The practical education and research within the psycho-pharmacy

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Background

Meijo University has offered a one-year long graduate course in clinical pharmacy practice education over the past twenty-eight years.

In April 2003, we reconstructed this course into a two-year master’s course. The educational philosophy of the master’s course emphasizes the pharmacist’s responsibility for pharmacotherapy in the health care.

Meijo University does not have its own clinical setting, so we established a joint two-year master course program with a medical school for the clinical training of pharmacy students.
The Medicine-Pharmacy Affiliated System of Professional Clinical Pharmacy Education

Pharmacist understanding patient’s mind and Health Care System

Fujita Health University Hospital

Meijo University Graduate School

Health Care Team

Graduate Students

Hospital Pharmacist

Medical Faculty

Nurse

Pharmacy Students

Pharmacy Faculty

Physician instructor

Student

Student

Nurse
Backbone of Curriculum of Master’s Course for Clinical Pharmacy Practice

15 months

Advanced Practice Experiences in Medical Setting
Satellite Classroom
OSCE

Communication skill

PBL-Tutorial learning
Oral presentation

4 months

OSCE: Objective Structured Clinical Examination
Curriculum of Master’s Course

• Preclinical (4 months)
  - Pharmaceutical communication
  - PBL (Problem-based Learning)
  - Pharmacokinetics/Pharmacodynamics,
  - Pharmacotherapeutics,
  - Pathophysiological Bioanalysis,
  - Pharmacoepidemiology,
  - Drug Information practice,
  - Medical English

• In-Hospital Training (15 months)
  - Traditional Pharmacy Practice Training (6 weeks)
  - Nursing Experience (one week)
  - Advanced practice experiences (48 weeks):
    - rotated to four departments of clinical medicine (Hematology & Oncology, Gastroenterology, GI surgery, Respiratory Disease, Cardiology, Endocrinology & Metabolic diseases, General internal medicine, Emergency, Oncology, Psychiatry)
    - including two weeks of overseas practice experience

• Master course thesis (including oral presentation)
How to Mentor in Clinical Sites

The Effective Clinical Preceptor

- Is a competent and knowledgeable practitioner
- Orients the student to the clinical rotation
- Guides and facilitates student training
- Evaluates student performance in a timely manner
- Provides constructive feedback for students
The practical education within the psycho-pharmacy
Advanced Practice Experiences Coaching for Psycho-pharmacy Practice (1)

Orientation to train a pharmacist in the psychiatric field

- Introduce students to clinical staff
- Provide an overview of pharmacist’s responsibilities
- Describe disease states of psychiatric patients
- Instruct students how to interview patients and monitor effects and side effects of drug therapy
- Help students define their goals in this field
To instruct pharmaceutical care activities:

- I interview patients (a model for students/shadowing)
- I show how to monitor effects and side effects of medicine
- I show how to evaluate methods for insight and adherence to treatment of patients
- Students must identify and solve pharmaceutical problems of patients
- Students must recommend treatment plans
- Students must provide education on drug therapy for patients
Advanced Practice Experiences
Coaching for Psycho-pharmacy Practice (3)

To Guide and facilitate student practice

- Journal Club Presentations (once a month) to enhance the student’s ability to interpret, evaluate, and present literature in the psychiatric field

- Clinical Case Presentations (once a week) to enhance the student’s ability to identify patients’ problems related to pharmacotherapy and design to the care plan
Evaluating student activity

I. Provide optimal drug therapy to psychiatric patients, and have responsibility for successful drug therapy outcomes

II. Provide evidence-based medicine for psycho-pharmacotherapy to clinical staff
Assessment of Student’s Skill

**Goal:** Provide optimal drug therapy to psychiatric patients, and assume a responsibility for successful drug therapy outcomes

**SBO**

1. Conduct a mental status examination
2. Collect and assess patient information necessary to design a pharmacotherapeutic plan
3. Identify target symptoms responsive to pharmacotherapy
4. Recommend/modify pharmacotherapy treatment
5. Recommend/design a monitoring plan (e.g., mental status, adverse effects, lab data)
6. Assess outcomes to therapeutic goals (e.g., effectiveness, drug-related problems, compliance)
7. Predict and prevent drug-related problems, and identify and resolve actual drug-related problems
As part of our efforts to establish an educational system in which university faculty members play the role of preceptors, students underwent clinical training in the psychiatric ambulatory care of a university hospital, one of our educational partners.

The preceptor was in charge of a pre-training orientation session, lectures on mental disorders and drug therapy, interviews with patients following treatment, and teaching how to identify problems in pharmacological therapy and monitor the effects/adverse effects of drugs.
Following the completion of clinical training in the psychiatric department, 12 second-year graduate students positively evaluated the lectures and sessions provided by the preceptor, which were designed to achieve the following training goals to help students: “understand pharmacological therapy”, “identify problems in drug therapy”, “assess adverse effects on patients”, and “encourage patients to increase their awareness of illness and adherence to treatment”. An orientation session, provided by the preceptor prior to training, also proved very effective, and so we emphasized its necessity.

Training provided by preceptors in clinical settings is effective in nurturing specialized clinical pharmacists.
The practical research within the psycho-pharmacy
Study 1

Association between the psychiatric symptoms and illness insight / medication adherence in patients with schizophrenia

Objects
The long-term goal of the treatment of schizophrenia is the prevention of recurrence. To achieve this goal, the continuation of medication is important. We considered that the continuation of medication may require improvement in insight / medication adherence, not improvement in symptoms by involuntarily medication, and evaluated the association between the severity of symptoms and insight / medication adherence.

Methods
The subjects comprised 101 outpatients with schizophrenia. Psychiatric symptoms were evaluated using BPRS and CGI, illness insight using SAI, and drug adherence using DAI-10.

BPRS: Brief Psychiatric Rating Scale
CGI: Clinical Global Impression Scale
SAI: Schedule for Assessment of Insight
DAI-10: Drug Attitude Inventory-10 Questionnaire

## Evaluation of medication adherence

<table>
<thead>
<tr>
<th>DAI-10 (Drug Attitude Inventory-10 Questionnaire)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. For me, the good things about medication outweigh the bad</td>
<td>1</td>
</tr>
<tr>
<td>2. I feel weird, like a “zombie”, on medication</td>
<td>1</td>
</tr>
<tr>
<td>3. I take medication of my own free choice</td>
<td>1</td>
</tr>
<tr>
<td>4. Medication makes me feel more relaxed</td>
<td>1</td>
</tr>
<tr>
<td>5. Medication makes me feel tired and sluggish</td>
<td>1</td>
</tr>
<tr>
<td>6. I take medication only when I am sick</td>
<td>1</td>
</tr>
<tr>
<td>7. I feel more normal on medication</td>
<td>1</td>
</tr>
<tr>
<td>8. It is unnatural for my mind and body to be controlled by medication</td>
<td>1</td>
</tr>
<tr>
<td>9. My thoughts are clearer on medication</td>
<td>1</td>
</tr>
<tr>
<td>10. By staying on medication I can prevent getting sick</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>
Association between BPRS and CGI or DAI-10

BPRS: Brief Psychiatric Rating Scale
CGI: Clinical Global Impression Scale
DAI-10: Drug Attitude Inventory-10 Questionnaire

Spearman rank correlation

Association between BPRS and CGI or SAI

*B: 「Do you think you have a mental disease?」
「I think usually」= Positive,
「I think sometimes」= Little positive,
「I don’t think so」= Negative

BPRS: Brief Psychiatric Rating Scale
CGI: Clinical Global Impression Scale
SAI: Schedule for Assessment of Insight

Association between SAI and DAI-10

SAI: Schedule for Assessment of Insight
DAI-10: Drug Attitude Inventory-10 Questionnaire

Association (r = 0.291)

Spearman rank correlation

The patients who are not aware of their own disease show a poor medication adherence.

**Significant difference (\(*P<0.05\))**

**Association between SAI and DAI-10**

*「Do you think you have a mental disease?」
「I think usually」= Positive,
「I think sometimes」= Little positive,
「I don’t think so」= Negative

In terms of the long-term prognosis of schizophrenia, the continuation of medication by improving insight / medication adherence, not improvement in symptoms by involuntarily medication, is important.

Because a correlation of symptom and insight / medication adherence is not observed, it is not effective at first to demand symptom improvement by involuntarily medication.

We at first improve insight / medication adherence by the good communication with the patients, as a result, build the flow that the symptom improves.
Study 2

How does informed consent with both verbal and written explanation give influence to the satisfaction level of antipsychotics and drug adherence of the patients with schizophrenia?

Objects
Recently, informed consent regarding drug therapy in psychiatric care has been controversial.
In 100 patients with schizophrenia receiving antipsychotics who consulted an outpatient clinic, we investigated how informed consent with both verbal and written explanation give influence to the patient’s satisfaction level of antipsychotics and drug adherence.
Informed consent with both verbal and written explanation

抗精神病薬投与の説明

藤田保健衛生大学病院

＜患者さまの権利＞

1. 患者さまは、公平で良質、かつ安全な医療を受ける権利があります。
2. ご自身の病気や治療について、知る権利と十分な説明を受ける権利があります。
3. ご自身の治療について、担当医師から提示された治療法を、選択または拒否する権利があります。
4. 病院に対して意見、要望を述べる権利があります。
5. 患者さまのプライバシーは常に保護・尊重されます。

1) 抗精神病薬とは
抗精神病薬は、本来精神調節の治療薬です。しかし、精神調節と言葉近いかかわらず以下の症状や状態に有効であることが知られています。

- 耳鳴りに気づかれたといった「妄想」
- 何かが聴こえる・見える等の「幻覚」
- 生理が常に関われてうまくまとまらない「解体」
- 「攻撃性」、「興奮・衝動性」、「抑鬱」、「過食・暴食」等の行動
- その症状に対する状態を引き起こすような「気分の変」
- 眠眠が浅い、途中で目を覚ましてしまうなどの「眠眠」
- 「不安」や「イライラ」
- 抗うつ薬の効果を強める
- その他（

2) なぜ投与するのか
今回、あなたに抗精神病薬である( )を処方しようと考えております。治療目的ならびにその効果が期待されるからです。

3) 危険性について
A. 悪血なされる、海外において高齢者の中でも抗精神病薬は投与した際に、原因は不明ですが、死亡率が上昇する事は知られています。
B. 人によりますが、眠気・ふらつき・体がソフトウェアとして持ち重たない感じ・手の振れなどを起こすことがあります。
C. 人によりますが胃腸や脂肪の変化に影響を与えることがあり、以下の表のように糖尿症や高論血症になってと悪化させたする危険性も報告されています。この副作用を防ぐために、私たちは定期的な検査を行います。

<table>
<thead>
<tr>
<th>くすり</th>
<th>体重増加の危険性</th>
<th>糖尿病の危険性</th>
<th>脂肪代謝への影響</th>
</tr>
</thead>
<tbody>
<tr>
<td>ジブレキサ</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>リスパダール</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>セロクエル</td>
<td>+</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>エピリファイ</td>
<td>?</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

+: 人によりあるという報告    ?: 人によりあるという報告ではないという報告
*: 人によりあるという報告
Q1. Have you ever received these explanation?

- Yes: 27.7%
- No: 72.3%

Q2. Were you able to understand the explanation contents?

- Completely understand: 3.0%
- Kind of understand: 24.8%
- Sort of understand: 68.3%
- Sort of understand: 3.0%
- Could not understand very much: 3.0%
- Could not understand: 1.0%

A change of the patients’ satisfaction:
Q3. How are you satisfied about medicine?

Before explanation

- Very satisfied: 10.9%
- Satisfied: 59.4%
- Neither satisfied nor dissatisfied: 22.8%
- Dissatisfied: 5.9%
- Very dissatisfied: 1.0%

After explanation

- Very satisfied: 17.8%
- Satisfied: 61.4%
- Neither satisfied nor dissatisfied: 16.8%
- Dissatisfied: 2.0%
- Very dissatisfied: 2.0%

Reference:
Association between the satisfaction for medication and the continuation intention of the medication

** p < 0.01 (Tukey-Kramer test)

Q4. Had better there be these explanation?
Discussion (4)

Without an explanation, most patients reported that informed consent had been unsatisfactory. Informed consent with an explanatory document was acceptable without reducing patients’ satisfaction or attitude toward the agents, suggesting its necessity. When administering antipsychotics to treat schizophrenia, it is important to sufficiently explain the risks/benefits of treatment and early detection/treatment of side effects.
Conclusion

The target of Meijo’s clinical pharmacist education system is to expand the pharmacist’s responsibility in the health care society—from dispensing-centered pharmacy to more clinical pharmacy.

In April 2006, a six-year pharmacy education system started to train health care pharmacists with more well-equipped, ‘hands on’ training in Japanese pharmaceutical care. We proposed here a standard model of Japanese pharmacy education.
Thank you for your attention!