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Perceptions amongst medication users regarding South African patient package inserts (PPIs) of scheduled and over-the-counter (OTC) medications

A*BSTRACT*

This article reports on the PPI itself, its information, and language usage in the texts, as tested in focus-group sessions, using content analysis. Quantitative readability assessments of selected PPIs revealed that the texts were mostly “difficult” or “very difficult”. However, readability relies not only on text variables, but also on interaction between reader and text. From the findings, certain recommendations are suggested to enhance the reader accessibility and cultural competence of such documents. If PPIs, as a health communication tool, can be seen to be valuable and easily comprehensible sources of medication information, they can fulfil a necessary role in health literacy, especially in a multicultural, developing country such as South Africa, one typified by huge class differences and where more than two-thirds of its households fall within the lower- to middle-income groups.

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INTRODUCTION

It often happens that people buy medication and start using it without reading the medication insert in the package (PPI) which contains relevant and necessary medication information. This phenomenon is neither unique nor new and has been observed extensively in America and Europe, which, in 1997, led the Federal Government of the USA to adopt a "Plan for the Provision of Useful Prescription Medicine Information" (McGinnis 2000: 5). The aim of the Act was to address the communication impediments in PPIs and other patient-information leaflets. Prominent reasons for not reading the PPI in these Western countries are, amongst others: the quality and usefulness of the document (Basara & Juergens 1994: 48–49), misunderstanding of the information (Gosselinckx 1989: 49–50; Vander Stichele 1989: 4; Rudd, Moeykens & Colton, 1999: 10; Schaafsema et al., 2003), and an imbalance in the presentation of risk-to-benefit relationship of the medication (Vander Stichele, 2004: 28).

Adding to the inaccessibility of the medication information in the insert, are factors that are located in the readability of the texts, as indicated by research in the USA (Williams-Deane & Potter 1992: 114; Doak, Doak, Friedell & Meade, as cited in Rudd & Colton, 1998: 23). Such factors include the technical quality of the text and text variables, such as sentence and word lengths. However, reader variables, like motivation, background knowledge and prior experience also have an influence on the readability of a text (Fulcher, 1997: 498). Therefore, efficient interaction between reader and text contributes to the perceived "readability" of a text and is reflected in the "understanding" of the communication message.

With the above facts as background, one wonders whether South African PPIs are being read and perceived as "comprehensible" and useful, if their European and American counterparts are often judged not to be very accessible as health information. Moreover, the type and effect of communication barriers in PPIs (if they exist) for scheduled and OTC (over-the-counter) medicines have not yet been investigated in South Africa and knowledge about these aspects could contribute to the enhanced accessibility of important medication information.

An informal study established that, in the South African context, people often buy medication not only from the pharmacist, but also from the local supermarket, and start taking it without reading the medication insert in the package (PPI). This practice could have serious negative health implications for the patient. All these facts have prompted a proper investigation into the perceptions amongst medication users regarding the South African PPI.

2. PRE-STUDY INVESTIGATIONS

Leading up to this study, readability assessments were performed on the English and Afrikaans texts of a non-probability sample of PPIs in five scheduled and five OTC drug classes. Six PPIs from each drug class were randomly selected, rendering 60 texts for readability assessments. Table 1 represents the classes of medication of which random samples were drawn.

Prescription medication	Over-the-counter (OTC) medication
Analgesics	Analgesics
Blood-pressure medication	Decongestion medication
Antidepressants	Digestive tract medication
Antilipidemy medication	Colds and flu medication
Cardiac medication	Tranquillisers

Table 1: Drug classes selected for readability assessments

From quantitative calculations, according to the Flesch Readability Assessment, prescription medication obtained a range of 2.2 – 30.4 and OTC medication a range of 1.4–47.1 on the same assessment. This clearly indicates that the majority of texts, be they for prescription or OTC medications, were considered either "difficult" or "very difficult". Theses findings set the stage for the following step, which was to investigate the texts from the perspective of the medication user, in order to identify and describe possible communication barriers and also, where applicable, to suggest possible solutions.

Eight in-depth interviews (conducted with people from groups of varying socio-economic status and educational attainment) identified categories, constructs and concepts. The data were subjected to frequency of occurrence in order to establish the "more frequently mentioned" constructs from the "less frequently mentioned" ones. Table 2 reflects the most prevalent categories to emerge from the in-depth interviews, obtained through content analysis of the texts. These categories and constructs were further investigated through twelve focus groups. Focus groups allow for the finding of information that will otherwise be difficult to access (Babbie & Mouton, 2001: 292) and these group discussions were planned for their utility in probing perceptions and feelings.

The PPI itself	Information	Language
First action after removal from package	Type of information required	Language usage and style
Necessity of a PPI	Organisation of the information	Medical terminology
Aim of the PPI	Amount of detail	
Target reader of the PPI	Important information omitted	
Usefulness of the PPI	Information that can be omitted	
Paper quality		
Colour of the printing		
Size of the printing		
Format of the PPI		
Look and layout of the PPI		

Table 2: Categories and constructs identified from in-depth interviews

From these preliminary findings it was clear that the South African PPIs could be considered difficult to read, which thus impacts on their comprehensibility and ultimately on their usefulness. The in-depth findings identified "areas" of difficulty from the viewpoint of the patient, which would further be explored by means of focus-group discussions.

3. STUDY PROCEDURES

3.1 Focus-group methodology

The focus groups consisted of six to eight persons per group – of both genders. An effort was made to have a fairly balanced gender representation to limit the effect of gender on perceptions. As focus-group responses are normally less inhibited than those of individual interviews (Wimmer & Dominick, 1997: 97), it was felt that the rich data stemming from this method could be useful in determining differences in perceptions based on language, LSM or age classifications. Sample selection for the focus groups was therefore done according to the following criteria: language preference (Afrikaans or English), age group (younger that 40 years and older than 40 years) and LSM classification (according to the Universal LSM classification determined in November 2006 by the South African Advertising Research Foundation [SAARF]) (SAARF, n.d.). A distinction was drawn between younger (18–40 years) and older persons (41 years and above), as there might be an age factor present in the identification of communication barriers. In general, older persons (middle-aged and older) are more prone to regular medication use than are younger persons, and they might therefore have a greater awareness of and perceptions about the presence of communication barriers in PPIs. The Universal LSM categories were included because LSM measures express more than income – rather lifestyle – which could be a factor in awareness of communication barriers in scientific documents, like the PPIs. For the purpose of the focus groups, these participants were divided into the following three groups: LSM 1–4 (basic lifestyles), LSM 5–7 (average lifestyles) and LSM 8–10 (above-average lifestyles). As PPIs are at present only available in two languages, it was deemed that a separation according to language could also be an indicator of diverse perceptions. A recruiting agency provided randomly selected participants who fitted the profile of the respective focus groups. Before the commencement of the focus-group sessions the screener for focus-group selection was reapplied to ensure that participants qualified for inclusion in their respective groups. Sound ethical principles were upheld and the identity of participants remained confidential. The participants were included in the respective focus groups as indicated below (Table 3).

Group designation	Criteria fulfilled
Group 1	Afrikaans preference, LSM 8–10, younger
Group 2	Afrikaans preference, LSM 8–10, older
Group 3	Afrikaans preference, LSM 5–7, younger
Group 4	Afrikaans preference, LSM 5–7, older
Group 5	Afrikaans preference, LSM 1–4, younger
Group 6	Afrikaans preference, LSM 1–4, older
Group 7	English preference, LSM 8–10, younger
Group 8	English preference, LSM 8–10, older
Group 9	English preference, LSM 5–7, younger
Group 10	English preference, LSM 5–7, older
Group 11	English preference, LSM 1–4, younger
Group 12	English preference, LSM 1–4, older

Table 3: Inclusion criteria for participation in focus groups

A moderator's schedule - based on the categories identified from the in-depth interviews – was utilised. The responses were audio-recorded, transcribed and then subjected to content analysis. Within the categories identified from the in-depth interviews, subcategories comprising various constructs emerged and these were all accounted for in the analysis.

3.2 Focus-group results

The data were pooled across all groups to formulate the general perceptions prevalent among medication users. The following table (Table 4) represents the summarised general results.

Category and concept	Summary of results obtained through content analysis
The PPI itself	
First action after removal from package	It seemed that, in general, the first action was to read the PPI; however, it was also stated that it was not read; sectional reading occured; and other responses, such as "left in the box", or "thrown away" were tendered.
Necessity of a PPI	It was generally wanted as a tool of health information; yet It was also felt that it was not necessary, in that there were other modes of medication information.
Aim of the PPI	It was definitely seen as a source of medication information amongst patients; and seen as a document designed to protect both the manufacturer and the medication user.

Target reader of the PPI	The participants felt that the target reader was primarily the patient; and secondly, it was seen as being directed at the doctor or the pharmacist.
Usefulness of the PPI	the majority viewpoint was that the PPI was a useful document, acting as a memory aid or as medication information; and there was also an opinion among some participants that it was not a useful document.
Quality of the paper it is printed on	Good, strong enough; and needed no improvement.
Colour of the printing on the PPI	Black was the preferred colour, followed by blue.
Size of the printing	The size of the print was regarded as too small; there was also a sentiment that the letter size was still legible; and the small print could hamper the reading of the PPI.
Format of the PPI	The length can impact negatively on the desire to read the PPI; there is a preference for shorter PPIs, without necessarily sacrificing important information; there is an impression that a longer PPI has more important information; some participants' main concern was not the format, but the legibility of the document; and the format can be difficult to handle, which would again impact negatively on the desire to read it.
Look and layout	The lack of white space did not promote reading of the PPI; the use of more colour would enhance reading of the PPI; the present organisation of the material did not meet the needs of the patients; the use of graphics/diagrams could enhance reading; and the present look and layout was neither interesting nor eye-catching.
Information contained in the PPI	
Type of information required	The information most often sought pertains to *Dosage, side effects, indication* and *contra indications*; warnings, composition and information on overdosing are also important; there is a need for the medication expiry date on the PPI; and there is a need for contact information on the manufacturer.
Organisation of the information	There is no general preference for the order in which the information is presented, except to have *dosage* first, probably followed by *side effects*, *warnings* or *composition*; and the suggested order of presentation differs from the actual presentation in the PPI at present, causing users to "search" for "desired" information.

Amount of detail	There is a feeling that the amount of information provided is too much, rendering the PPI "boring"; information should not be added to the PPI; and only the important information should be given and the rest should be shortened.
Important information omitted	No important information was omitted; and information was misread because it was obscure.
Information that can be omitted	administrative information was not really wanted; and the sections *Pharmacological action, Presentation details* and *Interaction*, were the only sections to be considered superfluous by all.
Language aspects	
Language usage and style	There is a perception that the included terminology hampers comprehension; a very formal style is unfriendly and not accessible to all; there is a need for lay terms and simplified language usage; long sentences and "big words" exclude readers with little schooling; and there is a demand for also supplying the PPI in other indigenous languages.
Medical terminology	Medical terminology and jargon are considered to be incomprehensible; medical terminology causes negative emotions in readers, which could lead to their not reading the PPI; and participants would prefer to have an explanation of the terminology used in the PPI.

Table 4: Pooled data results

The pooled data results clearly indicated that the then current presentation of medication information in the PPI did not meet the expectations and needs of the medication users. This observation caused the researchers to look into subgroups in order to determine how certain demographic factors may influence the perceptions of medication users about medication inserts.

3.2.1 Subgroup analysis (Language preference)

The results clearly indicated that the main differences between the perceptions and opinions of the two language groups were characterised as follows: the PPI was less often read, considered to be useful or even wanted by the English speakers. The appeal that the PPI should be shorter, yet still contain important information was observed to feature more prominently amongst the English speakers. Regarding the look and the layout, the Afrikaans speakers wanted more colour and more white space, while the English speakers preferred more prominent sectional headings. The appeal to reduce the amount of information was also stronger amongst the English speakers than

amongst the Afrikaans speakers, while the latter group had less need for administrative information. The English speakers had more trouble with long sentences than did the Afrikaans speakers, while the Afrikaans speakers clearly indicated that they do not read the medical terminology and jargon contained in the PPIs; yet they felt that it should nevertheless remain in the PPI.

3.2.2 Subgroup analysis (Age groupings)

The next subgroup analysis undertaken was that of a separation of the data, based on age classification.

In respect of the perceptions about the PPI, the two age groups displayed more prominent differences than those observed in the language groupings. Within the younger grouping there was a stronger resistance to reading the PPI and also to the conditional reading than was observed amongst the older persons. Whereas the younger people felt that there was no real need for a PPI, the older people did not really want the PPI. The two groups also differed concerning secondary target readers of the PPI: for the older people it was a support person, close to the patient, while the younger people considered the doctor and/or pharmacist as the secondary reader. The PPI was however deemed to be more useful by the younger people than by the older persons.

Regarding the printing, black was the colour preferred by the older people, while more young people indicated that the print size was too small. The younger people clearly preferred a shorter PPI, while the older people indicated that length did not matter provided that it was legible. The younger participants were also slightly more favourably disposed towards the use of more colour and also of tables and graphs.

The younger people were more interested in the administrative information in the PPI than were the older people; the older people felt that the amount of information should remain as is, whereas the younger people preferred the information to be shortened. The older people were more satisfied with the language usage and style than were the younger people who indicated that long sentences hampered comprehension. People in this group were also more insistent that the medical terminology used in the PPI should be explained.

3.2.3 Subgroup analysis (LSM groupings)

The last subgroup analysis undertaken was that of the three LSM groupings (LSM 1–4, 5–7 and 8–10). There were marked differences between the perceptions of these three groups. The PPI was least read in the highest LSM grouping. This is also the group in which the highest incidence of conditional reading was observed. In respect of the necessity of a PPI, it was the middle-income group that felt that there was no real need for a PPI, yet it was also this group that indicated that the PPI additionally has a function of protection both for the patient and the manufacturer.

Concerning the target reader of the PPI, there were clear differences of opinion: persons in the LSM 1–4 grouping saw "everybody" as the secondary reader, while the middle-income group indicated a support person as secondary reader, and the highest income group assigned this role to the doctor and the pharmacist. Colour preferences for text printing also differed: black for the LSM 1–4 grouping, blue for the LSM 5–7 grouping and no clear preference in respect of the LSM 8–10 grouping. The least negative perception about the print size was seen in the higher-income group, while the greatest negative perception was seen in the middle-income group. The LSM 8–10 grouping felt most strongly that "the shorter the PPI, the better". The present look and layout was more acceptable to the lowest income group than to the others, with the highest income group being most dissatisfied with the status quo.

Only the middle-income group felt that the most important information should be presented first, which in all three groups was indicated as being information on dosages. The LSM 5–7 group was the group that most strongly indicated that the amount of information should be decreased. Whereas the lowest income group indicated that nothing can be omitted, the highest income group appealed for the removal of medical terminology. This latter group was also the most negative about the use of medical terminology, stating emphatically that it was neither understood nor read. A call for the PPI to be produced in languages other than only Afrikaans and English came from the lowest income grouping.

4. DISCUSSION AND CONCLUSIONS

From the results obtained it is clear that the PPI is not rated highly as a health communication tool, which puts it on a par with its Western counterparts. Opinion is divided on the need for a PPI, with some patients considering it to be a useful tool for health communication, and others not. This could possibly explain the tendency towards conditional and sectional reading of the PPI, which, in turn, reflects diminished use of the document. Also, as it does not fulfil the information needs of the patient at present, it is thus not proving very *useful*. It is, however, true that in South Africa - with a large percentage (68.1%) of the population being classified amongst the LSM classes 2 – 6 (SAARF, n.d.) - disposable income is restricted, and that such patients, rather than consulting a doctor, often rely on self-medication by means of OTC drugs. If the PPI is sometimes seen as not being "useful", it defies the present aim of the PPI, which, according to the South African Medicines Control Council (MCC) is to disseminate health information (MCC, 2005). This primary perception to some extent explains the reluctance to read the document. The perception that the PPI is "not really useful" could thus be a serious barrier to accessing relevant medication information, which could result in diminished health outcomes.

Concerning the *technicalities of the PPI*, it was observed that the print size, the format, and the look and layout were criticised by the focus-group participants – aspects already identified in American research as being barriers to reading the PPI (Dolinsky & Sogol, 1989: 29–30; Basara & Juergens, 1994: 49). There was a definite fear that shortening the PPI would imply a sacrificing

of important information. Yet, it was already recommended in 1987 that the print size should be bigger and that less information should be presented (Ascione et al., 1987: 55). Following research done by Williams-Deane and Potter, it was suggested that the information presented in the PPI should be in a format that facilitates easy reading (1992: 114), an aspect that requires urgent attention in the South African PPI.

The perception amongst focus-group members of there being insufficient white space also reflects as a barrier to the reading of the PPI. This corresponds to the findings by Basara and Juergens (1994: 50–51), that the average use of white space (as well as other design factors, like small print, the use of only one colour, etc.) did not enhance the use of the PPI as a health information tool. What complicates the South African PPI is the fact that, at present, information is presented in two languages, and often the medication users are not particularly conversant in either of these. Therefore, there was a demand for information in more languages. However, this would further complicate the look and layout of the PPI. The PPI reader audience vary widely in terms of linguistic, intellectual, educational and cultural backgrounds; therefore, satisfactory and efficient text design will be difficult (Carter, 1985: 148–149), especially as these differences (linguistic, intellectual, educational and cultural) should be taken into consideration in text design, so as to make the PPI more accessible and readable.

When presenting important information – like medication information – the information that the reader needs to have should be presented in such a way that it makes sense to the reader and that it moreover is inviting to read (Osborne, 2000: 2). Concerning the *informational aspects* of the PPI, the focus-group participants gave no clear indication of the exact sequence of presentation of the information, but they agreed that the then current order of presentation did not meet their needs. In addition to the *organisation* of the information, participants had problems with the *type* of information presented. In 1975, Joubert and Lasagna stated that patients wanted to know the following: the name of the medication, what it is used for, common risks of medication use, and risks of overdosage and underdosage (1975: 510). These findings were confirmed by Maes and Scholten (1989: 164). The focus-group participants indicated that there was no real need for administrative information or information about the pharmacological action, for presentation details or for information about interaction; yet, information about dosage, indications and contraindications were all considered to be important.

Not only were the *organisation* and *type* of information an obvious problem for PPI users, but so was the *amount* of information. It was felt that there was an excess of information and that only the “important” information should be presented, while the rest should be shortened. Although this opinion was generally observed, participants could not unanimously identify the “important” information. The problem then will be how to present this “necessary” information in an attractive and interesting way. The fact that the readers have a problem with information organisation and type of information offered, further adds to the perception that the South African PPI is currently not very useful.

Regarding *language* aspects, the focus-group participants indicated that the style of the PPI was unfriendly and not universally accessible. The style made use of "big" words and the participants indicated that often such words were incomprehensible, which rendered the message inaccessible. The language style of a document is composed of the choice of words and their arrangement in sentences (Arndt & Janney, 1987: 147), and the style of a document therefore has an effect on the comprehensibility of the information. A negative implication of inaccessible style and language usage in medication information was pointed out by Vander Stichele, who stated that misinterpretation of medication information may lead to misuse of medication (1989: 4). As language difficulty reflects directly on the readability of the document the South African PPI at present suffers from readability problems.

What complicates language barriers, are cultural differences (e.g. attitudes, norms and values), which, in turn, affect health beliefs, including the use of health information (Twyman, 1985: 301). Therefore, it has to be taken into consideration that reading factors (like language variables) in combination with human factors (like interest factors and education levels) contribute to the comprehensibility and the retention of the message. Differences in ethnic background, social class, literacy or education may cause the receiver of the message to assign a different connotation to a word than the one originally intended by the sender of the message (Lewis, 1974: 30; Quesada, 1976: 323; Lowe, 1995: 53). From the subgroup analysis it was clear that the Afrikaans speakers were less concerned about the PPI, while the English speakers considered it less useful and read it less frequently than did the Afrikaans speakers. Greater dissatisfaction with language aspects was noted in this group in the Afrikaans groups. In the *younger* groupings versus the *older* groupings, it was also clear that the younger persons were less likely to read the PPI and thought that they did not "need" it, while the older persons felt that they did not "want" it. The younger people were more favourably inclined towards a shorter format and indicated that they found the language usage unsatisfactory. The younger people were the ones who indicated that medical terminology should be explained.

The highest incidence of non-reading or of conditional reading of the PPI was observed in the highest income group. They also strongly considered the present format to be too long. Additionally, they strongly felt that medical terminology should be removed, as it is not understood. The appeal for the PPI to be available in more languages was noted in the lowest income group. From these subset analyses, it is clear that, in addition to general changes to better the PPI as a health communication tool, designers and text writers will have to accommodate diverse approaches to change the present perceptions about the PPI if it is to become a useful health communication tool. If these subgroup-specific characteristics are heeded, this would aid the cultural adaptation of the message, which, in turn, would increase its message efficacy. If texts were to be produced in indigenous languages in addition to Afrikaans and English, this could assist towards both diminishing semantic barriers and improving comprehensibility. This request, however, holds huge logistical and financial implications for the drug manufacturing companies.

In order to have mutual understanding of a concept, meanings between communication partners should overlap and this is not always the case with the words selected for the texts of the PPIs,

especially where jargon or medical terminology is concerned. The use of medical terminology and jargon was the most widely mentioned language problem amongst members of the focus groups. Reid et al. found that technical words in PPIs caused problems in respect of comprehension and that people did not reread the PPI if they had not understood the terminology after having read it once (1994: 332). When people encounter words with which they are unfamiliar, the meaning attached to the communication depends on the other words within the sentence/phrase that are indeed understood. From these "understood" words, meaning is then inferred to the unfamiliar words (Rossi-Landi, 1992: 134–135). Yet, often the jargon is the main "idea" of the sentence with little or no other clear referents; the result then is that miscommunication occurs. Research conducted by Riche et al. found that technical words and rare phraseology were confusing and impacted negatively on readability (1991: 288–289).

5. RECOMMENDATIONS

This research study has clearly established that the PPI as a health communication tool is at present not fulfilling the needs and expectations of the patients. Yet, in 2005, the MCC in South Africa produced a guideline according to which information in the PPI should be organised and presented, the aim of said document being "to enhance consistency in the content of package inserts and to ensure that the information included under the different headings is clear and sufficient for the proper use of the medicine..." (MCC, 2005). Readability and, by implication, accessibility to information contained in the PPI and thus its usefulness are determined by both the text and the reader variables, with the latter often being the real "gatekeepers" to the text.

In South Africa, as both a developed and a developing country, extreme differences are encountered regarding the socio-economic status, the educational standards and the culture and beliefs of its citizens. These conditions are also reflected in the ability to access and comprehend medication information. A total rethink of the PPI, resulting in a "second" document, next to the PPI could overcome the barriers noted at present. This empirical study has clearly indicated that modifications regarding the features of the document itself, its information and its language are necessary. Yet, a simple translation of the technical information from one language to another is not the solution, as differences in beliefs and attitudes will then not be accounted for. If no "cultural" translation is done, the information will not be tailored to the expectations and satisfaction of the patient (Schaafsma, Raynor & De Jong-van den Berg, 2003). The present PPI should still be available to the patients, in the rare cases where they desire its inclusion for more detailed and technical information - as some focus-group participants indicated that shortening the information would imply the reduction of important information and that they wanted the PPI.

It is therefore recommended that this totally "new" document should be produced in such a way that it fulfils the information requirements of the patient in a culturally sensitive way. A document of this nature could also solve the problem of supplying culturally sensitive information in a greater number of indigenous languages. (Even if texts in only the more prominent indigenous languages are being made available, it would mean a huge improvement in accessibility to health information). Linked to the problem of multiple languages are the problems of illiteracy and reading skills. A

possible solution could be, wherever possible, to include graphic elements to replace text where, and if, applicable. Yet, it should be borne ien mind that the interpretation of graphics is culturally orientated and cultural sensitivity should therefore be applied. For example, the interpretation of pictograms depends on the cultural conventions of the interpreter (Twyman, 1985: 301) and such aspects should be thoroughly contemplated during the process of creating the leaflets, with the ultimate aim of enhancing effective and comprehensible health communication.

Concerning the features of the document itself, the print size should be bigger than the present print size. The focus-group data make it clear that a shorter format is preferable – probably the length of one A5 page. Readability should also be enhanced by making use of more than one colour, while headings should be distinct from the accompanying text. Functional diagrams/pictograms, where applicable, would further enhance the comprehensibility. Better use should be made of white space, to render text sections easily distinguishable. These technical recommendations would influence the amount of information that can be accommodated in the document, now being in larger print with more white space. However, it was indicated in the focus groups that, at present, there is too much information that can probably be reduced. This document should prioritise the following medication information as priority: *Dosage, Side effects, Indication* and *Contra indications* (in which *Warnings* can be included). The secondary information should deal with the following: *Composition* and *Overdosage*. As a third priority, contact information, electronic addresses and/or contact telephone numbers of the manufacturer can be given, should the patient need more information.

Under the indicated relevant sections in this new document, concise information should be given in everyday language and all jargon and medical terminology should be avoided. Yet, features other than word and sentence lengths also bring their influence to bear on reading ease; logical organisation (the kind that considers patients' needs) of the information is therefore as important as sentence structure (Stevens, 2000). Where applicable, ordinary everyday language usage should be promoted, showing a preference for "easier" words over more "difficult" words. Although shortening of sentences could enhance the accessibility of the material, research by Riche et al. (1991: 288–290) has shown the opposite to be true. Vander Stichele stated that very short sentences are considered "childlike" and do not enhance readability (2004: 124). Therefore, style adaptations in this document should not so much focus on the shortening of sentences, but rather on simplifying word choice and on the logical grouping of the information.

The most prominently voiced problem in respect of the language used in the PPI referred to the use of medical terminology and jargon. From the research findings of Riche et al. it is evident that patients prefer lay terms to explanations of phraseology (1991: 288–289). Although certain participants of the focus groups asked for an explanation of the jargon/medical terminology to be included alongside the terminology, this would have text-length implications and would not really entail a total rethink of the message to meet the requirements to enhance the accessibility and comprehensibility of the information. Only lay terms that are culturally sensitive should be used in all parts of the document. This also means that word equivalents must be found in the relevant languages. As well as wide readability testing on such a new document, testing for reader variables

should be done in order to ensure that the identified communication barriers have either been minimised or removed so as ultimately to achieve better health communication. The implication of this recommendation is a total rethink of the terminology used in the PPI document. If the document is perceived to be attractive, easy to read, useful and comprehensible, this will improve its standing as a health communication tool that disseminates important medication information. Creating a document of this nature, would go a long way towards promoting enhanced health literacy among a multicultural and varied South African patient population.

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