

Teaching OTC Medicines at the Univ of Sask

OTC medicine topics are embedded in courses that focus on therapeutics.

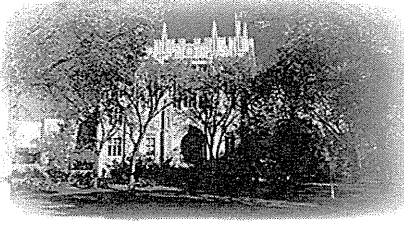
Our approach to therapeutics is mainly to cover areas based on systems, for example, gastrointestinal, cardiovascular, endocrine, etc. The OTC medicines applicable within each are taught as a sub-component of that material. For example, for the section on GI, where topics such as peptic ulcer and Inflammatory Bowel Disease are covered, so are antacids, PPIs, laxatives, anti-nauseants, probiotics, loperamide, OTC gastric enzymes, etc.

The above is not the most effective way of doing things, however. I have long felt that a dedicated OTC class best serves the material.

We cover around 50 OTC topics across 2 years of the program (2nd and 3rd year). Some topics are massive (eg vitamin, minerals, herbals, cough/cold) while others are quite finite (sleep aids, snoring, hemorrhoids). The hours spent on all this material would be about 80 hours. Additional time, though, is spent in some labs and tutorials (another 10 hours perhaps).

This is likely enough time spent to make our students somewhat competent in the area. I feel I would need to have each student for another 5 weeks of specialized training in order to make them fully functional as a competent pharmacist. As a 4th year elective, I do that for 6 students. Therefore, only 6 out of 90 students leave the program practice-ready, in my mind.

Students are expected to pass verbal exams (once or twice over the entire program), in addition to written tests on the material.

<p style="text-align: center;">OTC medicines Univ of Sask</p> <p>Jeff Taylor March 2012</p>	<p>Life in Canada</p> <ul style="list-style-type: none"> • English/French ...German/Chinese/Ukranian ... • History Thousands of years of aboriginal settlement Norsemen 1006 French and English 1500s Officially a country 1867 • 32 million • Industry Resources, agriculture, industry, tourism ... • Canadians are ...
<p>Life in Canada</p> <ul style="list-style-type: none"> • English/French ...German/Chinese/Ukranian • History Thousands of years of aboriginal settlement Norsemen 1006 French and English 1500s Officially a country 1867 • 32 million • Industry Resources, agriculture, industry, tourism ... • Canadians are ... not Americans 	<p>Teaching OTCs in Canada</p> <ul style="list-style-type: none"> • Who does the teaching across Canada? <p style="padding-left: 40px;">mainly pharmacists advanced degrees rare the prof might be in active practice teach + practice + research?</p> <ul style="list-style-type: none"> • Relative importance to practice? • Relative importance in curricula?
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<p>College of Pharmacy (Univ of Sask)</p> <ul style="list-style-type: none"> • 240 students • 100 year history 	<p>College of Pharmacy (Univ of Sask)</p> <ul style="list-style-type: none"> • One of 11 pharmacy schools in Canada

College of Pharmacy (Univ of Sask)

- One of 11 pharmacy schools in Canada



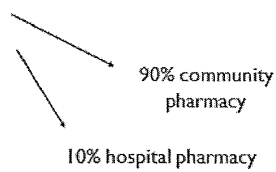
... the USA
has 88

College of Pharmacy (Univ of Sask)

- One of 11 pharmacy schools in Canada
- It is considered a smaller school

College of Pharmacy (Univ of Sask)

- Our graduates



- Most want to work in the bigger cities
- Average hourly wage leveling off
- Not many go on to MSc or PhD

College of Pharmacy (Univ of Sask)

- Our graduates

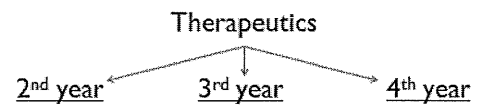
love iPods and cell phones
leave the College in \$\$\$ debt
speak fondly of their time here
appear to be respected in Canada

College of Pharmacy (Univ of Sask)

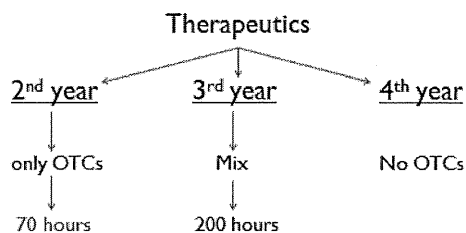
- A typical day in 3rd year ...

7:30 wake up, shower, have breakfast
15 min bus ride
8:30 Pharmaceutics
9:30 Drug literature evaluation
10:30 Therapeutics practice lab
1 hour for lunch
1:30 Therapeutics
3:30 Tutorial or group project

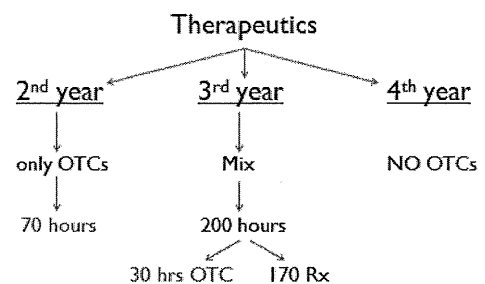
Teaching OTCs at U of S



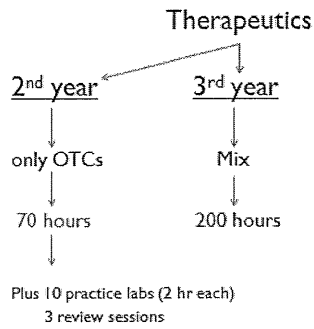
Teaching OTCs at U of S



Teaching OTCs at U of S

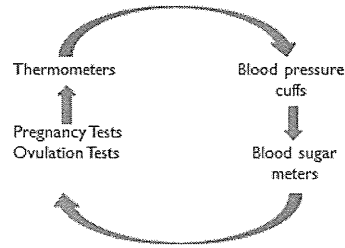


Teaching OTCs at U of S



Teaching OTCs at U of S

- Practice session – Testing Devices



Teaching OTCs at U of S

- Practice Session – Smoking Cessation

20 students in lab
Groups of 3

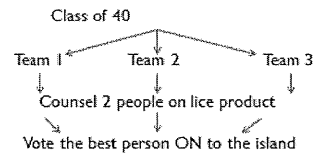
Case 1 Pharmacist
Case 2 Patient
Case 3 Evaluator

- Practice Session – Clinical curveball

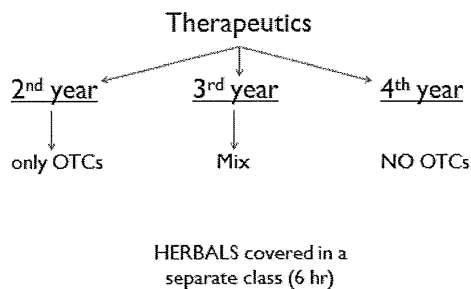
40 students
Break into student pairs (one-on-one)
Counsel patient on a topic
Patient throws you 2 "clinical curveballs"

Teaching OTCs at the U of S

- Practice session -- Pharmacy Lice Island



Teaching OTCs at U of S



Teaching OTCs at U of S

- Are students ready by end of 4th year?

2nd year class
+ practice in pharmacy over summer

3rd year class
+ practice in pharmacy over summer

- 4th year rotation for 6 students

Teaching OTCs at U of S

- 2nd Year

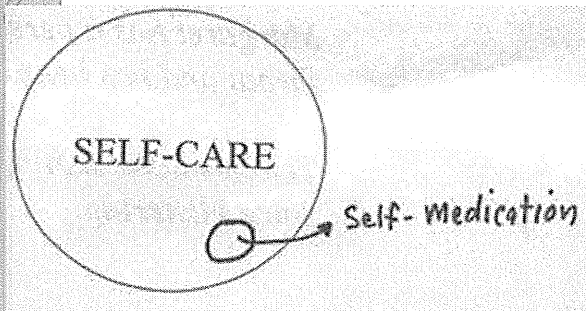
50 topics

Intro to world of self-medication

Clinical topics

20 min - 6 hr
smoking cess = 6 hr
vitamins / nutrition = 6 hr
acne = 3 hr
contact lenses = 20 min

Teaching OTCs at U of S



Teaching OTCs at U of S

3rd year ...30 hours

Cough / cold	5 hr
Eczema etc	1 hr
Heartburn	1 hr
Allergic Rhin	2 hr
OTC eye drops	2 hr
Constipation	2 hr
Nausea	½ hr
Diarrhea	2 hr
etc	

Teaching OTCs at U of S

Cough / cold 6 hrs

2 hr on how to differentiate
2 hr on agents
1 hr on how to select agents

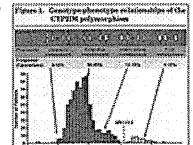
Teaching OTCs at U of S

- 2 hr on how to differentiate
 - flu vs GERD vs croup vs bronchitis ...
- 2 hr on agents
 - pse vs phenylephrine
 - value of antihistamines
 - efficacy of DM / codeine
 - metab of DM / codeine
 - side effects of all agents
- 1 hr on how to select agents



Cough / cold medicines

- Use in kids under 6
 - Still no great evidence of value
 - Best not to use ... no longer recommended ... we try to avoid ... mg/kg dosing vs ½ the 6-12 year old dose
- DM and codeine are still in trouble re: effectiveness
 - codeine also has 2D6 issue
 - Do not use codeine in kids < 18



Cough drugs don't work

Cough medicine (OTC) sales in the United States are largely projected to increase over the next few years, according to a leading medical group says. A panel of experts convened by the American College of Chest Physicians concluded there is little or no evidence that OTC cough drugs work as advertised. Antihistamines, decongestants and other OTC cough drugs are not recommended for kids or for people with asthma, says the panel. The panel also says that OTC cough drugs are not recommended for people with asthma or for people with high blood pressure. The panel also says that OTC cough drugs are not recommended for people with heart disease or for people with kidney disease. The panel also says that OTC cough drugs are not recommended for people with liver disease or for people with diabetes. The panel also says that OTC cough drugs are not recommended for people with any of these conditions.



Canis Respir Health Apr 2006

Cough / cold medicines

- Mucous control and guaifenesin
- Pseudoephedrine vs phenylephrine



Cough / cold medicines

- Line extensions
 - Robitussin Children's
 - Robitussin Children's Cough & Cold
 - Sudafed vs Sudafed PE



Cough / cold medicines

- NyQuil
 - pseudoephedrine 60 mg
 - doxylamine 12.5 mg
 - DM 30 mg
 - acetaminophen 1000 mg
- NeoCitran
 - pheniramine 20 mg
 - phenylephrine 10 mg
 - acetaminophen 325 mg
- Benlyn 4 Flu
 - DM 15 mg
 - pseudoephedrine 30 mg
 - guaifenesin 100 mg
 - acetaminophen 500mg

Teaching OTCs at U of S

- Omega 3 fatty acids
- 30 min of time
- main focus clinical value when to recommend

Omega Fatty Acids

AMERICAN HEART ASSOCIATION RECOMMENDATIONS FOR OMEGA-3 INTAKE	
POPULATION	RECOMMENDATION
Patients without documented cardiovascular heart disease	Eat a variety of fatty fish at least 2x a week; include oils and foods rich in ALA (flaxseed, canola and soybean oils; flaxseed, and walnuts).
Patients with documented CHD	Consume about 1 gram of EPA+DHA per day, preferably from fatty fish. EPA+DHA supplements could be considered in consultation with the physician.
Patients who need to lower triglycerides	2 to 4 grams of EPA+DHA per day provided as capsules under a physician's care.
Patients taking more than 3 grams of omega-3 fatty acids from supplements should do so only under a physician's care. High intakes could cause excessive bleeding in some people.	

Omega FAs

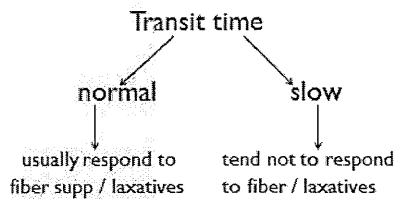


Constipation

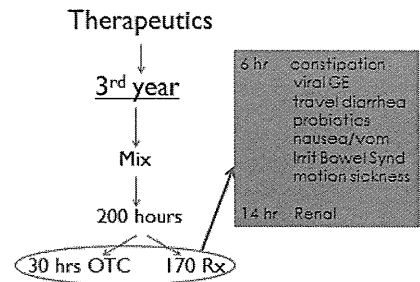


Constipation

Expectations



Do we have it all figured out?



Head lice



dimethicone
10 min
nit pick
inspect x 10 days



isopropyl myristate
10 min
nit pick
repeat in 7 days



coconut / anise oil
15 min
nit pick
repeat in 9 days

Glucosamine / Chondroitin



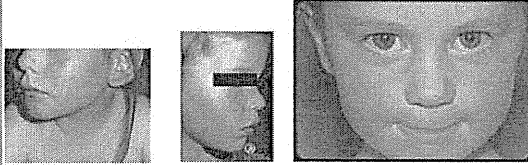
rarely see chondroitin alone

glucosamine + chondroitin may be additive ^{10/2000/2011}



Childhood dermatitis

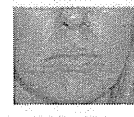
- parvovirus
- how it appears (aka 'slapped cheek')
- age group
- treatment



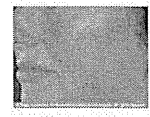
Differential



eczema



perioral dermatitis



rosacea

OTC Sleep-Related Products

I. Formulas

- melatonin 4th year
- OTC products ...
- chamomile
- valerian
- tyrosine
- diphenhydramine

II. Indications

- at 100 mg indication?
- melatonin

III. OTC Soothing Products

- homeopathy ... sprays
- physical nasal dilators

Analgesics



Analgesics

- 29% do not worry about how often they take an agent as long as it managed pain
- 41% were *not very* or *not at all* concerned with potential side effects (pilot Canada 2006)
- OTC users were not aware of (60%) nor believed they were at risk for (29%) side effects from NSAIDs
- 15% reported daily use and 49% were not concerned about potential side effects (Witcox JR 2005)

Patient self-medication with ASA 81 mg

Jeff Taylor, PhD; Charlye Dean, BS; David Minkhorst, MSc; William Semchuk, Ph.D., FRCPC

Abstract

Purpose: Low-dose aspirin (ASA) is an important therapy for decreasing cardiovascular morbidity and mortality. The National Cancer Institute (NCI) has recommended that patients with a history of cardiovascular disease take 81 mg of ASA daily. The purpose of this paper was to determine the percentage of people taking ASA 81 mg without the recommendation of their doctor as well as to estimate the proportion of users exhibiting an elevated risk for daily use of ASA 81 mg based on adverse practices including the presence of uncontrolled comorbidities (stroke, heart disease, hypertension, hyperlipidemia, diabetes, and kidney disease), use of other medications (CNS drugs, anticoagulants, antiplatelet drugs, and NSAIDs), and a history of gastrointestinal bleeding.

Methods: A 2-year survey was distributed to patients with ASA 81 mg at 55 community pharmacies in Vancouver, British Columbia. Respondents were asked for their history of use of ASA 81 mg, their health and were asked for information on their age and health history. Interviews were audio-taped to ensure reliability of the data.

Results: Of the 481 respondents who were interviewed, 187 (38.9%) were reported to have reported use of ASA 81 mg. Of these, 111 (59.3%) did not work a physician's advice prior to the initiation of therapy. Of the 48 respondents who were taking ASA 81 mg but did not have the indication for its use, the majority claimed to have received counsel from the recommendation of a health care professional.

Conclusion: The use of ASA 81 mg without a physician indication is of concern. In this study, 38.9% of respondents claimed to use ASA 81 mg without a physician indication, and 12.3% did not have the indication for initiation of therapy, potentially exposing them to unnecessary risk. *Can Pharm J* 2005;132:192-198.

Framing the risk of an OTC medication side effect

Jeff Taylor, PhD; Mahsa Seyah-Hosaini, BEd, MSc; Dale Quora, PhD, FNP

Abstract

Background: Finding the best way to communicate risk of side effects to patients can be difficult for pharmacists. Some practitioners are reluctant to discuss side effects for fear that such information may discourage medication use; for others, the number of side effects to mention is an intractable science. When actually discussing side effects, should pharmacists phrase the chances of occurrence as "most people don't experience X" or as "a few people do experience X"? Literature on decision-making suggests that the interpretation of information varies depending on the presentation format or the frame used.

Objective: To examine the impact of different ways of phrasing the occurrence of a side effect has on the likelihood of a patient taking a medication.

Methods: Volunteers were presented with hypothetical scenarios. They indicated their likelihood of taking a medication were/occurrence

likelihood medication, each while considering the chance of experiencing a side effect (short-term). The likelihood of experiencing the side effect was the same for each situation, but was presented in 2 different ways (positive or negative frame). Interviews were then carried out to gain insight into the reasons for choices made.

Results: Thirty subjects participated; most were female. Participants were more likely to take a medication when the side effect was framed positively. Gender and recent history of experiencing a side effect did not appear to affect the results.

Conclusion: When considering one side effect, framing the risk of its occurrence in a positive way increased the likelihood that a person would decide in favour of taking the medication. *Can Pharm J* 2010;134:3-9.

Consumer expectations of nonprescription medications according to location of sale

Jeffrey G. Taylor, Yehing Lu, Ray Dobson, and Linda G. Bovegas

Abstract

Objective: To determine whether the public has different expectations of nonprescription medications based on location of sale.

Design: Cross-sectional, descriptive.

Setting: Saskatchewan, Saskatchewan, Canada, during the summer of 2003.

Participants: 2,022 randomly selected citizens.

Interventions: Mail survey.

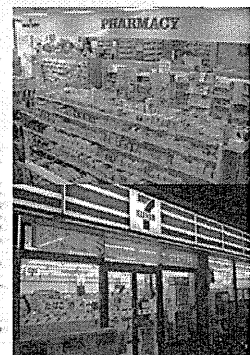
Main outcome measures: Differences in expectations for potency, safety, adverse effects, efficacy, and purchase information of products sold in pharmacies versus convenience stores.

Results: The response rate was 77.2%. Most participants (81.2%) were aware that nonprescription medications could be purchased in convenience stores, but for fewer (12.3%) had done so. As one potential reason for purchasing, convenience stores were held in reasonably high regard. Expectations with the greatest difference were of a price/quality issue. Respondents expected pharmacies to have a better quality and selection of products and lower prices. For drug-related attributes, differences were minimal but statistically significant.

Conclusion: Location of sale does not appear to have any practical influence on consumer expectations of the drug-related attributes of nonprescription medications. Factors of non-product expectancies (price/quality) are present regardless of location.

Keywords: Nonprescription products, self-medication, consumer.

J Am Pharm Assoc 2005;45:206-216.
doi: 10.1331/JAHPA.2005.45.02.001



Issues we face in education

- Finding the time in curriculum
- How best to teach next generation
- Technology
- Reinforcing our role

Issues we face in practice

- Does the public trust us?

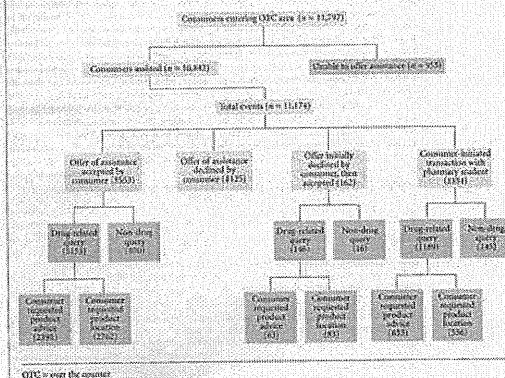


Issues we face in practice

- Are patients willing to listen?



FIGURE 1. Type of over-the-counter-related transactions



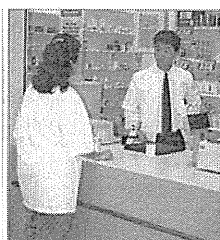
OTC = over the counter.

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Issues we face in practice

- Do we spend enough time?
ask enough questions?



資料5 サスカチュワン大学で実施されていた OTC セミナーのシナリオ 2例

Case1 History of Patient 1 for Back Pain

Name = Jason Ens M

Age = 41

Questions from pharm

How patient will answer

Your health of late = GOOD ... no major complaints

Smoke = NO

Alcohol = YES ... social drinker ... maybe twice a month

Last visit to doctor = About 5 years ago ... can't even remember what for ... likely a physical for insurance purposes

Chronic illnesses = NOT REALLY → If pharmacist probes, you reveal:

allergies to plant pollens

cholesterol a bit high (on diet for this)

skin condition ... maybe hives (not checked out)

stomach ... heartburn twice a week (not checked out)

Allergies/

intolerances to medicines =

NONE THAT I KNOW OF

PRESCRIPTION medicines =

NONE now Have had antibiotics in the past for sinusitis

NON-PRESCRIPTION = YES

allergy products Claritin Use during the summer.

Take whenever symptoms are bad.

antacids Mylanta Have a bottle in the fridge for when heartburn is rather bad. Take one swig from bottle.

cough / cold Sudafed When I am congested with a cold.

headache Advil or Tylenol Just for headaches ... a couple of tablets

pain killers Advil Now and then for back pain.

vitamin Paramettes Just to make sure my diet is okay. One a day.

Details of the current complaint

What is the problem you are now experiencing?

Back pain ... point to your lower back.

What are the symptoms?

Just "pain" in my lower back. Its not really painful, like someone is stabbing me, but it is still painful. The pain is never in the upper part of the back.

There is no shooting pain down the back of the leg.

Can't tell if there are "spasms" b/c not sure what one feels like.

Hard to walk at times, but never to the point of not being able to walk. Sitting down in a chair all day sometimes is a problem.

The pain comes and goes. About 5 times a month, with no real pattern as to why. What happens is that I

just wake up with a sore back and it takes a while to get moving faster. Most often in the morning, I guess. Maybe I am getting older.

The pain might be present for about 1 hour in any given morning. Can go away after that. Rarely is it present for a full day, even half a day.

When did this start? Is it a new problem? Chronology?

This has been going on for about 6 months, so yes, a relatively new problem. My dad had problems with a sore back but this is the first for me.

Have you seen a physician about this problem?

No, and no plans to do so. It does not seem serious enough to see a MD yet. I am wondering if I have to live with this?

What have you tried to date? Did anything help? Make it worse?

So far, analgesics like Advil for when the pain is bad.

Have been contemplating if something like Robaxacet will help.

Not sure if "anything" makes it worse. If it feels bad, usually I cancel any ideas of hockey that night (whatever) or take it easy lifting the kids.

No one has told me anything about sleep habits, but I sleep on my stomach, if someone were to ask.

My job is a accountant so not a lot of activity at work. I don't do any formal exercising, but used to be involved in athletics before the kids were born. I would not call myself a couch potato, however.

Heat sometimes helps, so I put a heating pad on the couch when I am there. Have never tried cold packs. Never used Rub A535 before (or equiv product).

Case 2

Taking a medication history

Getting an understanding of the current complaint

Case History of Patient 2 for Back Pain

Name = Aimee Derosiers

F

Age = 25

Your health of late =

VERY GOOD. Athletic.

Smoke =

YES → 1 pack a day x 8 years.

Have no plans to quit in the foreseeable future.

Alcohol =

NO

Last visit to doctor =

About 3 months ago for a repeat on birth control.

Chronic illnesses =

NONE

Allergies/

intolerances to medicines = ASPIRIN → makes my stomach hurt
 PENICILLIN → rash

PRESCRIPTION medicines = Triphasil 21 x OD

NON-PRESCRIPTION =	YES
cough / cold →	Dristan Mist for colds Robitussin DM for coughs
dry skin →	Vaseline Int Care prn all year round
eye products →	Visine now and then after swimming
headache →	Tylenol
sunscreens →	During the summer prn
vitamins →	Iron supplement

Details of the current complaint

What is the problem you are now experiencing?

Back pain ... point to your lower back.

What are the symptoms?

Pain in my lower back. It is not "stabbing" however. On a scale of 1 to 10 (very bad), I would call it a 7. The pain has been consistent since yesterday.

Makes it very tricky to walk and sit. Took yesterday off from work (lawyer).

There is no shooting pain anywhere.

No "spasms" as far as I can tell.

When did this start? Is it a new problem? Chronology?

Just happened yesterday. Was playing broomball and seemed to twist my back during a check. First time ever for me. I had to leave the ice.

Have you seen a physician about this problem?

No. Should I?

What have you tried to date? Did anything help? Make it worse?

So far, nothing. I have been contemplating if something like Robaxisal will help?

Not sure if "anything" makes it worse ... it has been the same since yesterday.

I am a lawyer.

I exercise a lot, formally in an exercise class and also via sports about 3 times a week. My cardiovascular capacity is high.

Have not tried heat nor cold, except for a sprain many years ago (ice pack).

資料6 アルバータ大学薬学部1年生の実習シナリオ

シナリオ1

a) You are standing in the dispensary at the intake counter and a 47 year old male, dressed in business attire approaches the pharmacy counter asking you for where the Pepto Bismol® is kept.

- I. If you were a pharmacy technician how would you approach this situation? What is your rationale?
- II. If you were a pharmacist how would you approach this situation? What is your rationale?

b) You walk over to the aisle with him and show him where the Pepto Bismol® is kept. The bottle clearly states: for heartburn, nausea, upset stomach and diarrhea. He wants to know if this product is appropriate for "his" heartburn.

- I. If you were a pharmacy technician how would you approach this situation? What is your rationale?
- II. If you were a pharmacist how would you approach this situation? What is your rationale?

シナリオ2

1. A police officer walks into your community pharmacy and asks you about Jenny Smith's medication profile. He wants to know what medication Miss. Smith is taking because she has been arrested.

- I. If you were a pharmacy technician how would you approach this situation? What is your rationale?
- II. If you were a pharmacist how would you approach this situation? What is your rationale?

2. Two days later, Jenny's husband comes into the pharmacy requesting a medical expense form for tax purposes for all prescriptions Jenny filled last year at your pharmacy.

- I. If you were a pharmacy technician how would you approach this situation? What is your rationale?
- II. If you were a pharmacist how would you approach this situation? What is your rationale?

第3章 オーストラリア軽医療マネジメントトレーニングプログラムの導入と評価

1. 目的

諸外国では、薬剤師が地域におけるチーム医療への参加の一環として軽医療（minor ailments）への関与が進んでいる。特にオーストラリアでは、薬剤師の軽医療に関して、処方薬との相互作用等のチェック、OTC供給から医師への紹介の判断、消費者の自己管理へのサポート（疾病管理）などの広範な選択肢に対する意思決定を「軽医療マネジメント」として、その能力を高めるための教育が大学、卒後教育により実施されている。そこで、オーストラリアにおける軽医療マネジメント教育プログラムをわが国に導入し、その有効性ならびに課題を検討することとした。

2. 方法

①現地調査

オーストラリアでは、薬剤師のOTCを用いた患者セルフケアのサポートが重要視されている。そのため、大学教育、卒後教育制度も充実している。そこで、本調査においては、以下の施設における教育制度について調査を行った。

- シドニー大学薬学部（シドニー）：大学における臨床教育、コミュニケーション、OTC教育について
- オーストラリア薬剤師会（キャンベラ）：薬剤師会が提供する卒後教育
- オーストラリア薬剤師会タスマニア支部（ホバート）：薬剤師会が提供する薬局テクニシャン教育制度について
- モナシュ大学（メルボルン）：大学関連病院における薬剤師業務
- 南オーストラリア大学（アデレード）大学における臨床教育、コミュニケーション、OTC教育について

②オーストラリアにおける研修資材の日本への導入とその評価

オーストラリア・シドニー大学およびオーストラリア薬剤師会（PSA）で用いられているケースメソッド、ロールプレイングを主体とした教育プログラムで用いられる資料を翻訳し、ワークショップを開催した。ワークショップの参加者は、原則として、薬剤師として5年以上の業務経験を有し、今後、薬剤師教育に携わることを目指す全国の薬剤師、

薬学部教員とし、結果的に 31 名の薬剤師が参加した。ワークショップの評価は自記式アンケートにより、内容の有用性、ならびに日本版作成における課題等の評価を行った。

3. 結果

(1) オーストラリアにおける教育プログラムの概要

1990 年まではメルボルン、シドニー、アデレード、ブリスベン、タスマニア、パースの 6 校のみであった。1990 年以降、新設ラッシュが続き現在は 18 校となった。1990 年以前は基礎化学偏重の傾向があったが、薬学部の乱立と共に、臨床教育重視に切り替わった。多くの薬学部が、薬剤師養成コースと製薬化学コースに分かれ、目的に応じたコース編成となっている。薬剤師養成コースでは、臨床教育はもちろん経営的センスを磨くために経営コースを併設する大学もある。薬剤師養成コースの学部教育では、ケースメソッドを早くから取り入れる大学が多いとの特徴がある。

図表 3-1. オーストラリアの薬局と薬剤師の状況

薬剤師数	約 25,000 人
薬学部数	18 校 (2011)
薬学生数 (卒業生数)	1,427 人 (2008)
修業年限	4 年制+1 年実習
薬局数	5,000 (10,000 人当たり 2.48 軒)
病院薬局数	132
テクニシャン制度	有
テクニシャン数 (卒業生数)	710 人 (2006)

①オーストラリア薬剤師会 (PSA) による軽医療マネジメントに関する教育

オーストラリアでは、患者が自ら管理できる症状について「軽医療」と定義し、OTC を用いた軽医療は患者のセルフケアを重視されている。軽医療に対する薬剤師の介入は、医師の業務と区別するため、診断 (diagnosis) と呼ばず、アセスメント (assessment) やカウンセリング (counseling) という用語を用いている。

一方、OTC 医薬品も TGA (Therapeutic Goods Authorization) が効能・効果を示しており、効能・効果に沿った判断ができるように薬剤師教育がなされる。

薬剤師教育はオーストラリア薬剤師会（PSA）が提供している。PSA の提供する薬剤師教育は、4年間の大学教育終了後のインターンシップの教育プログラムの提供と、卒後継続教育の提供である。前者は、National Internship Training Programm(NITP)として、薬剤師登録前の1年間のプログラムであり、後者は、登録された薬剤師を対象に提供される CPD continuous professional development(CPD)として、PSA の独占事業として実施される。

②シドニー大学

臨床薬学（(Pharmacy practice)、社会薬学（social pharmacy）、コミュニケーション（communication））を重視した新しいカリキュラムが2008年から導入されている。新カリキュラムでは、薬剤師が診断（assessment/counseling）できるよう、病態・病理、精神医学、疫学、予防などのほか、西洋医学だけでなく、統合医療（ホメオパシーなど）も含まれる。従来の基礎薬学（化学など）は、1年生で提供され、2、3年生で臨床との関連で教育がなされる。

PSA と同じテキストが使用されている（一部のテキストの作成はシドニー大学）。医学的知識の提供とともに、コミュニケーションスキルの向上を目指したケースメソッドでの教育が行われる。

3、4年生を対象に、年間24ケース（全48ケース）が行われる。ユニット単位で教育が行われ、ユニットが疾患の領域で、1ユニットには、3つのケースが含まれる。全8ユニットからなり、8人のコーディネーターがいる。1ユニットを2週間で言い、講義、グループディスカッション、ロールプレイが含まれる。臨床的知識だけでなく、患者のプライバシーの配慮なども議論され、学生が医師、患者、薬剤師の役割に別れたロールプレイングも行われる。

③南オーストラリア大学

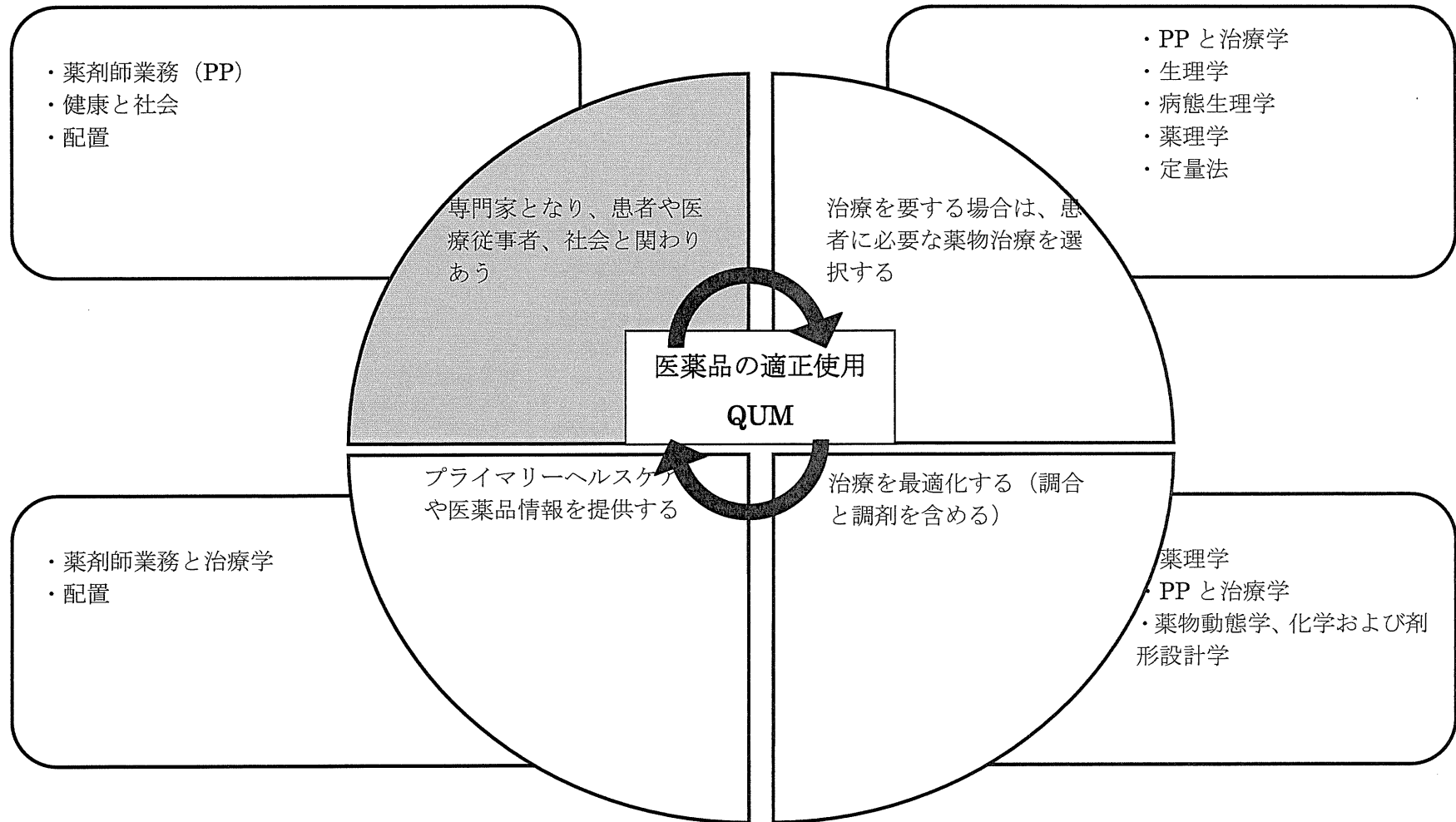
オーストラリアにおいては、製薬企業が少ないため、必然的に臨床教育が重視される。教育における基本ポリシーとして、オーストラリアにおける「Quality use of medicines (QUM)」が中核となっている。QUA の概念は、「医薬品の選択が適切であり、使用方法が効果的で、そして賢明である」こととされている。より具体的には、

- ① Judicious selection of management options;治療や健康増進のために一番賢明な手段を選ぶ。

② Appropriate choice of medicines, where a medicine is considered necessary; 医薬品を要する場合には、最適な選択が求められる。

③ Safe and effective use.安全で効果のあるものを使用する。
とされる。

教育は、基礎的コミュニケーション、専門的コミュニケーション、臨床技能、技術的技術、医薬品と疾病のそれぞれが各学年のカリキュラムに配置されている(図表 3-2~4.)が、各学年ともとくにコミュニケーションに多くの時間が投じられている。



図表 3-2. 南オーストラリア大学での教育ポリシー

図表 3-3. 1、2 年目の教育目標

スキル/知識を高める

プログラム年次	一般の人とのコミュニケーション	専門家とのコミュニケーション	臨床的スキル	技術的スキル	薬剤と疾患
2 年目 (PP2)*	<p>一般用語を磨く</p> <p>・安全性の概念について話すことができる (例: 副作用の理由や警告 勸告 ラベル [cautionary advisory label] の由来を説明できる)</p>	<p>専門用語を身に付ける</p> <p>・薬物相互作用、医薬品の有害反応、副作用、薬物動態作用に関する安全性の概念を医師と話し合うことができる</p>	<p>患者ケアの過程—病歴問診技能を磨く</p> <p>・1 年目よりもより複雑なレベルでの患者ケア技能を身に付ける</p> <p>・能力、倫理、基準</p> <p>・行動変化の要素/行動変化の段階</p>	<p>規制とスケジュール</p> <p>・薬理学/毒性/薬物動態に関する検討に基づいて理解する</p> <p>・薬剤と剤形の比較</p> <p>・調合</p> <p>・調剤技能</p>	<p>薬剤学と薬物動態学</p> <p>・薬物の用量と設計</p> <p>プライマリーヘルスケア</p> <p>・よくみられる病態</p>
1 年目 (PP1A および PP1B)*	<p>一般の人との意思疎通という概念の導入</p> <p>・一般の人とのコミュニケーションの必要性を理解する</p> <p>・一般用語を用いることに関連するスキルを身に付け始める</p>	<p>専門用語という概念の導入</p> <p>・専門家とのコミュニケーションの必要性を理解する</p>	<p>薬剤師の責任を理解する</p> <p>・薬学的ケアに基づく患者ケアの過程—市販薬に関して、情報を集めることができる、評価を実施できる、治療の選択肢に関する決定ができる、患者に必要な技能を提供できる、モニタリングタイムテーブルを案出できる</p> <p>・能力、倫理、基準</p> <p>・行動変化の要素/行動変化の段階</p>	<p>基本的な調剤技能</p> <p>・規制(薬物分類の定義を含む)に関する初歩的知識</p> <p>・情報源について精通する</p>	<p>プライマリーヘルスケア</p> <p>・よくみられる病態</p>

図表 3-4. 3、4 年目の教育目標

スキル／知識を高める

プログラム年次	一般の人とのコミュニケーション	専門家とのコミュニケーション	臨床的スキル	技術的スキル	薬剤と疾患
4 年目 (PP3A、PP3B、Prof Place および Prae Elec)	<p>一般用語を磨く</p> <ul style="list-style-type: none"> よく遭遇する疾患に関する薬剤やプライマリケアの問題について患者と自信をもって話し合うことができる 足りない点を認識し、助言を求めることができる 	<p>専門用語を磨く</p> <ul style="list-style-type: none"> よくみられる病態に対する薬剤に関連する問題について、医師をはじめとする医療従事者と話し合うことができる 足りない点を認識し、助言を求めることができる 	<p>専門家としての責任を負う</p> <ul style="list-style-type: none"> 薬剤師が患者ケアに対する責任を負う上で求められる要素を理解し、それを実行することに、ある程度成功する この責任に関してある程度の熟達を示すことができる 足りない点を認識し、助言を求めることができる 	<p>調剤に関する知識と技能</p> <ul style="list-style-type: none"> 調剤がある程度効率的にできる 薬剤師業務を包含する調剤と法律の関連要素が分かる 	<p>知識の応用</p> <ul style="list-style-type: none"> よくみられる病態に関する十分な知識を利用することができる よく遭遇する疾患について、エビデンスに基づいた薬剤および薬剤以外の選択肢を用いることができる 製剤学や薬物動態学を利用して適切な投薬計画を設計することができる
3 年目 (PTT1、PTT2、PTP1A および PTP1B)	<p>複雑な状況のための一般用語を磨く</p> <ul style="list-style-type: none"> 継続中の薬物療法管理の問題について患者に助言することができる 	<p>複雑な状況のための専門用語を身に付ける</p> <ul style="list-style-type: none"> 薬剤の選択、安全有効性、服薬遵守について医師と話し合うことができる 	<p>情報に基づく意思決定</p> <ul style="list-style-type: none"> 薬学的ケアに基づく患者ケアの過程—思いやりのあるアプローチと能力に基づいて、処方薬に関して、情報を集めることができる、評価を実施できる、治療の選択肢に関する決定ができる、患者に必要な技能を提供できる、モニタリングタイムテーブルを案出できる 適切な選択、安全性、効果や服薬遵守に関する概念を患者のケアに組み込むことができる。 薬剤に関連する健康転帰を達成するために必要かつ適切な場合には、各患者に行動を改める意欲を起こさせることを導入する 	<p>薬物分類など規制の原理に関連する知識を身に付ける</p> <ul style="list-style-type: none"> 薬物分類の原理と実践について、各顧客の視点および集団の視点の双方から理解する 	<p>病態と薬剤選択に関する理解</p> <ul style="list-style-type: none"> エビデンスに基づく実践 薬物の用量と設計

④タスマニア州薬剤師会

(a)薬剤師研修

オーストラリア薬剤師会は、全国組織であり、政府との交渉を行う。また、各州にブランチ（支部）があり、各州の薬剤師への教育、州政府との交渉の役割を持っている。タスマニア支部には、8名の薬剤師からなるブランチコミッティがあり、ブランチダイレクターが支部の予算責任を担っている。タスマニア支部における継続教育（CPD）プログラムについては、以下の通りである。

①領域の設定

政府と薬剤師会とで目標設定し、国と州とのそれぞれのキャンペーン週間（例えば糖尿病週間など。世界糖尿病ディなども考慮される）に合わせて実施される。薬局だけがキャンペーンを行っているわけではなく、他の機関とも連携（糖尿病協会や医師会など）して実施している。そのため、患者教育のための資料は、他の団体で使用しているものを使うこともある。

また、継続的に実施している 6 トピックがあり、毎月定期的にそのうちの一つを選択して実施するものもある。例えば、5月は心疾患教育の月となっており、5月は、心疾患やそのリスクに関する教育プログラム（例えば、血圧計測など）の教育も提供される。ぜんそくであれば、吸入指導の方法も対象となる。また、参加薬剤師を対象に、教育終了後にどのような教育を受けたいかも調査している。

(b) 補助スタッフトレーニング（図表 3-5 参照）

薬剤師教育ほど完全なプログラムはできていないが、トレーニングコースが設けられている。3から12か月、薬局で勤務しながらトレーニングを受け、資格認証につながる。認証は、政府がオーストラリア薬剤師会を認証組織として認定おり、そのための予算も政府が提供している。なお、補助スタッフには、店舗業務のサポートを行う「アシスタント」と調剤室でのサポートを行うテクニシャンとがあるが、いずれも大学には研修コースがないので、薬剤師会がトレーニングを提供している。