Major depressive disorder with clinically relevant insomnia symptoms: Healthcare professional assessment of patient impact and clinical management

N. Dwibedi[1], L. Dieckmann[2], P. Falkai[3], M. Jha[4], S. Kennedy[5], H. Zhang[1]

1. Janssen Pharmaceutical Companies of Johnson & Johnson, Raritan, New Jersey, USA;
2. Brazilian Institute of Practical Pharmacology, São Paulo, Brazil;
3. LMU München Campus Großhadern, Munich, Germany;
4. UT Southwestern Medical Center, Dallas, Texas, USA;
5. University of Toronto, Unity Health, Toronto, Ontario, Canada.

Poster ID: 1894212

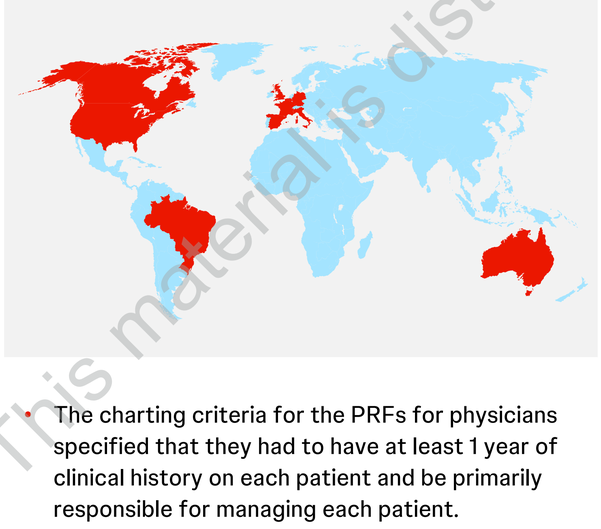
Background

- Major depressive disorder (MDD) is among the most common psychiatric disorders and is a leading cause of disease burden globally and in the United States, with the prevalence continuing to increase each year.[1]
- MDD is associated with substantial economic burden and lower health-related quality of life (HRQoL).[2]
- Insomnia, while a distinct condition, frequently occurs as a comorbidity of depression and is often the most consistent symptom associated with MDD.[3,4]
- MDD with insomnia is highly prevalent and is associated with poorer outcomes and lower HRQoL compared with MDD without insomnia.[2,5,6]
- An unmet need exists in clinical practice for better identification and management of MDD with insomnia through evidence-based treatments.[2,6]
- Research has attempted to understand the relationship between the two conditions and how it affects patients[2,4,5]; however, a focus on investigating the perspectives of healthcare professionals (HCPs) involved in the treatment of patients with MDD with insomnia might provide a unique, clinical perspective that could enrich the current state of psychiatric knowledge.
- We have conducted a global survey to further investigate perceptions of the impacts of MDD with clinically relevant insomnia symptoms (MDDIS; insomnia severe enough to warrant clinical attention) on patients as well as to assess health economics and satisfaction with preferred treatment strategies and their treatment patterns.
- In this analysis, data from a US/Canada subgroup are presented.

Methods

- The online survey was distributed between October 2023 and January 2024 to primary care physicians, psychiatrists, physician assistants, and nurse practitioners across the US, Canada, Europe (France, Germany, Italy, Spain, the UK, and Belgium), Brazil, and Australia (**Figure 1**).
- Respondents had to:
  1. Have primary responsibility for managing ≥4 adults with MDDIS (including in the previous 3 months)
  2. Have been practicing for 2–35 years
  3. Have been spending ≥50% of time in clinical settings
  4. Not be managing treatment-resistant patients only (100%)
- The survey took ~40 minutes to complete and comprised four patient record forms (PRFs) from patients who:
  1. Had been diagnosed with MDDIS
  2. Were not enrolled in clinical trials
  3. Were not treatment resistant
  4. Could now be deceased

Figure 1: Survey locations



- The charting criteria for the PRFs for physicians specified that they had to have at least 1 year of clinical history on each patient and be primarily responsible for managing each patient.
- The survey consisted mainly of numeric questions.
- Data were aggregated in Microsoft Excel, and statistical testing was run via tables in Microsoft Excel using QPSMR software and Statistical Package for the Social Sciences (SPSS) as appropriate.
- The numeric data obtained were statistically tested first for distribution (normal, binomial, etc.).

Results

Physician caseload

- The US/Canada sample comprised 628 HCPs (330 primary care physicians, 209 psychiatrists, 52 PAs, and 37 NPs) who submitted 2512 PRFs from their patients with MDDIS.
- Almost one-third of all patients with MDD managed in the US and Canada had MDDIS (**Table 1**).
  - Of those, approximately half initiated treatment for both MDD and insomnia (**Table 1**).
- An average proportion of patients with MDDIS (30–36%) were considered treatment resistant (failed on 1–2 treatment options).

Table 1: Physician caseload

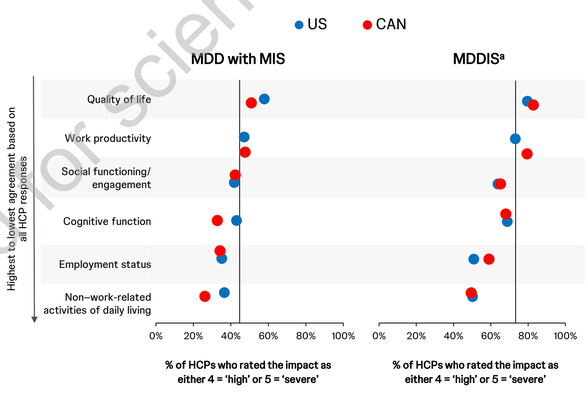
	US	CAN
Of total patients managed in average 3 months (for any condition)		
Adult patients with MDD (base: Total patients managed), %	**29** (PCP 21 vs Psych 44)	**19** (PCP 16 vs Psych 43)
Of total patients with MDD managed in average 3 months – other conditions experienced (patients could have had more than one condition) – percentage of patients with MDD		
• **MDDIS, %**	**30** (PCP 27 vs Psych 31[a])	**34** (PCP 31 vs Psych 40[a])
• Sleep disturbances, %	53	57
• Insomnia symptoms (of any severity), %	40	46
Condition(s) for which HCPs initiated treatment (for patients with MDDIS)		
• MDD only, %	27	29
• IS only, %	15	14
• Both MDD and IS, %	56	55
• None of these	2	2
Average proportion of patients with MDDIS considered treatment resistant[b] by HCPs, %	36	30

[a]Significant difference (vs other speciality); [b]Defined for the purposes of the survey as having failed 1–2 treatment options.
CAN, Canada; IS, insomnia symptoms; HCP, healthcare professional; MDD, major depressive disorder; MDDIS, MDD with clinically relevant insomnia symptoms; NP, nurse practitioner; PA, physician assistant; PCP, primary care physician; Psych, psychiatrist; US, United States.

Impacts of MDDIS on patients

- Based on their experiences managing patients with MDD with any level of insomnia (i.e., mild insomnia symptoms or MDDIS), HCPs reported that the quality of life (QoL) and productivity of patients with MDDIS are significantly worse than in those with MDD and mild insomnia (**Figure 2**).

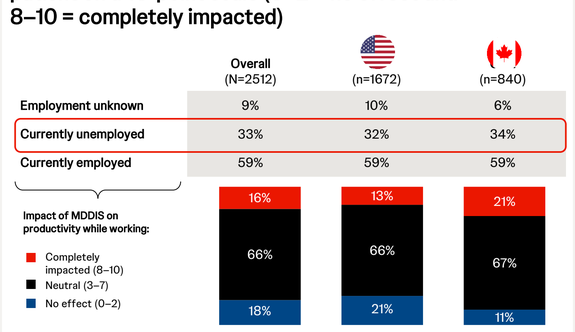
Figure 2: Impact of MDD with MIS or MDDIS on patients' lives: life factors rated as either 4='high' or 5='severe' on a scale from 1 to 5 (1=inconsequential and 5=severe)



[a]Impact significantly higher vs MDD with MIS for all markets.
CAN, Canada; HCP, healthcare professional; MDD, major depressive disorder; MDDIS, major depressive disorder with clinically relevant insomnia symptoms; MIS, mild insomnia symptoms; US, United States.

- The analysis of PRFs revealed that 32–34% of patients with MDDIS were currently unemployed.
- Between 13% and 21% of respondents indicated that their patients' productivity was completely impacted (score of 8–10 on a 10-point scale from 'no effect' to 'completely impacted') by MDDIS (**Figure 3**).
- Patients with MDDIS took an average of 18 days off work per year in the US and 66 in Canada.

Figure 3: Impacts of MDDIS on patients' productivity while working – percentage of all patients, HCP rating per patient on a 10-point scale (0–2 = no effect and 8–10 = completely impacted)

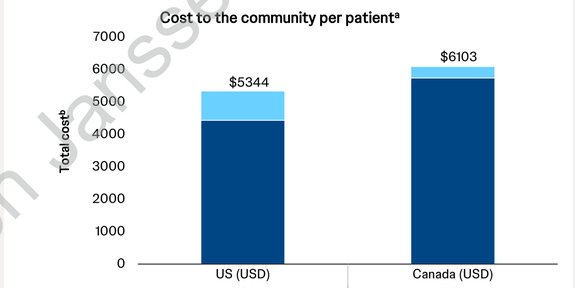


CAN, Canada; HCP, healthcare professional; MDD, major depressive disorder; MDDIS, major depressive disorder with clinically relevant insomnia symptoms; US, United States.

Impacts of MDDIS on health economics

- Patients with MDDIS need to utilize hospital services due to their illness, with 11% of patients seeking hospital treatment/ambulance call out in the last 12 months (**Figure 4**).
- Patients seeking treatment incurred direct costs on their local healthcare systems (**Figure 5**).
- High median total costs per patient were reported in both the US ($5344) and Canada ($6103).
- Inpatient care accounted for the greater amount of the total costs, compared with cost of ambulance ride, with high costs reported in both the US ($4440/$5344 [83.1%]) and Canada ($5747/$6103 [94.2%]).

Figure 5: Direct costs of MDDIS to healthcare systems/communities – type of service used



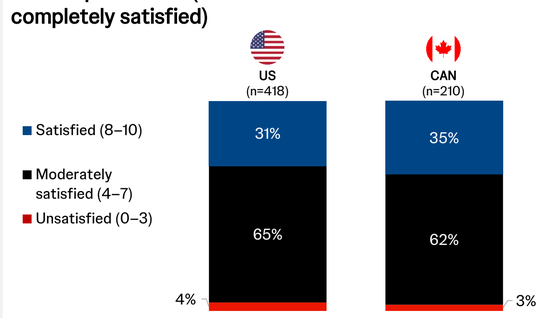
	US (USD)	Canada (USD)
Ambulance call-out	904	356
Inpatient	4440	5747
Total	5344	6103

[a]Cost to community generated by referencing service cost data from external sources outside of the online survey and combining with aggregated data collected from patient record forms completed within the survey relating to frequency of use.
[b]Cost to community are sum of costs for each service (service costs calculated from multiplying the median number of times service used (Figure 4), by the total cost to community for ambulance and in patient services, which is sourced from available references).[7,8] Costs for day patients or tests not included in the total as these costs could not be sourced in the US or Canada. Medians collected from PRF data. For example, median number of ambulance call-outs in the US is 1, multiplied by the ambulance cost ($904), summed with in patient costs: total in patient cost in the US ($4,440), which is determined by cost per night ($888) multiplied by median number of days in hospital (5) which equals $4,440. $4,440 summed with $904 equals $5,344.
MDD, major depressive disorder; MDDIS, MDD with clinically relevant insomnia symptoms; PRF, patient record form; USD, United States dollar.

Preferred treatment strategies

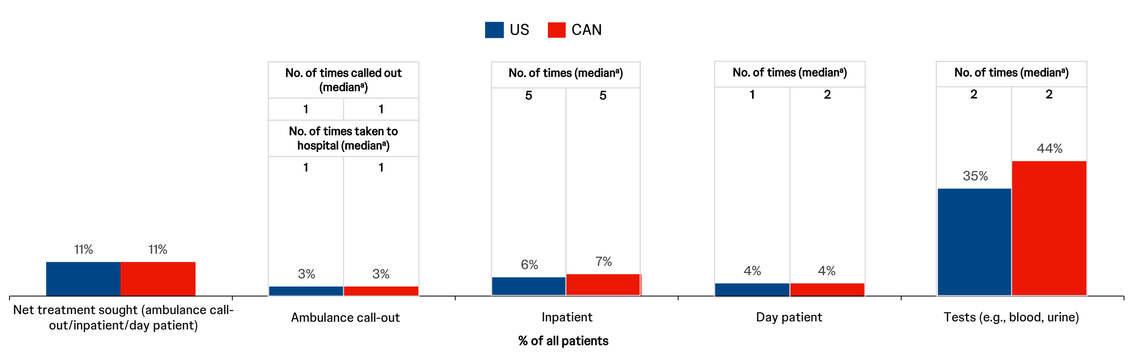
- HCPs agreed that treatment of MDD with any level of insomnia gets harder as severity of insomnia symptoms increases.
- Most respondents (US: 65%; Canada (CAN): 62%) were only moderately satisfied with their preferred treatment strategy (**Figure 6**).
- Physicians reported that around half of patients with MDD and insomnia raise insomnia symptoms as their major concern at presentation (US: 57%; CAN: 43%).
- Patients treated for MDDIS (either with the same or a separate intervention as used for MDD) appeared to achieve a greater improvement in their depression across most scales.

Figure 6: Satisfaction with preferred treatment strategy for patients with MDDIS – percentage of physicians rating on a 10-point scale (0 = not at all satisfied and 10 = completely satisfied)



Satisfaction with preferred strategy for treating MDD was greater than satisfaction with preferred strategy for treating IS in patients with MDDIS.
CAN, Canada; IS, insomnia symptoms; MDD, major depressive disorder; MDDIS, major depressive disorder with clinically relevant insomnia symptoms; US, United States.

Figure 4: Healthcare system/community types of services used in the last 12 months due to MDDIS



[a]Median for each service based on the total number of patients using that service.
MDD, major depressive disorder; MDDIS, major depressive disorder with clinically relevant insomnia symptoms.

Key takeaways

MDDIS is a prevalent condition with impacts ranging from impaired QoL and productivity to increased healthcare costs

US and Canadian HCPs are often unsatisfied with treatment options for MDDIS, warranting further investigation into appropriate interventions

Conclusions

The insights provided by the US/Canada sample were generally consistent with the European and overall sample.

Among the patients managed by the HCPs in the US and Canada, almost one-third of all patients with MDD had MDDIS.

HCPs reported that MDDIS often impacts patient productivity, causes patients to take days off work, and often requires healthcare interventions that incur healthcare costs.

The majority of HCPs were only moderately satisfied with their preferred strategy for patients with MDDIS, suggesting room for improvement.

Approximately one in three patients with MDDIS had failed 1–2 treatments and were considered treatment resistant, suggesting that current options are not successful in treating patients.

MDDIS impacts patients' QoL and productivity, and it incurs costs on US and Canadian healthcare systems, necessitating further research into MDD, insomnia, the relationship between these, and novel treatments/strategies.

Acknowledgments

This study was funded by Janssen Research & Development, LLC, a Johnson & Johnson company, with writing and editorial assistance provided by Nucleus Global, an Inizio company, and research analysis support provided by The Research Partnership Ltd, an Inizio Advisory company.

Disclosures

This study was funded by Janssen Research & Development, LLC, a Johnson & Johnson company, with writing and editorial assistance provided by Nucleus Global and research analysis support provided by The Research Partnership Ltd, an Inizio Advisory company. **ND** and **HZ** own shares in and are employees of Janssen Research & Development, LLC, a Johnson & Johnson company. **LD** has received consulting fees and honoraria from Aspen Pharmacare Holdings Ltd, Abbott Laboratories Ltd, AbbVie Inc, BioLab Pharma Ltd, Cristàlia Ltda, Daiichi Sankyo Company Ltd, EMS Ltda, Genetech Pharmaceuticals Ltd, Inspirali ltda, Libbs Farmacêutica Ltda, Lundbeck Ltd, Mantecorp Ltda, M8 Pharmaceuticals Inc, Pfizer Ltd, Sanofi LLC, Servier Pharmaceuticals LLC, Viatris Inc, FQM Grupo Ltda, Takeda Pharmaceutical Company Ltd, Torrent Pharmaceuticals Ltd, Artmed Healthcare Ltd, Biopas Group Ltda, GenOn Holdings Inc, Besins Healthcare UK Ltd, Greencare Pharmacy Ltd, Teva Pharmaceutical Industries Ltd, and Aché Pharmaceutical company Ltda. **PF** has received consulting fees and honoraria from Boehringer Ingelheim Ltd, Johnson & Johnson LLC, Lundbeck Ltd, Otsuka Pharmaceutical Co., Ltd, Recordati Pharmaceuticals Ltd, and Richter Pharma AG. **MJ** has received research grants from Acadia Pharmaceuticals Inc, Neurocrine Biosciences Inc, Supernus Pharmaceuticals Inc, and Johnson & Johnson LLC; consulting fees and honoraria from Psychiatry & Behavioral Health Learning Network Ltd, *Psychiatric Clinics of North America* (from Elsevier), Eleusis Therapeutics US, Inc, Johnson & Johnson LLC, Boehringer Ingelheim Ltd, North American Center for Continuing Medical Education Ltd, WebMD Medscape UK Ltd, Clinical Care Options Ltd, H.C. Wainwright & Co., Global Medical Education Ltd, Vicore Pharma Ltd, IQVIA Ltd, and Guidepoint Global; and served on the scientific advisory board for Data Safety and Monitoring for Worldwide Clinical Trials (Eliem and Inversargo). **SK** has received research grants from Brain Canada Ltd, Canadian Institutes of Health Research Ltd, Johnson & Johnson LLC, Lundbeck Ltd, Ontario Brain Institute Ltd, Otsuka Pharmaceutical Co., Ltd, and Strategy for Patient-Oriented Research Ltd; received royalties from the American Association of Psychology Ltd; received consulting fees and honoraria from Boehringer Ingelheim Ltd, Johnson & Johnson LLC, Lundbeck Ltd, Merck & Co. Inc, Otsuka Pharmaceutical Co., Ltd, AbbVie Inc, Sanofi LLC, Sun Pharmaceutical Industries Ltd, Sunovion Pharmaceuticals Inc, and Servier Pharmaceuticals LLC; and served on scientific advisory boards for TIDE – Data and Safety Monitoring board, International Studies of Lurasidone and Cariprazine Data and Safety Monitoring, Canadian Network for Mood and Anxiety Treatments, and RAPIDS Decision Systems Strategy.

Presented at Psych Congress; October 20 – November 2, 2024; Boston, MA, USA

References:

1. Greenberg PE, et al. *PharmacoEconomics.* 2021;39(6):653–665.
2. Murphy MJ, Peterson MJ. *Sleep Med Clin.* 2015;10(1):17–23.
3. Shaha DP. *J Fam Pract.* 2023;72(6)(Suppl.):S31–S36.
4. Xu G, et al. *BMC Neurol.* 2022;22(1):341.
5. Joshi K, et al. *J Affect Disord.* 2023;323:698–706.
6. Brietzke E, et al. *Expert Opin Pharmacother.* 2019;20(11):1341–1349.
7. Laycock R. Healthcare costs by country. [Accessed October 2024]. https://www.finder.com/blog/healthcare-costs-by-country.
8. MSN. [Accessed March 2024]. https://www.msn.com/en-us/health/other/how-much-does-an-ambulance-cost-in-different-countries/ar-AA1falsS.

Novel Pathways in Depression

Scan the QR code

https://www.congresshub.com/Neuroscience/PsychCongress2024/Seltorexant/Dwibedi