Pharmaceutical Care Plans

Course Name: Pharmacy Practice-2

Course Code: 0521515

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Learning Objectives

- To appreciate the practice of pharmaceutical care in primary and secondary care settings.

- To identify steps required in the development and handling of pharmaceutical care plans.

Background

- Clinical pharmacy (CP) is the discipline concerned with the use of medicines in patients. It requires the application of pharmaceutical science in order to solve drug therapy problems in individual patients.
- Pharmaceutical care (PC) is the integration of clinical pharmacy knowledge, skills, and attitudes into a system of multidisciplinary care that aims to provide quality assurance of medicines in use.

Pharmaceutical care process

Quality assurance of pharmacotherapy

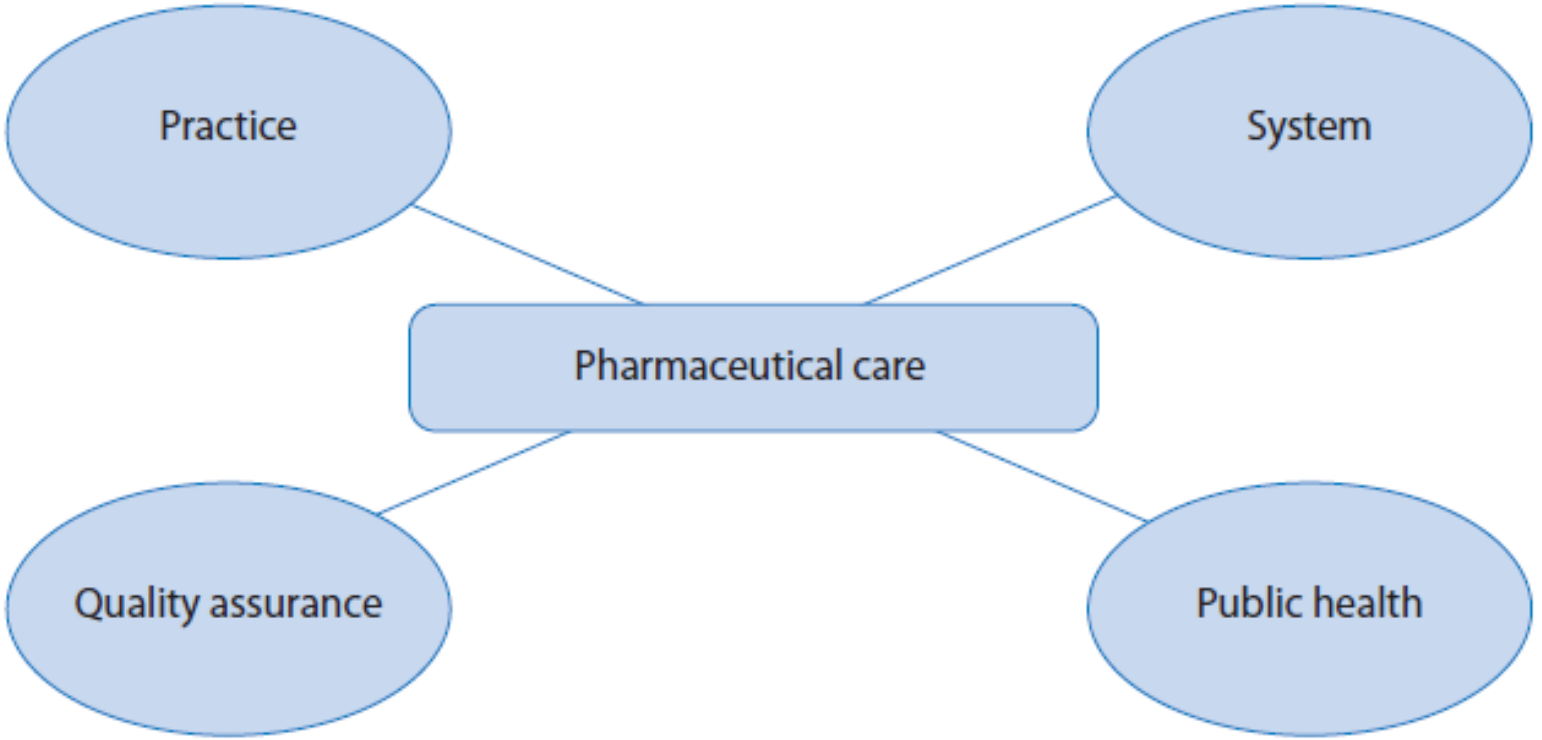
Pharmacotherapy in the real world setting:

Factors to be considered

- Comorbidity, • Polypharmacy
- Incomplete information about the patient's background and drug history.
- Clinical uncertainty, • Patients' responses may be unpredictable • Evidence base for use of a medicine or a the combination may be lacking
- Pharmaceutical care is monitoring and inquiry strategy to validate the treatment plan

Pharmaceutical care process

Concept of Pharmaceutical Care



I. Practice

Achieving rational drug therapy

- Accurate diagnosis
- Knowledge of the pathophysiology of the disease
- Knowledge of basic pharmacology and pharmacokinetics
- Ability to transfer knowledge into effective bedside action
- Reasonable expectations of these relationships so as to anticipate the effect of drugs
- Plan of therapy.

I. Practice

Medication-related problems

- Untreated indication
- Improper drug selection
- Subtherapeutic dosage
- Failure to receive medication
- Overdosage
- Adverse drug reactions
- Drug interactions.

II. System

Preparing a pharmaceutical care plan

The preparation of a pharmaceutical care plan can be divided into four stages:-

1 Define the patient's healthcare needs
2 Specify pharmacotherapeutic goals
3 Identify therapy recommendations
4 Develop patient monitoring.

Case Study: Diabetes

Ms XZ, a 55-year-old patient living on her own, has hyperglycemia.

She has been diagnosed with type 2 diabetes for 2 years and is receiving treatment.

She is receiving human insulin treatment but the patient states that she does not take the medicine regularly because sometimes it makes her dizzy.

Case Study: Cancer

Mr BW is a 60-year-old patient with prostate cancer.

He is complaining of severe pain that is interfering with his daily activities.

He takes paracetamol with codeine for pain when needed and has received prostate cancer treatment.

1. Define the patient's healthcare needs

- All actual or potential (e.g. due to comorbidities) healthcare problems
- To alleviate actual problems
- To avoid potential problems.

Needs in Diabetes case study	Needs in Cancer case study
control blood glucose levels	control pain
avoid any adverse effects from medication	control potential side-effects
prevent complications from disease	treat cancer

2. Specify pharmacotherapeutic goals

- Management of conditions
- Prevention of side-effects
- Prevention of related conditions.

Goals in Diabetes case study	Goals in Cancer case study
optimise blood glucose control	optimise pain control
prevent hypoglycaemia due to medications	prevent side-effects of pain medication
prevent onset of disease sequalae (e.g. retinopathy, skin infections).	treat cancer

3. Identify therapy recommendations

- Drug selection
- Dose and dosing frequency
- Route of administration
- Length of therapy

Diabetes case study : Recommendation: Drug Selection
oral antidiabetic agents: sulphonylureas (e.g. gliclazide) or biguanides (e.g. metformin)
insulin – short acting (e.g. insulin aspart) or intermediate acting (e.g. insulin zinc suspension)

Diabetes case study : Recommendation: Drug Selection
insulin mixture or biphasic preparation (e.g. biphasic insulin aspart – 30% insulin aspart, 70% insulin aspart protamine)
number of doses per day vs meal times

3. Identify therapy recommendations

- Drug selection
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Diabetes case study : Recommendation: Drug Selection
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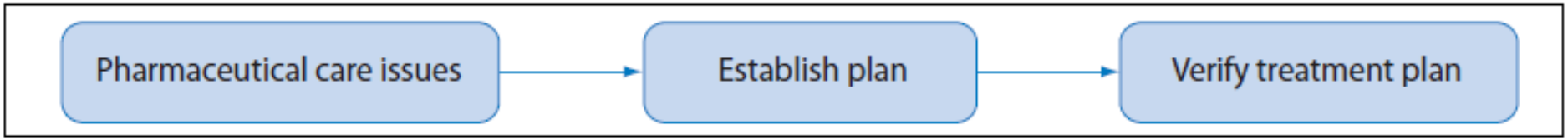
insulin – short acting (e.g. insulin aspart) or intermediate acting (e.g. insulin zinc suspension)

Diabetes case study : Recommendation: Route of administration:
syringe vs injection device (pen)

3. Identify therapy recommendations

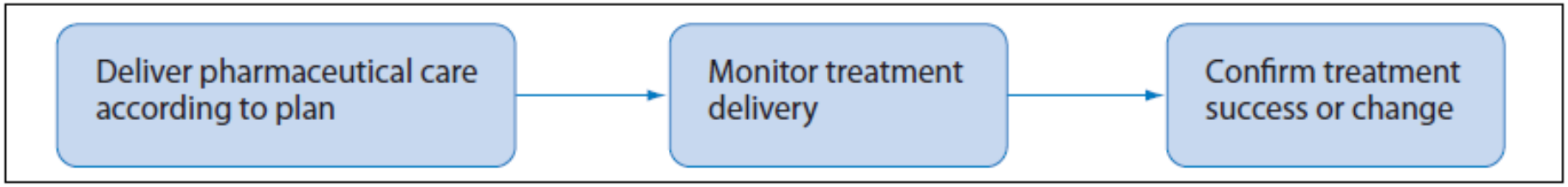
Diabetes case study : Recommendation: Dose and dosing frequency
insulin mixture or biphasic preparation (e.g. biphasic insulin aspart – 30% insulin aspart, 70% insulin aspart protamine)
number of doses per day vs meal times

Verification of Treatment Plans



4. Patient Monitoring

- Quantitative and qualitative parameters (i.e. clinical assessment)
- Define pharmacotherapeutic end-points
- Determine monitoring frequency.



Patient Monitoring in Diabetes case study	Patient Monitoring in Cancer case study
glucose control (blood glucose, HbA1c)	use of pain scales to assess pain perception
assessment of quality of life	assessment of quality of life
assessment of onset of side-effects due to medications (e.g. nausea, hypoglycaemic attacks).	assessment of onset of side-effects due to medications (e.g. nausea, constipation).

Pharmacists' care plan in community pharmacy setting

Patients with diabetes participate in monthly consultations with community pharmacists.

Pharmacist contributes to the education of the patient, clinical assessment and recommending referrals as necessary.

Education:-

- Glucose and lipid management
- Training on self-monitoring blood glucose and interpretation of results
- Medication management.

Clinical assessment:-

Feet, skin, blood pressure, body weight

Follow-up and referral:-

Referral as needed

Outcome measures:-

- HbA1c
- Home blood glucose measurements
- Health-related quality-of-life measurement
- Evaluation of patient satisfaction with pharmacy services.

Practice summary

Pharmaceutical care requires integration of clinical pharmacy knowledge which has a pharmaceutical science baseline within a multidisciplinary approach.

Pharmaceutical care is practiced in both primary and secondary care settings.

Documentation is required in the practice of pharmaceutical care: patient profile, medication profile, laboratory tests and the pharmaceutical care plan.

Checks and changes to the pharmaceutical care plan are required to ensure quality assurance of the care provided.

Checks require patient monitoring such as patient interviews, laboratory markers, quantitative tools to establish disease progression, and the occurrence of signs and symptoms.

Question:-

Outline the features to be considered in a pharmaceutical care plan for a patient with chronic hypertension.

Answer:-

(a) Determine the objectives of care in hypertension.

(b) Establish the importance of nonpharmacological measures (e.g. diet and exercise).

(c) Use evidence-based guidelines to devise a treatment plan.

(d) Identify the optimal treatment options for the particular patient, taking into consideration co-morbidities and individual patient risks.

(e) Promote adherence to therapy and lifestyle modifications.

Answer:-

(f) Identify signs of comorbidities (e.g. ischaemic heart disease, heart failure, kidney disease, diabetes, impairment of vision).

(g) Monitor blood pressure regularly and encourage patient to take up self-monitoring.

(h) Monitor clinical parameters (e.g. blood glucose levels, lipid profile, creatinine clearance).

(i) Monitor for the occurrence of drug-related problems (e.g. side-effects, patient safety).

(j) Verify compliance, assess outcomes and confirm treatment or suggest changes.


Thank You!