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Original Article

Interpretation of consumer's perception on readability of Consumer Medical Information Leaflets on obesity and lipid lowering drugs with standard methods

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ABSTRACT

Aim: Printed education materials are often used to augment healthcare professional's verbal information to consumers so it serves as an important component of symptom management. They also enhance the teaching process and can be used by consumers as a home reference. This study was aimed to interpret consumers' perception on Consumer Medical Information Leaflets (CMILs) on obesity and lipid lowering drugs, according to the standard formulae such as Flesch Reading Ease (FRE), Flesch–Kincaid Grade Level (FK-GL).
Method: The study was conducted over a period of 3 years in community pharmacy settings in Tamil Nadu, India. CMILs were interpreted by using the formulae such as Flesch Reading Ease (FRE) and Flesch–Kincaid Grade Level (FK-GL). Among the 1800 consumers, 300 consumers were excluded from the study due to lack of interest.
Results: Data revealed the consumer's perception on readability of Consumer Medical Information Leaflets on obesity and lipid lowering drugs based consumers rating.
Conclusions: Pharmaceutical companies (leaflets providers) are not taking the reading level of consumers into consideration which may not achieve the intended purpose. There is a need for developing CMILs having good readability score according to Indian set up.

1. Introduction

Consumer Medical Information Leaflets (CMILs) are produced by either manufacturer or pharmacists for the benefit of the patients and are universally accepted as the most important tool to educate the patient about their medications and disease.[1]

Consumer Medical Information Leaflets are widely used by diverse health organizations and professionals as part of patient education or health promotion efforts, in support of preventive, treatment and compliance objectives.[2]

Consumers must be given sufficient information; in a way they can understand, to enable them to exercise the right to

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make informed decisions about their care.[3] The provision of information requires effective communication primarily by discussion. Verbal information is useful if it is provided in manner intelligible to the hearer and at a pace at which the recipient can digest it. Leaflets allow consumers to digest information at their own speed and are a point of reference. Patient information leaflets could therefore provide a valuable contribution to informed consent.[4]

Printed education materials are often used to augment healthcare professional's verbal information to consumers so it serves as an important component of symptom management.[5] They also enhance the teaching process and can be used by consumers as a home reference. Information that is communicated in a readable and understandable manner helps people to become more knowledgeable about their diagnosis and to be more involved in their treatment plans.[6] They are also more likely to initiate self-care strategies for treatment related symptom relief. Yet none of these outcomes can occur unless consumers are able to read and understand the printed materials given to them.[7]

2. Objective

The aim of this study is to interpret consumers' perception on Consumer Medical Information Leaflets (CMILs) on obesity and lipid lowering drugs, according to the standard formulae such as Flesch Reading Ease (FRE), Flesch–Kincaid Grade Level (FK-GL).

3. Methodology

3.1. Sampling

Convenience sampling was done. The study was conducted over a period of 3 years in community pharmacy settings in Tamil Nadu, India. Name and identity card number of study participants were not taken to assure the confidentiality and anonymity of the participants. Study information sheet were shown and verbal consent were obtained from each individual prior to interview who agreed to participate in the study. People who are not interested to give consent for any reason were excluded from this study. Total of 1800 consumers who are using anti-obesity or lipid lowering drugs were interviewed. Among them 1500 consumers agreed to participate in the study while 300 consumers were not interested.

3.2. Study design

The Consumer Medical Information Leaflets (CMILs) were randomly collected from different community pharmacies. Total of 19 CMILs which are commonly used by the consumers were collected and a major portion of the CMILs were selected and readability was analysed by using FRE, FK-GL formulae.

Table 1 – Interpretation of Flesch Reading Ease score.

Reading ease	Description of style
90–100	Very easy
80–90	Easy
70–80	Fairly easy
60–70	Standard
50–60	Fairly difficult
30–50	Difficult
0–30	Very difficult

4. Assessment of readability by FRE, FK-GL methods

4.1. Flesch Reading Ease (FRE) score[8]

The Flesch Reading Ease formula has been developed by Flesch in 1948 and it is based on school text covering grade 3–12. It is wide spread, especially in USA, because of good results and simple computation. The index is usually between 0 (hard) and 100 (easy), Standard English documents does not delivers good results because of the different language structure. The higher the score, the easier it is to understand the document. For most standard documents, the score should be approximately 60–70 (see Table 1).

$$\text{FRE score} = 206.835 - (1.015 \times \text{ASL}) - (84.6 \times \text{ASW})$$

where: ASL = average sentence length (the number of words divided by the number of sentences). ASW = average number of syllables per word (the number of syllables divided by the number of words).

4.2. Flesch–Kincaid Grade Level (FK-GL) score[8]

It rates text on a US grade-school level. For e.g., a score of 8.0 means that an eighth grader can understand the document. For most standard documents, the score should be approximately 7.0–8.0. So it is easy to see that shorter sentence with shorter words lowers the Readability score. Each readability score bases its rating on the average number of syllables per word and words per sentence. Current statistics report that the largest present of the population can only read at a 6th–8th grade reading level (see Table 2).

$$\text{FK} - \text{GL score} = (0.39 \times \text{ASL}) + (11.8 \times \text{ASW}) - 15.59$$

where: ASL = average sentence length (the number of words divided by the number of sentences). ASW = average number

Table 2 – Conversion table of FRE to an appropriate grade.

Grade level	FRE
5th grade	90–100
6th grade	80–90
7th grade	70–80
8th to 9th grade	60–70
10th to 12th grade (high school)	50–60
13th to 16th grade (college level)	30–50
College graduate	0–30