01 to 0.24)	0
<80	0.29 (0.17 to 0.40)	0.038
Education level		
University or college	0.25 (0.08 to 0.41)	0.126
<High school	0.23 (0.14 to 0.32)	0.012
General health status		
Good to excellent	0.24 (0.15 to 0.345)	0
Poor to fair	0.19 (0.08 to 0.30)	0
Anxiety disorder		
Yes	0.32 (0.10 to 0.53)	0.150
No	0.21 (0.10 to 0.31)	0.010
Indication for benzodiazepine use		
Insomnia	0.20 (0.06 to 0.33)	0.030
Other reasons	0.26 (0.16 to 0.36)	0
Dose		
High (>0.8-mg/d equivalent dose)	0.14 (0.05 to 0.23)	0.010
Low (≤0.8-mg/d equivalent dose)	0.46 (0.26 to 0.66)	0.110
Previously attempted to cease benzodiazepine use		
Yes	0.20 (0.06 to 0.33)	0.020
No	0.25 (0.14 to 0.36)	0
Duration of benzodiazepine use, y		
<5	0.24 (0.05 to 0.43)	0
≥5	0.22 (0.14 to 0.29)	0
No. of medications		
<10	0.24 (0.13 to 0.36)	0
≥10	0.20 (0.10 to 0.31)	0



Forest plot of risk differences (95% CIs) for benzodiazepine discontinuation due to the intervention within subgroups of interest. ICC indicates intracluster correlation.

Table 3. Effect of the Empowerment Intervention on Self-reported Participant Empowerment

Self-reported Participant Empowerment	Participants, No. (%)		
	All (n = 123)	Discontinuation of Benzodiazepine Use (n = 38)	Discontinuation or Benzodiazepine Dose Reduction (n = 54)
Discussion with a health professional after receipt of the intervention			
Physician only	44 (35.8)	14 (36.8)	20 (37.0)
Pharmacist only	5 (4.0)	2 (5.3)	2 (3.7)
Both	27 (21.9)	13 (34.2)	18 (33.3)
Neither	47 (38.2)	9 (23.6)	14 (25.9)
Attempt to discontinue			
Yes, using the tapering protocol in the brochure	51 (41.4)	26 (68.4)	32(59.3)
Yes, using a customized protocol from a physician or pharmacist	18 (14.6)	10 (26.3)	14 (25.9)
Yes, method not stated	2 (1.6)	2 (5.3)	2 (3.7)
No	52 (42.3)	0	6 (11.1)
Patient satisfaction with receipt of the intervention			
Appreciated receiving medication risk information	120 (97.5)	38 (100)	54 (100)

tinuation rate of 24% at 6 months, but the effect size was reported as much lower because 12% of participants in the control group also achieved discontinuation.[28] Our use of a cluster randomized design with prerandomization enrolment of participants may help explain the larger effect seen in the present study. Furthermore, the added value of directly educating the patient, in the absence of initial physician involvement, likely promotes patient buy-in for discontinuation at an early stage and allows the patient to act as a catalyst for initiating discussions about medication management, which is a more effective approach than the traditional paternalistic approach to patient care.[23] The booklet used for this trial, which

directly delivers information on drug harms to patients, could be distributed in the nonresearch environment in pharmacies or on the Internet in conjunction with other community education initiatives such as the American Geriatrics Society website (http://www.healthinaging.org), thus achieving widespread reach.

Three issues arise for future consideration. First, participants reported that their physician discouraged discontinuation of benzodiazepines in several cases. Many physicians continued to perceive the benefits of benzodiazepines as outweighing their risks.[19] Second, benzodiazepines were sometimes substituted with equally harmful sedative medication. A similar phenomenon was found to occur in US nursing home residents when coverage for benzodiazepine medications was interrupted during implementation of the Medicare Part D reimbursement policy in 2006.[45] Continuing medical education to physicians about the harms of all sedative hypnotic medication may eventually overcome this obstacle. Third, pharmacists were solicited less often than physicians to discuss benzodiazepine therapy discontinuation. With the expanding scope of pharmacists' practice and an increasing emphasis on interprofessional models of care, community pharmacists may be underutilized players to participate in efforts to reduce costly and unnecessary medical treatments.[46]

Conclusions

Supplying older adults with evidence-based information that allows them to question medication overtreatment appears safe and effective and is consistent with the priorities expressed by the ABIM Choosing Wisely campaign. Without a direct-to-patient educational component, promotional efforts for deprescription to physicians may fail or have a smaller impact. In an era of multimorbidity, polypharmacy, and costly therapeutic competition, direct-to-consumer education is emerging as a promising strategy to stem potential overtreatment and reduce the risk of drug harms. The value of the patient as a catalyst for driving decisions to optimize health care utilization should not be underestimated.

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