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Our experiences have taught us that weight gain significantly affects quality of life and treatment outcomes for people with lived experience of mental illness. We believe that pharmacists can play a critical role in weight management; however, we were uncertain of the effect of weight bias on their care.

Nos expériences nous ont enseigné que le gain de poids nuisait considérablement à la qualité de vie et aux résultats des traitements pour les gens ayant une expérience concrète de maladie mentale. Nous croyons que les pharmaciens peuvent jouer un rôle critique dans la gestion du poids; toutefois, nous étions incertains de l'effet des préjugés relatifs au poids sur leurs soins.

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A scoping review of weight bias by community pharmacists towards people with obesity and mental illness

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ABSTRACT

Background: Community pharmacists are accessible health care professionals who are increasingly offering weight management programs. People living with serious mental illness have markedly higher rates of obesity and associated illness outcomes than the general population, providing pharmacists who are interested in offering weight management services with an identifiable patient subgroup with increased health needs. Issues with stigma within obesity and mental illness care are prevalent and can lead to inequities and reduced quality of care.

Methods: We conducted a scoping review to map and characterize the available information from published and grey literature sources regarding community pharmacists and weight bias towards obese people with lived experience of mental illness. A staged approach to the scoping review was used.

Results: Six articles and 6 websites were abstracted after we removed duplicates and applied our inclusion and exclusion criteria. The published studies that we found indicated that pharmacists and pharmacy students do demonstrate implicit and explicit weight bias.

Conclusions: Very limited research is available regarding weight bias in pharmacists and stigma towards people with obesity, and we found no information on these phenomena relating to people with lived experience of mental illness. Investigations are needed to characterize the extent and nature of anti-fat bias and attitudes by pharmacists and the consequences of these attitudes for patient care. *Can Pharm J (Ott)* 2016;149:226-235.

Introduction

As a part of their role, pharmacists make pharmacological and nonpharmacological recommendations for the treatment of existing conditions as well as for secondary prevention of illness and health promotion. This includes giving advice and making recommendations regarding weight management in a wide range of clinical contexts. For example, pharmacists offer guidance, inclusive of weight management strategies, to people with concurrent chronic health conditions, such as cardiovascular, cerebrovascular,

and endocrine diseases, as well as services and products to people with weight concerns and no known health problems.^{1,2} Weight management programs offered through pharmacies are varied and can include prescription medications, nonprescription medications and supplements, and nonpharmacological strategies such as advice regarding lifestyle interventions (e.g., diet, exercise).

A recent systematic review of community pharmacy-based interventions for weight management demonstrated that while these programs and

interventions are offered routinely, there is insufficient evidence to determine their effectiveness.¹ Various barriers have been cited to patient engagement in these services, including issues related to out-of-pocket payment, lack of comfort with pharmacists' knowledge and with discussing weight issues with them, and lack of privacy.^{3,4} From the pharmacist's perspective, knowledge, issues within the pharmacy environment (e.g., privacy, limited time), lack of funding, and minimal patient expectation for the service have been reported.^{5,6} Pharmacists may also prefer to deliver weight management strategies that are collaborative with other health care professionals, supported by ethical marketing and not product focused,⁶ which align with the identified preferences of the public.⁴

The pharmacist's role in weight management warrants further exploration, as there is increased demand for all health care professionals to be involved in strategies for prevention and mitigation of overweight and obesity.⁷ People living with mental illness represent an identifiable group of patients with higher rates of obesity who regularly visit pharmacies for health and nonhealth needs.⁸ These people also experience poorer health outcomes,^{9,10} including those linked to obesity.¹¹ Obesity is particularly prevalent in those with lived experience of serious mental illness (e.g., schizophrenia, bipolar disorder), with estimates approaching 50%.¹²

The origin of obesity in people with lived experience of mental illness has been attributed to many factors. Of particular relevance to pharmacists' practice is the long-term use of obesogenic medications (e.g., antipsychotics, antidepressants, and mood stabilizers). Pharmacists involved in dispensing these medications have the opportunity to provide information on side effects, including weight gain; offer potential mitigation strategies; and provide monitoring services in addition to healthy lifestyle advice. However, in our previous qualitative research of youth with lived experience of mental illness who were taking antipsychotics, few had received information, advice, or monitoring services related to psychotropic medication use and weight gain, even though many experienced weight gain as a side effect.¹³

Research has shown that pharmacists may not spend the required time needed for discussing psychotropic-related side effects with patients and that issues with stigma persist.^{14,15} People experiencing mental illness who take psychotropic agents have been previously reported as

KNOWLEDGE INTO PRACTICE

- Pharmacists provide weight management programs, which include both pharmacological and nonpharmacological interventions that may benefit particularly marginalized or vulnerable groups with various risk factors for obesity, including people with lived experience of mental illness.
- Anti-fat attitudes and biases may exist in the context of community pharmacy practice, but these phenomena are poorly described and characterized.
- In vulnerable groups, consideration and measurement of anti-fat attitudes and biases may increase awareness of these phenomena and allow for the development of targeted strategies to overcome these challenges.
- More work is needed to determine whether anti-fat attitudes and biases are negatively affecting pharmacist-patient relationships, especially when they involve obese people with lived experience of mental illness.

experiencing a “double-stigma.”¹⁶ It follows that a triple stigma likely affects those with lived experience of mental illness taking psychotropic agents who are also obese, as they encounter the prevailing anti-fat attitudes and biases held among health professionals.¹⁷ This is especially concerning given that discrimination towards people who are overweight may also contribute to poorer mental health and physical health, thus contributing to a vicious cycle.¹⁸ Moreover, stigma-related stress is also associated with a higher rate of obesity-related physical health problems.^{19,20}

Obesity stigma has been demonstrated to affect the care of patients with other health problems (e.g., diabetes²¹) by health professionals, and these negative attitudes may ultimately affect patient relationships,^{22,23} which is concerning given that rapport and relationship with health care providers are especially important for people living with mental illness. Negative health care provider attitudes about obesity may also affect ability and interest in accessing care²⁴ and the nature and type of services offered and provided by professionals.²⁵

Exploring weight management in those with lived experience of mental illness has been identified as a priority within our work based on our tacit knowledge and research findings, concerns regarding the potential for additional stigma and care avoidance in those with obesity and experiencing mental illness, the prevalence and severity of psychotropic drug-related weight gain,

Mise en pratique des connaissances

- Les pharmaciens fournissent des programmes de gestion du poids, comprenant des interventions pharmacologiques et non pharmacologiques qui peuvent profiter aux groupes particulièrement marginalisés ou vulnérables présentant divers facteurs de risques de l'obésité, y compris les personnes ayant une expérience concrète de maladie mentale.
- Des attitudes et des préjugés anti-gros peuvent exister dans le contexte de l'exercice de la pharmacie communautaire, mais ces phénomènes sont mal décrits et caractérisés.
- Chez les groupes vulnérables, l'étude et l'évaluation des attitudes et des préjugés anti-gros sont à même d'accroître la prise de conscience de ces phénomènes et de permettre l'élaboration de stratégies ciblées pour surmonter ces défis.
- D'autres travaux sont nécessaires afin de déterminer si les attitudes et les préjugés anti-gros nuisent aux relations entre le pharmacien et le client, en particulier lorsqu'on a affaire à des personnes obèses ayant une expérience concrète de maladie mentale.

and the importance of obesity as a contributor to poorer health outcomes. We conducted a scoping review to map and characterize the existing literature regarding community pharmacists' attitudes towards obese and overweight people with lived experience of mental illness in order to make recommendations for research, practice and policy.

Methods

We conducted a scoping review using 6 stages (Table 1) to map and characterize the range, extent, and nature of research and other literature with a process that was iterative and based on current standards.²⁶⁻³²

Search strategy

Our search of electronic sources and databases included PsycINFO, CINAHL, Embase, PubMed, and International Pharmaceutical Abstracts (IPA) up to June 1, 2015, with an updated search of PubMed conducted to May 2, 2016. English-language-only literature and search terms related to weight (e.g., obesity, overweight, etc.), attitudes (e.g., stigma, social discrimination, prejudice, weight bias, social perception, health personnel attitudes, beliefs, etc.), profession (e.g., pharmacist, clinical pharmacist), and mental illness were used. We conducted the search taking a 2-stage approach, which is in keeping with principles of scoping review methods, for an iterative process.

Our intent in the first stage of the search was to exclude terms related to mental illness to determine the scale and scope of literature regarding pharmacists' attitudes related to obesity first. The results gained through this stage provided information on how to proceed with terms related to mental illness.

Search terms were tailored for each database (e.g., PubMed included searches using keywords and MeSH terms). All identified citations were eligible to contribute to this scoping review. When abstracts were found, we searched for the corresponding published papers. We also searched Google Advanced using terms similar to those in our PubMed search, along with the use of various domains (.edu, .gov, .org). We arbitrarily set a preliminary stopping criterion of 100 records to view in Google Advanced, with flexibility in viewing more results based on what was found in the first 100 records. We aimed to use pre-established tools for grey literature searching,³³ recognizing that some might not be appropriate for the question (e.g., health technology assessment databases or repositories). We also searched OpenGrey, ClinicalTrials.gov, ProQuest (for dissertations and theses), GreyLit, and Proquest. We used a snowball approach to searching, such that when relevant articles were found we searched their references and also identified similar articles citing them using PubMed, Web of Science, and Google Scholar. We did not limit our searches with dates, but in selecting articles we focused on records within the last 30 years, given the evolution of pharmacists' roles over time and the changing attitudes and prevalence with respect to obesity. All information from the search strategies was recorded, and the Ref Works Citation Manager was used to maintain the references and searches. Data are reported in summary tables and appendices (available online at cph.sagepub.com/supplemental). Both authors independently screened titles and articles and subsequently abstracted the included full texts.

Mapping concepts and identifying gaps

Concepts were identified across included studies similar to procedures conducted in thematic analysis³⁴ during the abstraction stage. For each citation, we read and reread the information to familiarize ourselves with the content, after which each article was highlighted and coded manually with the main ideas contained in the article. We then grouped and named broader concepts.

TABLE 1 Scoping review stages

Stage	Purpose	Activities
1	Identify research question	We held 3 meetings to discuss definitions and objectives of the review and to identify key search terms and potential literature sources to search. Preliminary categories for the data extraction tool were outlined. Our research question was developed and revised.
2	Identify relevant studies	Preliminary study inclusion criteria related to weight, pharmacy practice, and negative or stigmatizing attitudes for those with mental illness as well as exclusion criteria (e.g., any non-English-language articles) were developed and revised iteratively as needed. Database searches were conducted first, followed by grey literature searches. Search details were tracked and recorded, and the results were organized using a reference database (i.e., RefWorks).
3	Select studies	Titles and abstracts were reviewed independently using predefined inclusion and exclusion criteria. Subsequently, full-text articles potentially relevant to our objectives were reviewed in full. Final decisions and reasons for exclusion were recorded in an Excel spreadsheet. No disagreements between team members occurred regarding excluded articles.
4	Extract data	The penultimate data extraction tool was used for the abstraction of 2 articles. We met following the initial abstraction to discuss the use of the abstraction tool. The tool was finalized, and the remaining articles were abstracted.
5	Collate, summarize, and report results	This stage was broken down into steps including conducting analysis, reporting results, and interpreting the findings. Concepts and patterns were identified from analysis of the data and identification of the trends and gaps in evidence. The manuscript was drafted based on the existing data.
6	Engage stakeholders	Knowledge translation and dissemination will occur by engaging stakeholders (e.g., pharmacy curriculum development, researchers, policy makers). The results will be used in various ongoing research projects and for clinical practice towards improving care for patients who are overweight or obese and experiencing mental illness.

Based on scoping review stages from Arksey and O'Malley.²⁶

Reviewers independently coded articles and concepts and then met to discuss findings.

Results

Database searches

From the initial search, in which mental illness terms were not included, limited information was available on pharmacists, weight (i.e., overweight, obesity), and attitudes (e.g., stigma, weight bias, etc.). We therefore determined that further refining the search to those with mental illness would eliminate most if not all results. Our modified approach focused on identifying articles that supported developing potentially transferable messages from the general literature to those with lived experience of mental illness. The study flow and results of our searches are

outlined in Figure 1 and Appendix 1 (available online at cph.sagepub.com/supplemental). Database searches of PubMed, PsycINFO, CINAHL, EMBASE, and IPA identified 108 citations. Of these 108 citations, 24 were filtered through to abstract screening based on the title screening and following removal of duplicates. Following screening of the 24 abstracts, 18 were selected for full-text review.^{3,4,6,35-49} One article⁴⁵ remained after full-text screening. Running the updated PubMed search from June 1, 2015, to May 2, 2016, did not produce additional articles meeting the inclusion and exclusion criteria.

Grey literature searches

After scanning titles of 100 records from our Google Advanced search (Appendix 1), we

FIGURE 1 PRISMA flow diagram*

*Flow diagram approach modelled after the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) Statement⁶⁷

identified 25 potentially relevant items for more detailed review, of which 6 records (Table 2) and 1 previously unidentified study⁵⁰ (Appendix 2) were selected for inclusion. The newly identified study by Teachman and Brownell⁵⁰ was of high relevance.

Additionally, 22 records were found and screened from OpenGrey, ClinicalTrials.gov, and Prospero with no other relevant citations to include in the review. We found no additional citations through GreyLit and ProQuest (dissertations and theses) searches.

References and citing articles searches

We then located the Teachman and Brownell⁵⁰ article in PubMed to review its references, associated similar articles ($n = 179$), and the PubMed Central articles citing it ($n = 44$), for a total of 223 additional titles to screen (Appendix 1). This identified 25 records for abstract review. Based on this, 20 full-text articles^{1,5,17,24,25,51-65} were examined, and 3^{5,54,61} were included.

We then examined the references and citing publications for 2 pharmacy-focused articles^{5,45} (1 from the database searches and 1 from the grey literature searches) and found 10 records through Web of Science, of which 2 were deemed relevant after abstract screening and were pulled

for full-text review. Following full-text screening, 1 publication was included for abstraction.⁶⁶

Included studies

The total number of articles selected for abstraction following database searches, grey literature searches, and references and citing article searches was 6 (Appendix 2).^{5,45,50,54,61,66}

Of the 6 articles included for abstraction, all were published since 2001. Two studies focused specifically on practising pharmacists^{5,66} and another on pharmacy students,⁴⁵ with the other 3 including a mixed group of professionals. Two pharmacy-focused articles were published in pharmacy journals.^{5,45} Four of 6 papers involved research conducted in the United States. One study used an intervention intended to change participants' knowledge and attitudes and used pre- and post-tests to assess differences.⁴⁵ The remainder of the studies used scales or surveys to assess attitudes. The Implicit Association Test was used in 2 publications.^{50,61} Available studies indicate that pharmacy students and practising pharmacists have been shown to exhibit both implicit and explicit weight bias, although the latter to a lesser extent. Implicit attitudes are more automatic or unconscious in nature, whereas explicit attitudes reflect accurate introspection subject to social desirability.^{50,67} From grey literature website results (Table 2), most records included recognition of general issues with weight bias or stigma among health care professionals, with pharmacists included in that group.

Discussion

Our scoping review identified significant gaps in our knowledge of pharmacists' weight bias and stigma in general, and the potential for impact on people living with experience of comorbid mental illness is unknown. Weight bias and anti-fat attitudes held by health care professionals have been shown to affect the care of patients with other conditions (e.g., diabetes). Comparatively, extensive work has been conducted regarding anti-fat attitudes and weight bias in other disciplines.⁶⁸⁻⁸² A systematic review was found in our search regarding weight management interventions in pharmacy settings,¹ but the phenomena of weight bias and stigma were not reported in the included studies and the authors of the review noted the absence of this subject matter in the included research. Additionally, several

TABLE 2 Website and guideline information from grey literature searches of pharmacists and weight bias and stigma

Title (type of document, date)	Link	Relevant messages to scoping review question
The training of health professionals for the prevention and treatment of overweight and obesity (report, March 2010)	https://www.rcplondon.ac.uk/news/rcp-report-concludes-all-health-professionals-need-obesity-training	Pharmacists should be included in courses on nutrition as a part of continuing professional development. All practitioners need to be aware of social stigma and their personal values and attitudes towards obesity.
Weight management in pharmacy (blog, April 28, 2015)	www.thepharmacist.co.uk/blogs/weight-management-in-pharmacy/	Pharmacists should be aware that patients experience stigma.
Weight management: lifestyle services for overweight or obese adults (guidance, May 2014)	www.nice.org.uk/guidance/ph53/chapter/1-recommendations	Health care professionals need to have awareness of stigma.
Nutrition Guideline Adult Weight Management (guideline, December 2012)	www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ed-cdm-ns-5-6-1-adult-weight-management.pdf	Stigmatization, weight bias, and mental health diagnoses occur concurrently with obesity.
Rudd Center for Food Policy & Obesity, University of Connecticut (Website, publications on weight bias and stigma, 2015)	www.uconnruddcenter.org/publications	Contains a publication database with relevant publications and other links for weight bias. No information specific to pharmacists, however.
Weight management experiences of overweight and obese Canadian adults: findings from a national survey ⁸⁸	www.phac-aspc.gc.ca/publicat/hpcdp-pspmc/32-2/ar-01-eng.php	People will seek advice from pharmacists. Stigma is a barrier to care. People with obesity may also have mental health issues that do not enable them to lose weight.

studies that we found examined attitudes of mixed groups of professionals,^{56,57,59,62,64} but following contact with authors, we were able to determine that pharmacist participation did not occur.

The limited information that we were able to find that included either pharmacy students or pharmacists, alone or grouped with other health care professionals, shows that implicit and explicit weight bias does exist within the profession. The potential also exists that obesity researchers,⁵² including pharmacists, may harbour bias. The potentially stigmatizing language used in some publications found during the screening process indicates that there is a need to examine the literacy and understanding of causes of obesity among researchers and practitioners.^{6,83,84}

Research has examined barriers and facilitators to pharmacy-based weight management

programs from the perspectives of pharmacists and the public. Challenges with time, privacy issues, and lack of public awareness of programs are frequently reported as reasons for a lack of uptake or participation.^{4,46,49} What has not been explored in depth is the extent to which pharmacists' anti-fat or weight biases affect their motivations, communications, and behaviours and how this influences their choices in offering weight management services and affects the quality and effectiveness of their delivery. We also cannot determine from the existing literature whether anti-fat attitudes or biases influence the pharmacists' consultations with patients involving obesogenic medications such as antipsychotics and mood stabilizers. Further exploration is also required regarding the patients' previous experiences of stigma in the pharmacy setting and to what extent this influences the care received (e.g., health outcomes, willingness to engage

with pharmacists, quality of care, satisfaction with care, perceptions of pharmacists, etc.). One article in which people self-administered a survey indicated that those living with schizophrenia and schizoaffective disorder, especially women, feel stigmatized and may have self-bias because of their weight.⁵¹ Although the perceived stigmatization by “others” was reported with no discussion about pharmacists, it is plausible that this kind of stigma can occur in the community pharmacy setting. Findings such as this are important for pharmacists to consider when providing consultations on psychotropic agents to patients and in considering the delivery of other services, including weight management services, targeting this group.

Based on the information that we could find, we cannot comment on the care of patients in the community pharmacy setting who are considered obese and have lived experience of a mental illness. For example, we were not able to find any information on whether stigma that exists for patients with lived experience of mental illness is amplified if they are also obese or vice versa. We also cannot comment on whether initiatives to enhance vertical equity with service delivery are required due to the presence of more than one stigmatized illness in a marginalized group. Services such as health promotion coaching programs that have demonstrated effectiveness in improved fitness and weight loss in people with lived experience of serious mental illness could be prioritized to be made more accessible and affordable through pharmacies.⁸⁵

The overall lack of information in this area supports the need for more research regarding the attitudes of pharmacy staff towards members of the public who are overweight and obese, including those with and without mental illness, as a necessary first step. This work must build and be extended beyond descriptive statistical representations of this phenomenon by including information on the behaviours of pharmacists and other pharmacy staff members and the impact on outcomes

for the public. Research methods such as those that are suited to include stakeholders throughout the research process would be ideal, such as participatory action research methods. Use of these methods would encourage meaningful engagement and representation of those key stakeholders who are affected by discrimination and anti-fat attitudes in the community pharmacy setting. This research requires grounding in behaviour changes theories and frameworks for extending knowledge regarding this phenomenon with pharmacy staff in the community pharmacy context.

Limitations

Through our searches, we may have missed relevant articles that would have contributed information on what is known about pharmacists' weight biases, stigma, and anti-fat attitudes. We also focused on English-only articles. In our Google search, we set an initial limit of 100 articles to begin the screening. This limit was chosen based on our previous scoping review experiences. However, since conducting our search, information has been published⁸⁶ to suggest that more records could be found by using up to 300 or more records. We found 25 titles that were relevant, of which 6 were included, through our Google search of 100 records and we cannot comment as to whether searching 300 records or more would have yielded more results.

Conclusion

Limited information is available on pharmacists' weight bias and stigma towards obese people in general and none specifically for obese people and lived experience of mental illness. Some evidence suggests that pharmacists and pharmacy students demonstrate implicit and explicit weight bias. Barriers to weight management services in pharmacy practice have been identified without consideration of these attitudes and their effects on pharmacists' and the public's behaviours in engaging with these services. ■

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Author Contributions: A.L. Murphy was responsible for oversight of all aspects of the project including searches, data maintenance, and reporting. A.L. Murphy and D.M. Gardner reviewed search results, made revisions as needed based on search findings, and independently conducted title and abstract screening as well as abstraction of data from published studies. A.L. Murphy drafted the initial

manuscript, with D.M. Gardner providing critical feedback and revisions. A.L. Murphy and D.M. Gardner approved the final manuscript.

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