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31 – Factors Associated With Adherence to Drug Therapy

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It is well known that lack of patient adherence is of major importance in the success of a prescribed medical treatment. Lack of adherence may result from patient-related factors, or be related to the provider. Various measures to promote adherence have been proposed, ranging from pill counts and use of trace elements to interviews and questionnaire-based methods.

Adherence varies with diseases and across methods used. It has for instance, been found that following an acute coronary syndrome, 8–20% of patients discontinue their medication within 6 months. In many chronic diseases, 40–50% of patients do not adhere to the initial treatment beyond 12 months and in women given hormone replacement therapy, as few as 50% still adhere to their medication after one year.

Most adherence studies focus on one drug or one type of disease and are typically run only in patient groups. Few have taken a wider perspective. To this end, we carried out a study on medication adherence, defined as persistence of medication or stopped as prescribed, and some of its determinants in middle-aged women in the general Swedish population.

The study was carried out in the Uppsala-Örebro Health Care Region in mid-Sweden with a population of approximately 2 million. The study was performed by means of a postal questionnaire and comprised 2991 women willing to participate. The age distribution of respondents and non- respondents was similar. The questionnaire had two parts, the first containing questions on marital, occupational and educational status, tobacco use, and height and weight. The second part of the questionnaire contained questions on drugs prescribed during the past year. For each prescription, information was sought on drug trade name, dosage, duration of medication and whether the drug was currently being taken as prescribed, was ceased as prescribed, was ceased by the woman against prescription, whether the prescription was filled but the medication not started or whether the prescription was not filled at all. If more than five prescriptions were received during the study period, information on drug number six and onwards was given in a free format, but with the same type of information as for the first five.

The study population constituted 1406 women who reported having received at least one prescription . Adherence was considered to be satisfactory if the medication was taken or stopped as prescribed; in all other cases it was considered to be unsatisfactory, since the purpose of the study was to study general adherence to prescribed medication, not the occasional loss of individual drug doses.

Information was also sought on scheduled check-ups, perceived necessity of the medication (coded from low (=1) to very high (=7)), concerns about medication safety (yes/no) and prescribing physician's sex and type (general practitioner, hospital physician, private practitioner or occupational health physician).

Mean age was 51 years, mean BMI was 25, 27% had a college or university education. 79% were married or cohabiting, 68% were gainfully employed, 26% were smokers.

The number of prescriptions per women ranged from 1 to 15 drugs, with a median of 1.5.

Based on 3067 prescriptions among the 1406 women, 85.6% reported satisfactory adherence, with 78% of the medication being currently taken and 7.6% being stopped as prescribed. In 10.7% medication was stopped prematurely, in 1.8% it was never taken and in 1.9% it was not filled at the pharmacy. A total of 207 (14.7%) women reported mixed adherence, satisfactory for some medications and unsatisfactory for others. With relation to 62% of the prescriptions a follow-up appointment with the prescribing physician was given. In 68% the women regarded the medication as important to their health. Seventeen per cent of the women had concerns about the safety of a particular medication. The majority of the prescriptions were for one dose per day or less, 66.6% were issued by a male prescribing physician, in 71% of the prescriptions the confidence in the prescribing physician was reported as high. Most of the prescriptions were issued either by general practitioners (41%) or by hospital physicians (38%).

Patient age, a scheduled follow-up appointment, perceived importance of medication, concerns about medication safety, taking respiratory disease medication and taking cardiovascular disease medication remained significantly related to adherence as was seen in a multivariate analysis (Table 1). Among other drug groups the best adherence was found in the groups taking hormonal medications, such as insulin and thyroid hormones, not including hormone replacement therapy or contraceptives. The lowest adherence was found in the women taking musculoskeletal medications, such as non-steroidal anti-inflammatory drugs.

Table 1. Factors associated with adherence to medication in multivariate logistic regression with backward elimination of non-significant factors, listed in order of importance. Odds ratios greater than 1.0 indicate that presence of the factor increases adherence, and odds ratios less than 1.0 that adherence decreases. (1) odds ratio, (2) 95% confidence interval

Factor	OR (1)	95%CI (2)
Age, years	1.04	1.02-1.06
Check-up appointment scheduled, yes/no	2.51	1.85-3.40
Importance of medication score, 1-7	1.94	1.77-2.12
Concerns about medication safety, yes/no	0.50	0.35-0.73
Respiratory disease medication, yes/no	2.16	1.13-4.14
Cardiovascular disease medication, yes/no	1.80	1.05-3.10

Adherence also varied with various combinations of significant factors in the multivariate analysis. An example is given in Figure 1. Among women 35 years old, who regarded their medication as unimportant and who had no follow-up appointment scheduled, adherence was approximately 15% while among women 65 years old it was 35%. A scheduled follow-up appointment increased adherence by 15–20% units. The change in perceived importance of a medication from unimportant to moderately important increased adherence by 40% units. The best adherence, 95% or more, was found among those who regarded their medication as important and who had a follow-up appointment scheduled, almost regardless of age.

Compliance is associated with information giving and positive talk. Patient-centred consultations, when the patient's points of view are sought by the physician result in higher reported compliance rates. Our findings of high adherence in the group of women with a follow-up appointment is supported by prior findings, where following patients in care is seen as one of the most important adherence interventions.

It seems that the patient-provider relationship, when communicative and concordant aspects are developed, may

further improve adherence. One way to optimize this relationship is to train the medical providers and students in communication skills, in order to improve their abilities in creating an optimal consultation within the given time constraints.

Figure 1 Adherence (%) according to patient age, perceived importance of medication, and given scheduled check-up appointment.

Take home messages

- Arrange for scheduled follow-up appointments to assess the effects of the medication.
- Discuss the medication and the importance of taking it as prescribed during the consultation.
- Ask about the patient´s concerns with the medication.
- Explain disease severity to the patient.
- Provide training opportunities for medical students and practitioners to improve communication skills.

Original abstract

http://www.woncaeurope.org/content/bp18-factors-associated-adherence-drug-therapy-population-based-study

Reference

- Bardel A, Wallander MA, Svärdsudd K. Factors associated with adherence to drug therapy: a population-based study. *Eur J Clin Pharmacol*. 2007 Mar;63(3):307-14.