

# Patients' drug-information needs: a brief view on questions asked by telephone and on the internet

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## Keywords

Drug information  
Internet  
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## Abstract

**Objective:** To compare patient characteristics and types of questions from individuals who consulted a toll-free telephone number with individuals who consulted a free information site on the Internet

**Method:** Characteristics of all individuals and the questions they asked on both services in the month of February 2000 were analysed.

**Results:** There were several differences between individuals who consulted both services. Individuals who asked questions through the Internet were younger and consisted of a relatively higher percentage of men than individuals who used the telephone.

**Conclusion:** Different services can meet the needs of different patient groups.

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## Introduction

Health has become one of the most demanded topics on the Internet. Both professionals and lay persons increasingly offer information about medicines on WebPages. These Internet resources are frequently used to answer current medical questions and are thus likely to influence the behaviour of the users. However the quality of information is sometimes disputable [1], especially when prescription medicines are sold to the public [2]. Independent and unbiased information is necessary.

In The Netherlands a toll-free telephone number staffed by pharmacists has been available since 1990 for questions on medicines. This database has been used to evaluate the early reporting of adverse drug reactions by consumers [3]. Regularly topics of questions to this telephone service are discussed in the Dutch 'pharmaceutical journal' [4]. In 2000 the Royal Dutch Association for the advancement of Pharmacy (KNMP) took the initiative to develop a comparable service online. Preceding this development we studied whether the telephone-service and the Internet attend the needs of different target groups. It is important to know which service meets the needs of which patients.

## Objective

- To compare age and gender of individuals who consulted a toll-free telephone number (Geneesmiddel-Infolijn) and individuals who consulted a free information site on the Internet.
- To compare the types of questions posed on the Internet and the toll-free telephone number.

## Setting

Two free patient-drug information services in The Netherlands. The toll-free telephone number is operated by volunteer pharmacists, co-ordinated by the KNMP and paid for by the Dutch Ministry of Health. The free information site on Internet was a private initiative supported by volunteer pharmacists.

## Design

Characteristics of all individuals and the questions they asked on both services in the month of February 2000 were analysed. Questions on the Internet site were available in free text entered by the patient, questions on the telephone service are entered in free text by the pharmacist who answers the telephone. The authors classified these questions according to the topics (MB) and type of drugs (JB and MB) to which they referred. Drugs were coded according to ATC-classification.

## Main outcome measures

The characteristics of the individuals, the drugs and topics about which they asked questions to both services, were compared.

## Results

Respectively 305 and 183 questions were asked on the toll-free telephone number and the internet site. Individuals who asked questions through the Internet were younger and consisted of a relatively higher percentage of men than individuals who used the telephone ( $P < 0.05$ ). Absolutely the majority of questions at both services were posed by women (Table 1).

There were several differences between the types of drugs (Table 2) and types of questions (Table 3) asked on the telephone and on the internet. Most questions both on the internet and telephone service concerned neuro-psychiatric drugs. However these questions were asked even more frequently on the toll-free telephone number than on the free Internet site ( $p < 0.05$ ). The users of the toll-free number also asked more questions about cardiovascular medicine and postmenopausal hormonal supplementation (Table 2). Questions on oral contraceptives and dermatological questions were more frequently asked by the internet-users (Table 2).

**Table 1** Sex and age distribution of patients

|                         | Free internet site (N=183) | Toll-free telephone number (N=305) |        |
|-------------------------|----------------------------|------------------------------------|--------|
| <b>Sex</b>              |                            |                                    |        |
| male                    | 66 (35.7%)                 | 80 (26.2%)                         | p<0.05 |
| female                  | 110 (59.5%)                | 210 (68.9%)                        |        |
| unknown                 | 9 (4.9%)                   | 15 (4.9%)                          |        |
| <b>Age distribution</b> |                            |                                    |        |
| <20                     | 29 (15.7%)                 | 6 (2.0)                            | p<0.05 |
| 20-40                   | 94 (50.8%)                 | 97 (31.8%)                         | p<0.05 |
| 40-60                   | 27 (14.6%)                 | 76 (24.9%)                         |        |
| > 60                    | 8 (4.3%)                   | 41 (13.4%)                         | p<0.05 |
| unknown                 | 27 (14.6%)                 | 85 (27.9%)                         |        |

**Table 2** Categories of drugs with at least 2 questions in either medium

|  | Free internet site<br>N=183 |       | Toll-free telephone<br>number N=305 |       | P-value |
|--|-----------------------------|-------|-------------------------------------|-------|---------|
| Alimentary tract (A)                       | 9                           | 4.9%  | 22                                  | 7.2%  |         |
| stomach and anti-ulcer drugs (A02 and A03) | 3                           | 1.6%  | 9                                   | 3.0%  |         |
| anorectics (A08)                           | 2                           | 1.1%  | 2                                   | 0.7%  |         |
| Blood (B)                                  |                             |       | 9                                   | 3.0%  | p<0.05  |
| Cardiovascular (C)                         | 4                           | 2.2%  | 30                                  | 9.8%  | p<0.05  |
| Dermatological (D)                         | 27                          | 14.8% | 6                                   | 2.0%  | p<0.05  |
| baldness, hair growth products             | 9                           | 4.9%  | 2                                   | 0.7%  | p<0.05  |
| Genito-urinary tract(G)                    | 30                          | 16.4% | 22                                  | 7.2%  | p<0.05  |
| oral contraception (G03)                   | 27                          | 14.8% | 5                                   | 1.6%  | p<0.05  |
| menopausal preparations (G03)              | 1                           | 0.5%  | 6                                   | 2.0%  |         |
| Systemic hormones (excl. sex hormones) (H) | 4                           | 2.2%  | 5                                   | 1.6%  |         |
| Antimicrobials (J)                         | 2                           | 1.1%  | 19                                  | 6.2%  | p<0.05  |
| influenza (J05)                            | 0                           | 0.0%  | 7                                   | 2.3%  |         |
| antibiotics (J01)                          | 1                           | 0.5%  | 15                                  | 4.9%  |         |
| Cytostatics and immunomodulants (L)        | 2                           | 1.1%  | 4                                   | 1.3%  |         |
| Musculoskeletal (M)                        |                             |       | 10                                  | 3.3%  | p<0.05  |
| Nervous system (N)                         | 41                          | 22.4% | 120                                 | 39.3% | p<0.05  |
| antidepressants (N06A)                     | 18                          | 9.8%  | 58                                  | 19.0% | p<0.05  |
| antipsychotics (N05A)                      | 0                           | 0.0%  | 9                                   | 3.0%  | p<0.05  |
| antiepileptics (N03A)                      | 0                           | 0.0%  | 5                                   | 1.6%  |         |
| anxiolytics and sedatives (N05B)           | 2                           | 1.1%  | 25                                  | 8.2%  | p<0.05  |
| Antiparasitic drugs (P)                    |                             |       | 2                                   | 7%    |         |
| Respiratory system (R)                     | 9                           | 4.9%  | 13                                  | 4.3%  |         |
| asthma drugs (R03)                         | 7                           | 3.8%  | 7                                   | 2.3%  |         |
| Sensory organs (S)                         | 6                           | 3.3%  | 2                                   | 7%    | p<0.05  |

Patients who used the Internet site were more often in search of general information on diseases and drugs instead of specific questions about specific drugs than patients who used the telephone ( $p<0.05$ ). The internet users also asked more frequently for therapeutic advice such as alternatives for their current drugs ( $p<0.05$ ). The Internet site also received more requests for information for the preparation of school assignments ( $p<0.05$ ). Users of the Internet had more questions on use outside the licensed indication such as use of finasteride for male

pattern baldness. Users of the telephone service had more specific questions on adverse drug interactions, drug interactions and dependency (Table 3).

### Discussion

This study shows that patients do have a wide variety of questions about their medicines. The Internet is rapidly emerging as a source of information. Pharmacists should try to play a key role in the provision of objective information on medicine.

**Table 3** Topics of the questions\*

|   | Free internet site<br>N=183 |       | Toll-free telephone<br>number N=305 |       | P-value |
|---|-----------------------------|-------|-------------------------------------|-------|---------|
| general information on diseases and groups of drugs instead of specific questions | 72                          | 39.3% | 19                                  | 6.2%  | p<0.05  |
| general information on a specified drug   | 17                          | 9.3%  | 31                                  | 10.2% |         |
| information for school (preparation of papers)                                    | 16                          | 8.7%  | 1                                   | 0.3%  | p<0.05  |
| pregnancy   | 5                           | 2.7%  | 6                                   | 2.0%  |         |
| lactation   | 0                           | 0.0%  | 5                                   | 1.6%  |         |
| dependency and stopping   | 5                           | 2.7%  | 27                                  | 8.9%  | p<0.05  |
| effectivity mechanism of action   | 15                          | 8.2%  | 28                                  | 9.2%  |         |
| dosage and time schedule  | 12                          | 6.6%  | 19                                  | 6.2%  |         |
| adverse reactions/ safety   | 38                          | 20.8% | 87                                  | 28.5% | p<0.05  |
| interactions  | 4                           | 2.2%  | 28                                  | 9.2%  | p<0.05  |
| therapeutic advice; comparison of products; changing of medications               | 45                          | 24.6% | 24                                  | 7.9%  | p<0.05  |
| availability of the product; reimbursement and other financial aspects            | 20                          | 10.9% | 14                                  | 4.6%  | p<0.05  |
| second opinion  | 2                           | 1.1%  | 10                                  | 3.3%  |         |
| alternative drugs   | 19                          | 10.4% | 28                                  | 9.2%  |         |
| use outside licensed indication   | 9                           | 4.9%  | 1                                   | 0.3%  | p<0.05  |

\* Percentages add up to more than 100% because one question can concern different topics

We found some differences between the types of users and questions asked to a toll-free telephone number and a free Internet site. The differences in drugs and questions are probably also related to the differences in age and sex distributions of both populations.

Although we did not study patients' preferences, different patient groups might prefer different routes of information. The Internet could help patients who are in need of facts and practical information. While the telephone could be more suited for patients who are worried and need some mental support. The results of this study suggest that the elderly do not yet have easy access to the Internet. Different routes of information provision can be used to reach different patient groups. Public health authorities should be persuaded to contribute to the continuity of such services.

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