# Medication adherence - a tool for maximization of effectiveness and minimization of risks of therapy… and a challenge for inter-professional co-operation

Jiří Vlček

Professor of clinical pharmacy & pharmaceutical care

4/10/2017

# Character of pharmaceutical care

- Aim of care:
- to reach a goal defined by attending physician (maximization of effect)
- to minimize risk of pharmacotherapy (minimization of risk)
- to collect experience with maximization of effect and minimization of risk

-
Tools for

| effect maximization | | risk minimization |
|---|---|---|
| aim | | aim |
| stop complications | dosage interval/strategy | ADR |
| quality of live | medication adherence | contraindications |
| prevention of disease | life style | drug/drug interactions |
| | monitoring (feedback to our activities) | medication errors |
| | medication review | |
| | self-medication | |

# medication non-adherence
# 4 dimensions of dimensions

- Drop out of some dose of medicine

- Drug holidays

- Overusing of medicine

- Difference in administration of drugs from recommendation by care giver regarding
  - time
  - how to use it (technique, dose, dosage scheme; food; fluid)

# medication non-adherence clinical consequences

- Direct
  - to quality health care
  - cost of health care

- Indirect
  - information bias (a break of feedback in PC)
  - Inappropriate self medication by remaining medicines

# Medical consequences of non-adherence I
# ☹☹ a loss of drug benefit (maximization of effect)

- we don´t reach aims of pharmacotherapy because
  - Underused
  - non correctly used (regarding drug formulation and/or recommended strategy)
- examples
  - antihypertensive agents, antidiabetics – medicines are forgotten or underused
  - Inhaled corticosteroids: wrong technique of inhalation
  - Diabetes mellitus and change: glargin 10j-10j-5j; aspartat 0-0-5

# Medical consequences of non-adherence II

☹☹ an increase risk of pharmacoterapy (minimization of risk)

- the medicines cause more ADR
  - an overuse of medicine (ADR)
  - a syndrome of withdrawal (ADR)
  - not correctly used (regarding drug formulation and/or recommended strategy)
  - change of pharmacotherapy after risk minimization process
- examples
    - Oversuse by signature: metamizol according the need
    - Drug holiday: metiprednisolon 16 1-0-0 – risk stress hypotension
    - Insulin injecting in one place – risk of lipodystrophy
    - Asthma bronchial: astmatic atac: salmeterol + fliticason; for chronic use fenoterol 1-0-1
    - To stop verapamil – in patient treated with cyclosporin -

# Medical consequences of non-adherence III

☺😐patient reaches one of the goals

– Reduce toxicity
– Skip medication errors
– Drug is not necessary or dose is too high

– ☹☹Risk of information bias
– If they don´t inform health care professionals

# Information bias due to not discovevered non-adherence

- False feedback regarding
  - Effectiveness of particular pharmacotherapy
  - risk of particular pharmacotherapy
- Drug rejection for apparent non effectiveness (loos of strategy)
- To add new medicine to increase effectives (risk of polypharmacotherapy)

- Interpretation of results from clinical trials

# Management of non-adherence

- Three steps:
- 1/ To identitify signal of non adherence
- 2/ To monitor adherence
- 3/ To prevent or to manage non-adherence
- education
- monitoring
- medication review
- help devices
- Risk minimization

# Signals (indicators) of non-adherence

- **1/ Medication perspective**
  - Dosage scheme
  - Poly-pharmacotherapy
  - ADR influencing QoL
  - Syndrome of leaflet
  - Symptomatic treatment
  - Effect is „silent“ for patient
- **2/ Patient perspective**
  - A sensitivity to information
  - An ability to pay
  - An ability to understand
  - An ability to co-operate
  - Difficult handling with drug formulation
- **3/ Disease perspective**
  - the goal was not reached
  - asymptomatic/chronic disease
  - different strategies: acute/chronic
  - combination of drugs due to minimizing of risk management
  - not allows to understand the leaflet
  - reduces attitudes to a correct use or correct administration of drug formulation
  - Can Influence patients 2/

# Health care worker
# do they don't influence non-adherence?

- Underestimation of problem of non-adherence
- No interest about course of treatment – not appropriate monitoring
- No interest to find cause why we don´t reach a goal of pharmacotherapy
- To provide „too much“ information to petients by prescribing/dispensation
- Wrong selection of drugs
- Shortage of therapeutic alliance

# non-adherence

## a meaning of communication of health care worker with patient

- Monitoring of adherence
  - do you observe any changes,
  - how do to tolerate the drugs .....
- information
  - written
  - oral
- Confirmation of understanding
- To avoid uncertain phrases
  - Three times daily instead of every 8 hours
  - tea spoon
- Communication regarding leaflet syndrome
  - To stress out importance of drug to patient
  - 3pillars algorithm to manage worries about risk of pharmacotherapy

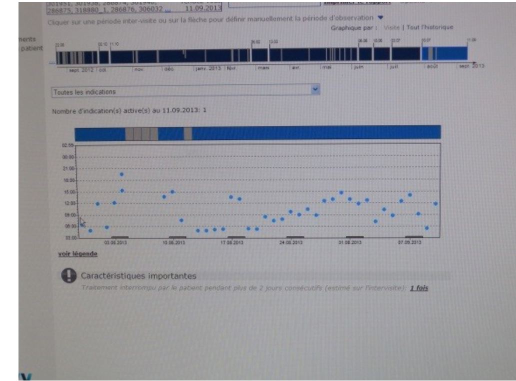
# management of non-adherence

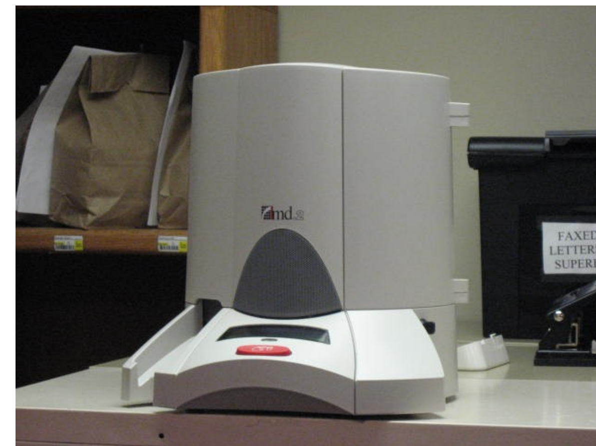
- Continuity of care
    - Not to change physicians and pharmacists
    - To summarize pharmacotherapy and how to use it - Also monitoring (questions)
    - More frequent contact with health care worker is more important as duration
  - To monitor efficacy and ADR of pharmacotherapy
    - Interest about ADR
    - reminder by phone,
    - patients report it alone
- Monitoring of adherece – how to use it
- Self monitoring (glycaemia, blood pressure, peak flow meter)
- Simply dispensation procedures
  - To remind if you have enough medicines,
  - Symptomatic therapy – to inform about maximal daily dose

# management of non-adherence

- Aids to promote adherence
  - Weekly (monthly) cassettes,
  -
  - Websterpack http://www.webstercare.com.au
  - „electronic reminder“
  - MEMS – Medication event. Monitoring system
  - POEMS – polymedication electronic monitoring system

Weekly color-coded cassettes
Weekly or monthly blister cards
electronic devices , MEMS





# Conclusions

- Medical non-adherence management is important tool of pharmaceutical care
- Patient´s view about the medicine is his/her personal think
- Health care workers have to co-operate how to improve adherence
- They need to trust with patients and to look for best selection of medicine, dosage scheme and to follow need of patients and to explain information about medicines
- Pharmacist are ready to help physicians and patients to improve medication adherence