The Emerging Role of Pharmacists in Ambulatory Care Clinics: The AUBMC Multiple Sclerosis Experience

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Disclosure

I declare to meeting attendees that there are no financial relationships with any for-profit companies that are directly or indirectly related to the subject of this presentation.

I have previously received honoraria for lectures from Biologix, Hikma Pharmaceuticals, Novartis, Merck, Roche and Sanofi-Genyme.
Multiple Sclerosis as a Chronic Disease

- Chronic progressive disease of the CNS with complex immunopathology
- Leading cause of neurologic disability in young adults
- Onset commonly occurs in young adulthood during peak career and parenting years
- 50% of patients have onset between 20 – 40 years of age
Multiple Sclerosis as a Chronic Disease

- Patients live the majority of their adulthood in the presence of chronic illness, can impact all aspects of individual and family life.

- Disease course characterized by uncertainty.

- Many advances in understanding of disease yet many challenges.

- MS is yet incurable, can produce numerous symptoms and result in significant disability.
Ultimate Goal: Multidisciplinary Team Approach

- Effective MS management through comprehensive care
  - Minimize relapses and disease progression
  - Treat symptoms and address functional limitations

- Pharmacologic and nonpharmacologic interventions are necessary for multiple symptoms

- Integrated, multidisciplinary team approach can maximize outcomes and quality and life for patients with MS
Who Is on the MS “Treatment Team”?

- Neurologist
- Urologist
- MS Nurse
- Pharmacist
- Physical therapist
- Occupational therapist
- Psychiatrist
- Psychotherapist
- Neuropsychologist
- Social worker/Care manager
- Speech/language pathologist
- Women’s health specialist

No single practitioner can address all of the problems potentially created by MS. The ideal treatment team, whether located in a single center, or spread out in the community, should include a variety of specialties. While most people with MS are treated by a neurologist, most do not have access to this kind of comprehensive care team.
MS Multidisciplinary Team

Team Outputs:
Quality of life
Adherence
Adjustment
Adaptation
Management of People with MS

Evaluation
- Take patient history (Comprehensive medication review; comorbidity review, vaccination)
- Symptoms and Symptoms Management

Information and Disease Education
- Evaluate patient baseline knowledge
- Discuss diagnosis, tailoring to the needs and level of the patient

Monitoring and Disease Management
- Understand importance of adherence and disease activity
- Recommend participation in patient programme

Identification and Treatment Selection
- Understand patient preferences
- Present options to patient to make adequate choice

Product Administration/Training
- Train patient on product administration
- Effective adverse event management

MS Pharmacists Tasks in MS Centers
The Value of MS Pharmacists: Physician Centered

- Filtering, channeling and prioritizing of patient complaints and needs
- Red flag warnings
- Optimizing treatment challenges
- Optimizing physician care of patients through team building
- Treatment under supervision (IV steroids, monoclonal antibodies)
- Reduction of administrative workload
- Participation in clinical trial protocols
- Counseling of relatives and care-givers
The Value of MS Pharmacists: Patient Centered

- Disease education
- Counseling of relatives and caregivers
- Optional field visits
- Optimising patient’s adherence to physician (team building)
- More time to listen, explore, interact with patient
- Treatment education
- Support of long-term treatment challenges
- Revision and refinement of treatment goals
- Optimising patient’s adherence to physician (team building)
What Advantages Do MS Pharmacists Have Over Doctors?

- More time for patients
- A more open manner for discussion
- Insight into the everyday life of patients
- Experience with patients outside of the clinical practice setting
- Greater emphasis placed on Quality Of Life

- Closer to the reality of patients’ lives
- Speaking the same “language”
- Relationship of trust
The Pharmacist As A Patient Advocate
Therapeutic Objectives and Patient Needs

- Reliable long-term efficacy
- Maximum reduction of MS disease activity
- Maintaining the ability to work
- Maximum safety
- Maintaining independence
- Maximum tolerability
- Maintaining QoL
- Ease of use
- No issue for pregnancy/fertility
- Minor impact on everyday life
- Minor impact on everyday life
Product labelling (including indications, safety information and monitoring requirements) may vary by country; for more detailed information, refer to your local prescribing information for recommendations and contraindications for each DMT.
Making Decisions – A Luxury Problem?

In an age of increasing treatment choice:

- Which tools are used? (patient information)
- How much information does the patient need?
- There are different types of patients (clinical and therapy)
  - Recently-diagnosed patients
  - Patients who have had several medication switches
  - Patients with severe symptoms
- Principle of *participative* decision-making
- Introduction to therapy management:
  - More than just syringe training!
  - Importance of following treatment
  - Therapy management and support programmes
  - Individual and individualised care packages
How Do We Reach a Decision?
Empowering Patients By Increasing Their Self-Efficacy

Different types of patient preferences

1. I prefer to decide independently
2. I prefer to decide independently, after I have listened to my doctor’s opinion
3. I prefer to decide together with my doctor
4. I prefer that the doctor decides for me, after a mutual discussion
5. I prefer that the doctor decides for me

Important:
- Recognise and acknowledge different types of patients
- Do not push patients into the ideal role
- But (over time) encourage patient types 2 and 3
- Work with patients to help them strengthen their own role
- Guide patients towards independence
Treatment Decision Making: A Systematic Approach

**Patient and Disease Profile**
- Age, gender
- Disease activity/disease type
- Disability/functional impairment
- Treatment history
- Comorbidities

**Therapy Attributes**
- Efficacy
- Safety
- Tolerability
- Administration (route/frequency)
- Monitoring requirements
- Biomarkers (eg, anti-JCV Ab, NAbs)

**Patient Preferences**
- Sociodemographic profile (lifestyle, work status, family status)
- Convenience
- Risk tolerance
- Likelihood of adherence

**Geographic and Economic Factors**
- Approved usage
- Reimbursement/access to drug
MS Pharmacists’ Role In Fostering Adherence
Dimensions of Adherence

Socio-Economic

Patient-related

Therapy-related

Healthcare system

Condition-related
Dimensions of Adherence

**Socioeconomic:**
- In developing countries, low socioeconomic status may put patients in the position of having to choose between competing priorities, social support from family and friends.

**Healthcare system:**
- Ministries of health and healthcare coverage
- Poorly developed health services with inadequate health insurance plans
- Poor medication distribution systems
- Lack of knowledge and training for health care providers on managing chronic diseases
- Short consultations
- Inability to establish community support and self-management capacity
Dimensions of Adherence

- **Condition-related:**
  - Symptom severity
  - Level of disability (physical, cognitive)
  - Severity and frequency of relapses
  - Rate of disease progression

- **Patient-related:**
  - Patients’ knowledge and beliefs about their illness
  - Motivation to manage disease
  - Confidence (self-efficacy) in their ability to engage in disease-management behaviors
  - Expectations regarding the outcome of treatment
  - Expectations on the consequences of poor adherence (substantial worsening of disease and increased health care costs)

- **Therapy-related:**
  - Complexity of the medical regimen
  - Duration of treatment
  - Previous treatment failures
  - Frequent changes in treatment
  - Immediacy of beneficial effects
  - Side effects and availability of medical support to deal with them
“The intention is to assist the patient to make as informed a choice as possible about the diagnosis and treatment, about benefit and risk and to take full part in a therapeutic alliance. Although reciprocal, this is an alliance in which the most important determinations are agreed to be those made by the patient”.

- Non-adherence is not the “fault” of the patient alone

- Usually higher in chronic conditions

- “Drugs don't work in patients who don't take them”
### Pharmacists Interventions to Promote Adherence

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<th>Factor affecting adherence</th>
<th>Possible interventions</th>
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| Forgetting medication dose(s) | - Assess patient response to specialized requirements associated with medication (eg, reporting for injections, need for medical monitoring)  
- Perform cognitive assessment, including assessment for memory impairment  
- Evaluate/facilitate adjustment of frequency and complexity of regimen  
- Arrange for telephone and/or text messaging support/reminders  
- Incorporate family (eg, spouse and older children) into treatment plan |
| Flu-like symptoms associated with injections | - Educate on expected symptoms, including pattern/duration (symptoms likely to diminish over time)  
- Employ dose titration, eg, starting with 25% of required dose  
- Consider change of dosing times (evening injections often recommended to mitigate symptoms with IFNs; however, morning dosing may also be helpful)  
- Treat with NSAIDs or acetaminophen pre- and post injection; consider longer-acting NSAIDs (eg, naproxen) if current NSAID is ineffective |
| Injection-site reactions | **Prevention**  
  - Use site rotation; consider site mapping  
  - Warm medication to room temperature  
  - Allow alcohol to dry fully before injection  
  - Consider avoiding alcohol swab and replacing with soap/water  
  - Avoid vigorous rubbing of site pre- or post injection  
  - Hold needle upward to keep needle dry pre-injection  
  - Use ethyl chloride spray, EMLA cream, or topical analgesics to site  
  - Enlist support of injection-training nurses from pharmaceutical companies  
  - Evaluate formulation and regimen: consider albumin-free formulations, the use of autoinjectors, and oral treatment options  
  - Pretreat with ice for 1 minute |

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<th>Fear or anxiety related to injections</th>
<th>Fatigue/tiring of injections</th>
<th>Economic/financial challenges</th>
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<td>• Assess patient self-efficacy(^{20}) (the MSSE scale may be helpful(^{30}))</td>
<td>• Consider mindfulness training for fatigue(^{31})</td>
<td>Enlist support of social worker for help navigating system/finances</td>
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<td>• Enlist support of patient family, significant others</td>
<td>• Evaluate/facilitate adjustment of frequency and complexity of regimen</td>
<td>Facilitate contact with medication assistance programs for DMTs (sponsored by pharmaceutical companies)</td>
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<tr>
<td>• Apply motivational interviewing techniques(^{20})</td>
<td>• Evaluate/facilitate treatment for depression, other psychosocial factors</td>
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<tr>
<td>• Consider mindfulness training(^{31}) and guided imagery(^{32})</td>
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<tr>
<td>• Consider thinner gauge or shorter needle(^{25})</td>
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<tr>
<td>• Switch to a therapy that incorporates an autoinjector</td>
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This retrospective cohort study used inpatient, outpatient, and pharmacy claims for patients with MS from an integrated healthcare claims database in USA.

This study is the first to use survival analysis with Cox proportional hazard regression modeling to assess the risk for MS relapse using longitudinal claims data.

A total of 1634 relapses were identified. Specialty pharmacy care was associated with a significantly lower risk for MS relapse (especially first relapse) and fewer relapses compared with usual community pharmacy care.

Patients receiving specialty pharmacy care had a lower risk for relapse than patients receiving usual care.

Controlling for demographics, comorbidities, and index medications, specialty pharmacy care was associated with a significantly lower risk for first relapse than usual care.

Specialty pharmacy care allows patients with MS to receive the maximum benefit from their therapy
Identifying Areas of Clinical Pharmacist Involvement in Advancing the Care of Patients with Multiple Sclerosis

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**Objectives**

- Outline the areas of care in which pharmacists are involved at MS centers
- Identify the perceived value of the pharmacist in the care of patients with MS through the ranking of key activities by multiple providers in different disciplines
- Identify areas where pharmacist utility can be increased in the clinical management of patients with MS

**Methods**

- An anonymous web-based survey was emailed to fifty MS centers identified through the Consortium of Multiple Sclerosis Centers (CMSC)

**Discussion/Conclusions**

- The survey results confirmed our beliefs that clinical pharmacists play an important role in the MS interdisciplinary care team.
- Overall, the results provide information on MS pharmacist activity and role expansion.
- The emerging role of clinical pharmacists continue to evolve and their clinical capacities are beyond initial perception.
Research Support....

- 33% of MS patients who are on medication therapy are nonadherent.
- Between 17% and 40% of patients stop taking DMTs within 1 year of initiation due to perceived lack of efficacy, adverse effects, depression, and cost.
- MS is a financially burdensome disease, and pharmacotherapy contributes a significant portion of its costs.
- Therapy adherence and persistence are 2 of the biggest concerns with this patient population.
- Gaps in therapy of more than 90 days result in twice the probability of having a severe relapse, which increases health care costs significantly.
- Pharmacists can serve as medication therapy manager, collaborator, educator, motivator, and advocate for patients with MS to help set realistic expectations regarding treatment, educate patients about therapy options, and work around any barriers to treatment adherence that arise.
In a behavioral study, the relation of method of injection and adherence to injectable medication in MS patients was examined.

- Subjects who were able to self-inject were more likely to be adherent than those who relied on others.
- 18% of the 202 patients in the study population experienced high levels of injection anxiety.
- Low pretreatment injection self-efficacy expectations led to someone else performing the injection, which in turn led to discontinuation of therapy.
- This study shows that MS patients need additional support in the areas of pretreatment expectations and learning, both mentally and physically, on how to self-inject. Pharmacists can address these self-injection concerns with the patient.
In an article describing patient perceptions of MS and its treatments, 42.1% of the 202 participants reported missing their DMT injections from time to time, and 17.8% of the participants reported taking “drug holidays.”

- There was a positive association between rates of adherence and being a well-informed, older patient.
- 43% of patients self-reported they were well informed about their diseases, and 35% reported they were well informed about their treatment.
- Despite these numbers, half of the patients still desired even more contact and opportunities for communication with their neurologists and general practitioners.
One study compared medication adherence rates among patients who receive disease therapy management (DTM) versus those who did not participate in a DTM program.

- Over 1 year, medication adherence and persistence improved ($P < 0.001$) among participants in the specialty care management program, whereas medication adherence and persistence decreased among nonparticipants ($P < 0.001$).
- MS-related hospitalizations decreased from 9.6% to 7.1% for those participating in the program, while hospitalizations increased for nonparticipants from 10.1% to 12.0% ($P < 0.001$).
- Medical spending decreased by $264 for participants but increased by $1,536 for nonparticipants ($P < 0.001$).
Role of Pharmacists in the care of MS patients: AUBMC MS Center experience/Outpatient

- **Patient Assessment**
  - Medication History
  - Identify treatments the patient has tried and failed
  - Identify potential barriers for adherence
  - Identify potential drug interactions or contraindications to certain MS therapies
  - Smoking/Alcohol intake
  - Anxiety and Depression
  - Daily living activities

- Evaluate patient baseline knowledge
- Discuss diagnosis, tailoring to the individual patient
- Coordination of care and referrals
- Liaison between patient and physician
- Assist patients and payers (NSSF, MOH, insurance) with clinical and financial issues & challenges
- Understand patient preferences
Role of Pharmacists in the care of MS patients: AUBMC MS Center experience/Outpatient

- Present options to patient to make adequate choice
- Establish realistic expectations
- Train patient on medication administration
- Effective assessment and management of adverse events
- Ensure regular lab monitoring
- Promote importance of adherence

- Recommend symptomatic treatments
- Recommend participation in patient support programs
- Follow up on patient progress
- Patient education
  - On special procedures (MRI, EPs, LP)
  - Medication administration, side effect, special handling, compliance
  - Disease progress (definition of relapses, symptomatic treatments,...)
  - Needs for referrals/ Follow-up visits
Role of Pharmacists in the care of MS patients: AUBMC MS Center experience/Infusion Center

- Patient Assessment
- Reporting important findings to the physician
- Order Verification
- Dispensing pre-medications and medications
- Supervising administration of medications
- Monitoring patients before, during and after the infusion
- Treat any infusion-related adverse events mainly infusion reactions
- Planning discharge
Role of Pharmacists in the care of MS patients: AUBMC MS Center experience

- Engage in personal, professional development and knowledge acquisition
- Participate in and leads research activities
- Attain and maintain certification status offered by the Consortium of Multiple Sclerosis Centers (CMSC)
- Support/Educate other members of the MS team
Key Takeaways

- MS is a complex disease state requiring delivery of patient-centered care by a high-functioning multidisciplinary team.
- There are numerous ways that pharmacists can optimize the care that MS patients receive.
- The addition of a pharmacist to the multidisciplinary team can be of great value to MS centers by providing support to the other professionals in a synergistic manner that allows them to elevate patient care to the highest possible level.
- The added responsibilities accompanying the advanced medication therapies used in patients with MS require a medication expert.
- Therefore, to provide the level of care that is expected at MS centers, the addition of a pharmacist has become a necessity.