Non-prescription medicines for pain and fever—A comparison of recommendations and counseling from staff in pharmacy and general sales stores

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A B S T R A C T
Objectives: The purpose of this study is to map and analyze the content and quality of the encounter when customers buy non-prescription medicines for pain and fever.
Methods: 297 pharmacies and 801 general sales stores (GSS) in Sweden were selected. A “Mystery shopper” exercise was conducted. Three scenarios were used and a total of 366 units were selected for each scenario. There were in total 625 observers: 208 in the child with fever scenario, 225 in the Reliv scenario, and 192 in the painkiller during pregnancy scenario. Data collection: 21st September to 20th November 2011.
Results: In two out of three visits to GSS, the staff proposed a medicine for a heavily pregnant woman. The staff suggested in 9% of the visits a medicine that is inappropriate in late pregnancy. The corresponding percentage in pharmacies was 1%.
Both pharmacies and GSS proposed, in 6% a medicine that is inappropriate for babies to a feverish child. Only 16% of the pharmacists and 14% of the staff in GSS asked for the age of the child.
General sales staff recommended in 10% ibuprofen and in 4% an acetylsalicylic acid product when an acetaminophen preparation was requested. The corresponding percentage in the pharmacy were 4% ibuprofen, 2% diclofenac, and 1% an acetylsalicylic acid product.
Conclusions: The staff in GSS and pharmacies do not pay sufficient attention to the heterogeneity of painkillers, which lead to inappropriate recommendations.

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1. Introduction

Non-prescription medicines are an important part of the treatment of minor ailments and can be said to relieve the burden on the health care system. A follow-up of how non-prescription medicines are recommended to the public is of great importance to ensure that the sale is appropriate with respect to patient safety and public health.

When the Swedish pharmacy market was deregulated, the sale of non-prescription medicines for the treatment of minor ailments was no longer restricted to pharmacies. The state investigation that led to the reform saw sales in and outside the pharmacy as supplementary systems on a deregulated market. The focus was the patient and consumer perspective, together with the overall goals of increased availability, pricing pressure, and safe and effective medication use.

According to the legislation, selected non-prescription medicines may under certain conditions since November 1, 2009 be sold in general sales stores (GSS) e.g., grocery

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stores and petrol stations [1–3]. The decision on which non-prescription medicines that may be sold outside pharmacies is taken by the Medical Products Agency (MPA), the regulatory authority. In connection with the purchase of these non-prescription medicines, clients have access to various kinds of information to facilitate their use; such as written information in the package, verbal information from personnel in the GSS, and advice from the pharmacist in a pharmacy [4]. Only in pharmacies there is a requirement that pharmaceutical staff should be available during the store’s opening hours. There are, however, no detailed requirements on how such staff should be allocated, such as that staff with client contact, related to non-prescription medicines should have pharmaceutical expertise. Pharmacies in Sweden most often have their shop area divided into a self-care area and a prescription area. In the self-care area there are pharmacy technicians working, and they are obliged to have a pharmacist who they can contact if needed. Swedish pharmacists are of two kinds, one with five years of pharmacy education (equal to the EU directive) and one with three years. The regulation does not distinguish between the two. The pharmacy technicians have an undergraduate pharmacy education, and in most case an in-company special training focusing on non-prescription medicines.

The Government Bill 2008/09: 190 Trade with certain prescription medicines states that "The operator of GSS who is a non-pharmacist should not give counseling on the dosing of medicines. This should be obvious to the vendors who do not have pharmaceutical knowledge. In view of the foregoing, the Government is not justified by any restriction of freedom of expression proposed by the Inquiry. There may be situations where a consumer needs advice on the purchase of non-prescription medicines e.g., questions about interactions with other drugs that the consumer uses. At such times it is important that the information is given by people who have pharmaceutical expertise [3]."

In addition, in the guide where the MPA stated their interpretation of the Bill, the agency has included that the staff in grocery stores should not give advice on choice of medicines. The legal status of this is not absolutely clear since it has not been tested at court. The MPA has the overall responsibility for how the shops selling non-prescription medicines live up to the recommendations made by the authority. The authority is expected to file a lawsuit against shops that does not follow the recommendations, but so far there has been no lawsuit against a shop not following the regulations decided by the authority, so the exact status of the recommendations is not finally decided [4].

Deregulation of prescription medicines is a common phenomenon all over the world. Little is however known about the effects of these reforms on customer information and counseling. In Israel, most consumers continued to purchase their non-prescription drugs at pharmacies after a deregulation [5]. A Belgian study showed that customers buying non-prescription medicines were satisfied with the service provided in pharmacies, but skeptical of other distribution channels [6]. The counseling given in Swedish pharmacies in connection to non-prescription sales of medicines has previously been shown to be of high quality [7]. According to a recent report from the Swedish Consumers Agency after the deregulation in 2011, the opinions of the general public have however become less positive as compared to a study during the monopoly in 2008 [8].

We have not found any studies mapping the counseling of GSS personnel to customers buying medicines. Studies about staff behavior in relation to sales of non-prescription medicines have solely been conducted with the pharmacy as the study object.

There is however a need for this kind of study since the quality of the advice given and the behavior of the personnel in general stores might affect public health, quality of life of the customer and health care costs.

The MPA decided in summer 2010 to monitor how the store staff at both pharmacies and GSS responded to customers who intended to buy non-prescription medicines. The study has been performed by scientists at the authority with the exception of the data collection process, which has been done by an external company. The study is not part of the authority’s monitoring within the framework of the authority’s role as inspectorate, but part of the authority’s responsibility to follow up on how medicines are being used in the Swedish society.

2. Aim

The purpose of this study is to map and analyze the content and quality of the encounter when customers buy non-prescription medicines for pain and fever. This study highlights issues related to staff recommendations on the choice of medicines, staff counseling, questions put to the customers, and information provided by staff to customers.

3. Materials and methods

Data collection was done by observers who pretended to be customers (known as mystery shoppers, simulated patients or pseudo-customers) [9]. Mystery shopping has been successfully used in several studies including studies of pharmacists’ behavior during counseling [10–18]. The advantage of this method is that it gives results that, as far as possible, reflect a real situation. The disadvantage is that it is relatively expensive and that there may be differences in interpretation of the content of the observation, between different observers and between different observations even if they are performed by a single observer. To avoid this, observers that are trained and carefully instructed are used for the data collection.

3.1. Observers

Each observer performed a maximum of three observations. There were in total 625 observers; 208 in the child with fever scenario, 225 in the Reliv scenario, and 192 in the painkillers during pregnancy scenario. All observations conducted by the same individual referred to a single scenario. The observers were mostly women (61%) and 18–70 years. Staff and observers were not familiar with each other.

The observer chose day and time of observation themselves. Based on the agreed and predefined observation
chart, the observers recorded what happened at the customer encounter. As the observations were to be realistic, the observer purchased medicines. The purchase was reported to Daymaker AB (the company where the observers were employed that is specializing in Mystery shopping studies) and the company could thus ensure that the observer visited the correct pharmacy or GSS by checking the date and time of the observation. The observer was not allowed to buy any medicines other than the medicines the scenarios focused on. The data was collected by Daymaker AB ensuring that information on all retail units, was completely anonymous when the information was submitted to the MPA.

3.2. Number and content of the observations

There were 1248 approved pharmacies in Sweden on the 5th of April 2011 when the number of observations was determined. GSS who reported (the stores do not have to be approved, but they were obliged to report their intention to sell medicines to the MPA) trading in non-prescription medicines were 6152. Of these, 1098 stores (297 pharmacies and 801 GSS) were selected for the study.

When the customer came into the store, he/she contacted any member of staff and opened a dialog by asking for a medicine. Three scenarios were used; “I would like to have a medicine for my child/grandchild who has a fever” (“Child with fever”), “I would like to have a package of Reliv” (an unusual acetylsalicylic acid product) (“Reliv”), and “I would like to have painkillers for my wife/partner/friend who is soon to have a child” (“Pain tablets during pregnancy”) (Table 1). For each scenario, a detailed instruction was presented to the observers with guidance for the replies the observer should give when questions were asked by the staff. The instructions included e.g. that if the staff asked for the age of the child in the scenario “Child with fever” the observer should reply “She/he is soon to be 3 months”, if asked “Do you have a sensitive stomach/problems with your stomach?” in the scenario “Reliv”, the observer were told to reply “Yes, I have a bit of a sensitive stomach”, and if asked of location of the pain in the scenario “Pain tablets during pregnancy”, the staff were told to say “I don’t know, I was just told to buy painkillers”. In all scenarios, the observer were told to answer “No” to any question concerning whether the customer had been in contact with health care, or have received any counseling at a pharmacy.

The scenarios are limited to highlighting issues in the field of ‘pain and fever’. The test of the realism in the scenarios and the clarity in how they were presented was done by sending out test observers at two different times with adjustment of the guidelines of the scenarios in between. The relevance in relation to patient safety was tested by three of the MPA’s medical experts, who independently analyzed the scenarios from a patient safety perspective, responding to questions such as “Were the chosen scenarios highly relevant from a patient safety perspective?” and “Are there other scenarios that you would rather chose from this perspective?”

For each scenario, a simple random sample was drawn from the populations of pharmacies and GSS. If a store had closed or was not carrying medicines at all (as detected by the observer) another store was randomly drawn from the store population in question. A total of 366 units (Table 1) were selected for each scenario. Data collection took place during the period: 21st September to 20th November 2011.

3.3. Rational for choice of scenarios

Medicines for pain and fever are used by many people and are among the medicines that account for the highest sales figures in GSS in Sweden [19]. These are medicines for which the choice of substance is important as effects, patterns of adverse events, and recommended use may differ between the various substances. Certain substances such as acetylsalicylic acid and ibuprofen should for example not be used by women in late pregnancy, and not by infants younger than 6 months. Preparations containing acetylsalicylic acid is the analgesic recommended to be used by people with a sensitive or vulnerable stomach, and to those who, for various reasons, have a higher risk of bleeding such as people at the end of a pregnancy. Also for infants acetaminophen is the recommended substance due to the lower risk of side effects. There is also as high risk of double medication since analgesics are labeled in the shops as medicines for pain and fever, without any differentiation between substances [20].

Reliv is according to sales statistics an unusual acetaminophen preparation. It was chosen because we wanted to see how the staff handled the situation, when a product that they did not have in store was requested. Would they propose an alternative acetaminophen preparations or a product containing another substance?

In the other two scenarios the staff were faced with a medical problem. The customer asked for a medicine to relieve pain and fever. In this case the staff at the GSS should

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Abbreviation used</th>
<th>Pharmacies</th>
<th>General sales stores</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I would like to have a medicine for my child/grandchild who has a fever”</td>
<td>‘Child with fever’</td>
<td>101</td>
<td>265</td>
<td>366</td>
</tr>
<tr>
<td>“I would like to have a package of Reliv”</td>
<td>‘Reliv’</td>
<td>102</td>
<td>264</td>
<td>366</td>
</tr>
<tr>
<td>“I would like to have painkillers for my wife/partner/friend who is soon to have a child”</td>
<td>‘Pain tablets during pregnancy’</td>
<td>94</td>
<td>272</td>
<td>366</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>297</strong></td>
<td><strong>801</strong></td>
<td><strong>1098</strong></td>
</tr>
</tbody>
</table>
Table 2
Proportion of visits at pharmacies and general sales stores (GSS) in which one or several drugs were recommended for purchase during the scenario. Drugs are given in the form of the active substance they contain. Percentage figures in brackets show the proportions in which the substance is recommended as one of several options.

<table>
<thead>
<tr>
<th>Substances in the medicines recommended</th>
<th>Scenario “Children with fever”</th>
<th>Scenario “Reliv”</th>
<th>Scenario “Pain tablets during pregnancy”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pharmacy N = 101</td>
<td>GSS N = 265</td>
<td>Pharmacy N = 102</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>82% (4%)</td>
<td>57% (4%)</td>
<td>59% (10%)</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>6% (5%)</td>
<td>5% (3%)</td>
<td>4% (10%)</td>
</tr>
<tr>
<td>Acetylsalicylic acid combinations</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Diclofenacb</td>
<td>–</td>
<td>–</td>
<td>2% (–%)</td>
</tr>
<tr>
<td>Health food preparations</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>The personnel gave no recommendation for any medicine</td>
<td>7%</td>
<td>34%</td>
<td>25%</td>
</tr>
</tbody>
</table>

a “0%” means that the preparation was suggested in a few visits, but at less than 1% of the visits. “–” means that the preparation was not suggested at all.
b Diclofenac may be sold only in pharmacies.

direct the customer to a pharmacist in a pharmacy or to another health care professional.

3.4. Statistical analysis

The data was analyzed using the statistical package SAS. Frequency distributions were developed.

4. Results

4.1. Staff product recommendation/proposal to “customer” during the visit

The staff in the shops outside pharmacists were non-pharmacists. In the pharmacies the staff might in some case have been a pharmacist, but in most cases a pharmacy technician. It was in most cases not possible for the observer to know which one it was since the title is written in small letters on a small badge on the coat that the staff wears.

The results show that recommendations for products were made in 74% of all visits, 68% of visits to GSS and 90% in pharmacies. Overall, acetaminophen was the substance that was suggested most frequently, although it was more common in pharmacies than in GSS. It was suggested at 63% of all visits. At 89 visits (8%) acetylsalicylic acid was recommended/suggested. Ibuprofen was proposed at a total of 195 visits (18%). In cases where staff recommended two or more medicines, an acetylsalicylic preparation was usually one of the proposals. In two cases the staff at the pharmacies recommended a diclofenac preparation when the customer requested Reliv.

Table 2 shows that in the scenario “Child with fever” the staff, both in pharmacies and in GSS, proposed a medicine containing an inappropriate substance i.e., ibuprofen or acetylsalicylic acid combinations in 6% of the visits.

In the scenario “Reliv”, a substance other than the active substance contained in Reliv was proposed i.e., ibuprofen or acetylsalicylic acid combinations as the only option at 14% of visits to GSS. During visits to pharmacies, the corresponding proportion was 7%. In addition, diclofenac, another inappropriate substance, was offered as a sole alternative in 2% of the visits to pharmacy. In 25% of the pharmacy visits the customer was not offered any recommendation at all.

In the scenario “Pain tablets during pregnancy” inappropriate medicines were suggested as the only option at 10% (including 1% health products) of visits to GSS. During visits to pharmacies the corresponding proportion was 1%.

4.2. Counseling “customers” during the visit

In addition to recommending or suggesting medicines, staff at the pharmacy and the GSS also gave advice to the “customers”, for example, to contact a pharmacist or other health care professional.

The counseling on medicines was the most common piece of advice in pharmacies. In the GSS the staff said at 10% of the visits that they were not allowed to give advice, the corresponding figure in pharmacy is 1%. The staff at GSS referred to a pharmacy in 8% of the visits as the sole advice and in 11% as an addition to some other advice. Staff in pharmacy are more likely than staff in GSS to refer to a health care professional.

In Table 3 it is seen that in the scenario “Child with fever” the staff in the GSS gave no counseling at all in 58% of the visits. During 5% of the visits the “customer” was advised to contact a doctor/healthcare professional, and in 19% a pharmacist. At 11% of the visits the staff in GSS indicated that they must not give advice about medicines. At pharmacies, the corresponding proportion in which there was no advice given was 56%. At 17% of the visits, the advice was to contact a doctor or health care professional.

In 78% of visits in the scenario “Reliv” the staff of the GSS gave no advice to “customers” at all and at 3% of the visits the “customer” was advised to contact a pharmacist. In the same scenario, the staff at the pharmacy gave no advice in 72% of the visits. In 3% of the visits “customers” were advised to contact a doctor or health care professional.

In the scenario “Pain tablets during pregnancy” the staff in GSS gave no advice in 53% of the visits and in 6% of the visits staff gave the advice to ask a doctor/health care professional, and in 10% to contact a pharmacist. The
Did you receive any advice during your visit? (e.g., advice on exercise, rest, special diets, herbal medicine, other drugs, etc.) by different store types. Percentage figures in brackets show the proportions in which the advice/recommendation is one of several.

<table>
<thead>
<tr>
<th>Type of advice</th>
<th>Scenario “Children with fever”</th>
<th>Scenario “Reliv”</th>
<th>Scenario “Pain tablets during pregnancy”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pharmacy N = 101</td>
<td>Pharmacy N = 102</td>
<td>Pharmacy N = 94</td>
</tr>
<tr>
<td></td>
<td>GSS N = 265</td>
<td>GSS N = 264</td>
<td>GSS N = 272</td>
</tr>
<tr>
<td>Advice about medicine</td>
<td>20% (13%)</td>
<td>16% (4%)</td>
<td>14% (19%)</td>
</tr>
<tr>
<td>Advice to contact pharmacy</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Advice against taking medicines</td>
<td>(2%)</td>
<td>2%</td>
<td>10% (9%)</td>
</tr>
<tr>
<td>Alternative treatment to medicine recommended</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Advice as a complement to medicines e.g., rest, exercise</td>
<td>1% (4%)</td>
<td>1% (3%)</td>
<td>1% (3%)</td>
</tr>
<tr>
<td>Advice to contact a doctor or the health care professional</td>
<td>6% (11%)</td>
<td>2% (1%)</td>
<td>2% (1%)</td>
</tr>
<tr>
<td>The sales staff say that they may not give advice</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>No pieces of advice were given</td>
<td>56%</td>
<td>72%</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>58%</td>
<td>78%</td>
<td>53%</td>
</tr>
</tbody>
</table>

*0% means that the preparation was suggested in a few visits, but at less than 1% of the visits.

pharmacy staff gave no advice in 47% of the visits. In 10% of the visits the staff gave advice to contact a doctor/health care professional.

4.3. Questions to the “customers” during the visit

At some point during the visit, there may be the need for staff to ask questions in order to find out which medicines and which or what information the customer needs and wants. Pharmacy staff asked the “customer” questions to a greater extent than the staff in the GSS at some point during the visit, regardless of scenario. The scenarios ‘Children with fever’ and ‘Pain Tablets during pregnancy’ generated more issues compared to the scenario “Reliv” where, for example, questions were asked in only 28% of visits to GSS.

In the scenario ‘Children with fever’ the pharmacist almost always (94%) asked a question. The store staff in the GSS asked questions in just over half of the visits. The most common question in any type of store was, “who is the medicine for?”. This question was however asked more frequently by the pharmacy staff compared to the staff in GSS (55% compared to 24%). The question “how high was the child’s fever?” was asked at 51% of the visits to a pharmacy and 14% of GSS staff. The question “how long has the child had a fever?” was asked in 42% of visits to a pharmacy and 8% of visits to GSS. Pharmacy staff asked more frequently, if the child is using any other medicine, 13% versus 4%. The question “how old is the child?” was asked by 14% of staff in GSS, and 16% of staff at the pharmacy.

In the scenario “Reliv” the most common question from staff both in pharmacies and GSS was “why do you need painkillers?” This was asked at 27% of pharmacy visits compared to 15% of the visits to GSS. In pharmacies other frequently asked questions were “have you used Reliv before?” (22%) and “who is the medicine for?” (18%). These questions were asked less often in GSS (5% and 5% of the visits). The question “what medication/s do you normally use?” was asked in 15% of the visits to the pharmacy and in 5% of visits to GSS.

In the scenario “Pain tablets during pregnancy” the pharmacist asked questions in two out of three visits. The store staff in the GSS raised questions in 33% of visits in this scenario. The most common question at the pharmacy visits: “where is your wife’s/partner’s/friend’s pain?” This was asked in 35% of the pharmacy visits, more often than in GSS where the question was asked in 11% of the visits. The question “in what month is your wife/partner/friend?” was asked in 34% of pharmacy visits, and in 5% of visits to GSS. In 12% of the visits, pharmacy staff was asked if there had been contact with a health care professional, which more often than at visits to GSS (4%).

4.4. Information provided to “customers” during the visit

“Customers” were informed by the staff based on their own knowledge i.e., reciting more frequently in pharmacies than in GSS. This occurred at 71% of the visits to the pharmacy, but only at 26% of visits to GSS in the scenario “Children with fever.” Staff read aloud from the text on the package at about one-third of the visits regardless of type of store. In the GSS, it was more common than at pharmacies that the “customer” did not receive any information at all, 24% vs. 5%. Staff handed over the package and asked the “customer” to read him-/herself at 12% of the visits to the pharmacy and at 19% of visits to GSS. Provision of written information, such as in the form of a leaflet was relatively uncommon, both in pharmacies and in grocery stores (Table 4).

In the scenario “Reliv”, it was more common that pharmacy staff provided information from their own knowledge than the staff in the GSS (50% vs. 31%) (Table 4).

In the scenario “Pain tablets during pregnancy” the most common activity in pharmacies was that the staff provided information based on their own knowledge. Pharmacy staff were also more likely to inform on the basis of their own knowledge compared to the GSS staff (67 vs. 26% of visits). The most common in the GSS was that the staff would read aloud from the text on the packaging (43% of visits). It was also common that the staff said that the “customer” could read her/himself from the packaging (21% of visits). In pharmacies, it was less common that the staff did so (Table 4).
Table 4
Proportion of visits in which the customer received any kind of information in the three scenarios at point of sale (multiple answers possible).

<table>
<thead>
<tr>
<th>Type of information</th>
<th>Scenario “Children with fever”</th>
<th>Scenario “Reliv”</th>
<th>Scenario “Pain tablets during pregnancy”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pharmacy N = 101</td>
<td>GSS N = 265</td>
<td>Pharmacy N = 102</td>
</tr>
<tr>
<td>The sales staff said that the customer can read on the package him/herself</td>
<td>13%</td>
<td>15%</td>
<td>9%</td>
</tr>
<tr>
<td>The sales staff read aloud to the customer what it says on the packaging</td>
<td>31%</td>
<td>32%</td>
<td>12%</td>
</tr>
<tr>
<td>The sales staff passed on information, such as a leaflet</td>
<td>3%</td>
<td>1%</td>
<td>0%*</td>
</tr>
<tr>
<td>The sales staff provided information on where to look for information, for example via the Internet</td>
<td>1%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>The sales staff handed over the package and asked the customer to read him/herself</td>
<td>12%</td>
<td>19%</td>
<td>13%</td>
</tr>
<tr>
<td>The sales staff provided information from their own knowledge</td>
<td>71%</td>
<td>26%</td>
<td>50%</td>
</tr>
<tr>
<td>The customer did not receive any information</td>
<td>5%</td>
<td>24%</td>
<td>30%</td>
</tr>
</tbody>
</table>

* “0%” means that the preparation was suggested in a few visits, but at less than 1% of the visits.

It was more common that the “customer” did not receive any information at all during all the scenarios when visiting GSS compared to pharmacies.

5. Discussion

When the Swedish pharmacy reform was launched the politicians and the authorities believed that staff in both GSS and in pharmacies would follow the given regulations and recommendations. This study shows that this is far from always the case. Whether the staff in pharmacies before the reform behaved in a more professional way than seen in this study is unknown although the study from the Swedish consumers Agency supports such a notion [8]. It is however probable that the pharmacies due to increased competition as an effect of the increased accessibility of medicines (more sales spots), which was one of the goals of the reform, are becoming more commercial and as a consequence put less emphasis on cognitive communication and information. In Finland, it was shown that consumers only obtain the counseling for nicotine replacement therapy at pharmacies but buy the products elsewhere, which has diminished pharmacists’ motivation to counsel, especially among pharmacy owners [21]. In an Australian study, counseling was provided in 24% of pharmacy visits to simulated patients asking for a non-prescription asthma reliever medication. However, in only 4 cases out of 160, pharmacy staff members asked whether the simulated patient knew how to use the inhaler [11]. In Germany, at least one question was asked in 95% of the cases of symptom presentation to check on accuracy of self-diagnosis in a study using trained pseudo customers, but only in 47% of the cases of specific product request [12].

Personnel in general sales stores are not supposed to give advice on choice of medicines yet this study shows that it is done frequently. Recommendations for specific products were made in 68% of the visits to GSS. The reason for this deviation from authority recommendation might be that the store staff are trained to help the customer in all cases, and not to refer to a competitor. It is nevertheless not in line with the policies outlined by the Swedish government and might affect patient safety in a negative way. How frequently this happens in other countries is unknown.

In addition, both GSS and pharmacy personnel gave advice to the customers in the two scenarios that were based on a medical problem that may have compromised the safety of those persons if they were to have followed the recommendation. Such behavior has also been seen in other countries e.g. New Zealand where a recent study showed that health food store staff recommended and sold a wide variety of compounds of unproven efficacy for hypertension [10].

To offer the customer a preparation containing ibuprofen or acetyl salicylic acid when he/she asks for Reliv (an acetaminophen containing product) is not appropriate as they are different substances and have slightly different effects as well as having different patterns of adverse events. At the GSS we expected the staff to tell the customer to go to a pharmacy (or maybe another shop) since the GSS staff are not allowed to give any recommendations about products, and it was highly unlikely that the shop had Reliv in stock. At pharmacies the staff was expected to offer the customer Reliv, or another acetaminophen product which happened in most cases.

The reason staff working in GSS do not follow authority instruction is not known, but it is probable that the staff view medicines more or less like other products. Staff in GSS are there to sell and to help customers chose a product. Referring the customer to another and competing shop is against what they are told to do in other situations and is probable difficult for them. The results in this study support this.

The results show furthermore that the behavior of the pharmacy staff also is in need of improvement. We assumed that the pharmacy staff should be asking
questions more often when customers were demanding medicines for medical symptoms. This study shows that this is not always the case. Whether this is due to lack of competence of the staff working in the self selection area, lack of time to reflect on the question put forward by the customer or a general trend toward a more commercial pharmacy market is unknown and needs to be further investigated. In an American study in eight states using simulated patients, it was shown that busyness reduced the odds of any pharmacy talk, oral information-giving and assessment of understanding. However, more intensive regulations increased the likelihood [13]. In the UK, communication skills of pharmacists were rated highly in a simulated patient study aimed at assessing the clinical and communication skills of community pharmacists [14].

Another question is if the deviations from what could be expected from GSS and from pharmacy staff is due to the pharmacy reform. It is clear that before the reform all customers had to visit a pharmacy to buy their medicines and now they can buy them in GSS. But since most Swedish pharmacies for many years have had non-prescription medicines placed in a self selection area and the customers are used to choosing products without necessarily receiving counseling, it could be that the reform only in a minor way have affected the counseling given to customers who buy non-prescription medicines in Sweden. On the other hand, in a pharmacy there is always a pharmacist (MSc or BSc) present who can answer questions from the customers if approached. We do not know if the number of staff per pharmacy with a pharmacy degree has decreased, but since there are many more pharmacies now and the number of pharmacists who become licensed have not increased there are probably fewer pharmacists per pharmacy today as compared to before the reform who can answer questions from the customers.

5.1. Methodological discussion

The methodology used in this study (Mystery shopping) is an accepted method of data collection in terms of gathering information about how trade staff behave. This approach has previously been used in Sweden in order to study pharmacists’ advice [15]. The aim is to as far as possible try to get the observers to behave in the same way and to interpret and record similarly. However, observers are different individuals, which can affect both the store employee’s behavior and how the individual interprets what is happening.

In this study, more than 300 different observers performed the observation so that being a customer in this study would not become routine to the observer, which is a risk if you were to repeat the same scenario many times. This in turn could negatively affect the realism of the customer situation. Observers had to respond to words like recommendation, advice, information, etc. It is obvious that a certain difference in interpretation occurred. In this study we have tried, as far as possible, to verify this by making use of trained observers and by providing them with detailed instructions on how to behave and respond to questions.

6. Conclusions

It is clear from the result in this study that many of the staff in GSS, and to some extent in pharmacies, do not distinguish between different types of analgesics in an appropriate way. This might compromise the safety of medicines users.

GSS without pharmaceutical or medical competence should refer customers to the pharmacy, or physician/medical information, in cases where a medicine is requested for a medical symptom. The results show that the pharmacy staff are also in need of improvement. We believe that the pharmacy staff should be asking questions more often where customers are demanding medicines for medical symptoms. This study shows that this is not always the case.

Ethical approval

The ethical review board in Uppsala has issued an advisory opinion (No. 2011/182) and finds “after an ethics investigation that there are no obstacles to carrying out the research in the application”.

Conflict of interest

The authors declare that they do not have any conflict of interest.

References


[19] The Medical Products Agency’s side effects data system, The Swedish Medicine Information System (SWEDIS) [accessed 15.08.12].
