
Generic drug in Indonesia: why physicians and pharmacists matters

Amelia Amelia* and Ronald Ronald

Faculty of Business School,
Universitas Pelita Harapan Surabaya,
Tokyo Tower 6th floor,
City of Tomorrow Superblok,
Jl. Jend. A. Yani No. 288,
Waru-Surabaya 60234, Indonesia
Email: monica_amelia1987@yahoo.com
Email: ronald_surya2002@yahoo.com
*Corresponding author

Abstract: Since 2014, Indonesia began imposing the National Health Insurance program. One of the goals of implementing the program is to increase the use of generic drugs. This action was done to respond the low use of generic drugs, which is around 11%, in 2011 (World Bank, 2008). Therefore, this study tried to examine the factors that influence the purchase intention of generic drugs based on the information from physicians and pharmacists. Also the overall information risk with experience was used as moderating variable. The research sample for this includes 400 respondents. The questionnaires were distributed from September 2014 until December 2015. The questionnaire distribution takes a relatively long time due to the very small number of generic drug users were available. The result shows that physician information have the biggest effect on the purchase intention of generic drugs, and that experience has a significant effect as moderating variable.

Keywords: generic drugs; physician information; pharmacist information; experience; Indonesia.

Reference to this paper should be made as follows: Amelia, A. and Ronald, R. (2018) 'Generic drug in Indonesia: why physicians and pharmacists matters', *Int. J. Monetary Economics and Finance*, Vol. 11, No. 3, pp.307–315.

Biographical notes: Amelia Amelia is a Head of Management Department and a Lecturer in the Faculty of Business. She joined UPH Surabaya in May 2011 as a Faculty Member in the Management Study Program. She obtained her Bachelor's in Management and her Master of Management from Universitas Surabaya, Indonesia, both with Cum Laude. She also has a Diploma in Financial Planning from the Center for Professional Development, Universitas Surabaya. She is an Associate Editor of *Jurnal Ilmiah Gema Aktualita* since 2012. Her recent publications and current research interests are on marketing and business economics. Currently, she is a PhD candidate from the Widya Mandala Catholic University, Indonesia.

Ronald Ronald joined UPH Surabaya in May 2009 as a faculty member in the Faculty of Business. Starting academic year 2010–2011, he was appointed as the Deputy Head of the Management Study Program and was subsequently reappointed as its Head. He obtained his Bachelor's in Chemical Engineering and his Master of Management from Universitas Surabaya, Indonesia. He was

finishing his doctorate at the Widya Mandala Catholic University, Indonesia by academic year 2014/2015. His recent publications and current research interests are on marketing. Currently, he is appointed as the Vice Rector 1 for Academic and Dean for Business School, Information System and Industrial Engineering.

This paper is a revised and expanded version of a paper entitled 'Analysis on the effect of physician information, pharmacist information and experience as moderating through overall risk in enhancing purchase intention generic drugs in Indonesia' presented at *SIBR Hong Kong 2016 Conference on Interdisciplinary Business and Economics Research*, Hong Kong, 24–25 September, 2016.

1 Introduction

Healthcare is one of the important aspects in improving the welfare of the country, especially in developing countries. Like any other sectors in developing countries, the health sector is also experiencing financial problems. The government certainly would put maximum efforts in financing the cost of healthcare for its people, especially the ones who need it the most. One of the causes of the low purchasing power on medicines of the society is the low insurance coverage program in Indonesia. This phenomenon is certainly different if it is compared to the advanced countries. In advanced countries, almost the entire society is covered by good insurance programs. The health insurance participation level in Indonesia only covers around 30% of the total population (Prabowo et al., 2012). Therefore, the Government of Indonesia needs a proper strategy to improve the healthcare of the society. In the other side, the pharmaceutical industries often view themselves as the fast moving consumer goods (FMCG) industries. The pharmaceutical industries believe that brandings are viewed as the key assets of a company, and all assets are utilised to create and develop brandings (Kumar and Srivastava, 2013).

It is very crucial that understanding consumers' responses are important implications for businesses strategies, and the marketing decisions of the firms' products and services (Nguyen and Dilip, 2012). For the main alternative strategy for the government is to overcome this gap is by increasing the selection of generic drugs for people who seek for medical treatments.

Generic drugs are reproductions from exceeded drugs' life cycle (mature drugs). The drugs are marketed using the name of the drugs' active ingredient, and they are not protected or referred to the original drugs (Garattini and Tediosi, 2000). However, the use of generic drugs is still very low. This can be proven from the generic drugs' sales volume which is around 38% and it is below the branded drugs' level (World Bank, 2008). This fact is contradictive with the theory that states consumers will reduce their purchase intention when a price becomes too high, or considered as an unreasonable price (Wong and Zeng, 2015). This makes the customer perceive that the choice of consuming generic drugs is poor because generic drugs are considered not as effective as the branded drugs.

Additionally, due to the branded drugs are being used in doctors' prescriptions, this becomes marketing strategies (Königbauer, 2007). In the consumer purchase process of generic drugs, both physicians and pharmacists play a key role as prescribers and experts (Gönül et al., 2001). These roles are taken into account by the consumers (Bonoma,

1982). We have found that consumers who are better informed, adopt an active role with selected physicians (Liu et al., 2009). There are studies that show consumers who request information from their physicians are more likely to obtain a new prescription for both the needed drugs and the alternative drugs (Mintzes et al., 2003).

2 Literature review

2.1 Request intention

Intention is defined as a manifestation of the consumers' will in terms of an effort and action in order to carry out a specific behaviour (Ajzen, 1991). Intention captures motivational aspects that influence the consumers' behaviour, with an existing relationship between intention and future behaviour (Armitage and Conner, 2001).

2.2 Overall perceived risk

Risk is used as a determinant variable of the purchase behaviour (Gallent and Cases, 2007), and it has been used as predictors of such (Pires et al., 2004) negatively influencing intention and future purchase behaviour (Drennan et al., 2006).

On the basis of the research of Drennan et al. (2006), it can be seen that there is a negative correlation between the overall perceived risk and the prescription request intention. From these explanations, a hypothesis can be formulated as follows:

H1: Overall perceived risk has a negative influence on prescription request intention of generic drug.

2.3 Physician information

Physicians are aware of their role as experts because they are professionals with the ability to prescribe drugs or medicines. They also receive information from the pharmaceutical companies regularly. Commonly, this is done by visitations from pharmaceutical companies' representatives (Venkataraman and Stremersch, 2007). A physician is the person who provides the prescription for medication (Gönül et al., 2001).

On the basis of Gönül et al. (2001), it can be seen that there is a negative correlation between physician information and overall perceived risk. From these explanations, a hypothesis can be formulated as follows:

H2: Physician information has a negative influence on overall perceived risk of generic drug use.

2.4 Pharmacist information

The pharmacists support the physician's prescription, therefore, the consumer generally accepts his or her recommendations (Hassali et al., 2007). Several studies suggest that pharmacists support the prescriptions of doctors' prescribed generic drugs (Cline and Mott, 2003). Also, the consumers are open to discuss their health problems with the doctors and accepting their recommendations (Suh et al., 2002).

On the basis of Hassali et al. (2007), it can be seen that there is a negative correlation between pharmacist information and overall perceived risk. From these explanations, a hypothesis can be formulated as follows:

H3: Pharmacist information has a negative influence on overall perceived risk of generic drug.

2.5 *Experience*

When consumers have experience the product, the difference between the perceived risk of different products decreases. González et al. (2006) analysed the relationship between the perceived risk associated with a store brand, a national brand and the experiences in the product category. These authors determined that consumers who have a lot of purchase experience in the category, and who have tried the store brand products, perceive less risk in these products. However, consumers with little experience in purchasing these products, perceive greater risk in products with a store brand than those with a national brand. Also, Mitchell (1993) believes that the experiences can influence in each dimension of risk. From these explanations, hypotheses can be formulated as follow:

H4: The negative relationship between physician information and overall perceived risk of generic drug is stronger for high experience and weaker for low experience.

H5: The negative relationship between pharmacist information and overall perceived risk of generic drug is stronger for high experience and weaker for low experience.

3 **Research issue and methodology**

3.1 *Research issue*

The research data gathering conducted by literature studies, interviews and questionnaires. Literature means study of previous studies as supporting objectives in this study. Literature sources used in this study derived from books, journals, articles, government reports, other research findings and other related data. Interview means discussions with representatives from hospitals, clinics, government agencies and economists. Secondary data means data obtained from the internet, the Ministry of Health of Indonesia's official website, and also other related parties (in medics).

3.2 *Methodology*

The data from a personal survey administered at health centres derived from 450 individuals. The age range of the respondents is 18–60 years old. This means that they are familiar with the generic drugs. Prior to the survey, a qualitative study was conducted. Purposive sampling was conducted, with a proportional distribution among the four selected cities in Indonesia. The cities are Surabaya, Makassar, Jakarta and Tarakan. To obtain a random sample of respondents, the surveys in health centres and pharmacies were held in different periods of the day and different days of the week. The period started from September 2014 until December 2015. The survey process took a relatively long time due to the very small number of generic drug users were available.

4 Findings and discussion

4.1 Findings

This study used multiple regression to examine the effect between the independent variables to the dependent variable. Statistical analysis tool used to answer the problem formulation of this research is SPSS 16 software. The statistical tests were conducted after all primary data have been collected.

The respondents were made up of 48.25% men and 51.75% women. Almost 50% of the group is under the age of 40. Nearly 75% of the respondents had a monthly income under 3.500.000 IDR (approximately USD 260). Finally, in terms of the level of education, nearly 21% had a university degree, while 79% still pursuing college degree or only had a primary or secondary education or less.

4.1.1 Multiple regressions and simple regression result

The results of multiple regression are as follows:

From Table 1, the regression equation can be written as follows:

$$OPR = b_1PHI + b_2PAI$$

$$OPR = -0.396PHI - 0.139PAI.$$

On the basis of Table 1, physician information and pharmacist information negatively influence the overall perceived risk. Furthermore, physician information have the greatest regression coefficient compare to other variables, which is -0.396 . In the other side, pharmacist information coefficient regression is -0.139 .

Table 1 Coefficient regression

<i>Model</i>	<i>Standardised coefficients</i>
PHI → OPR	-0.396
PAI → OPR	-0.139
OPR → RI	-0.569

From Table 1, the regression equation can be written as follows:

$$RI = b_1OPR$$

$$RI = -0.569OPR.$$

On the basis of Table 1, physician information and pharmacist information have negatively influence towards overall perceived risk. Furthermore, physician information have the greatest regression coefficient compare to other variables, which is -0.396 . In the other side, pharmacist information coefficient regression is -0.139 .

4.1.2 t-test

From Table 2, it can be explained that the variables of physician information and pharmacist information have significantly influence overall perceived risk because it has a significance value below 0.05. Also it can be explained that the variables of

overall perceived risk has significantly influence the request intention because it has a significance value below 0.05.

Table 2 T-test result

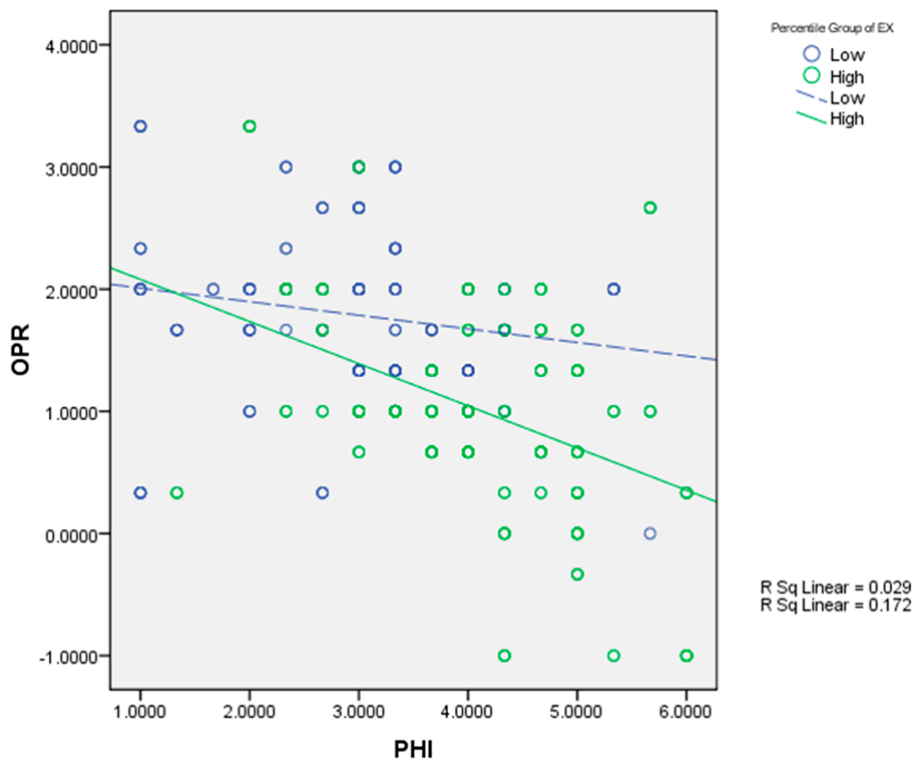
<i>Model</i>	<i>Sig</i>	<i>Note</i>
PHI → OPR	0.000	Significant
PAI → OPR	0.004	Significant
OPR → RI	0.000	Significant

Source: SPSS 16 result, 2016

4.2 Moderating variable

From Figure 1, it is shown that the better the experiences, the more frequent (high experience) and better the information given by physicians to the society, the overall perceived risk of generic drugs will significantly decrease. However, when the society experienced poor experiences, the less they use it (low experience), and the better information given by physicians, then the overall perceived risk of generic drugs will decrease.

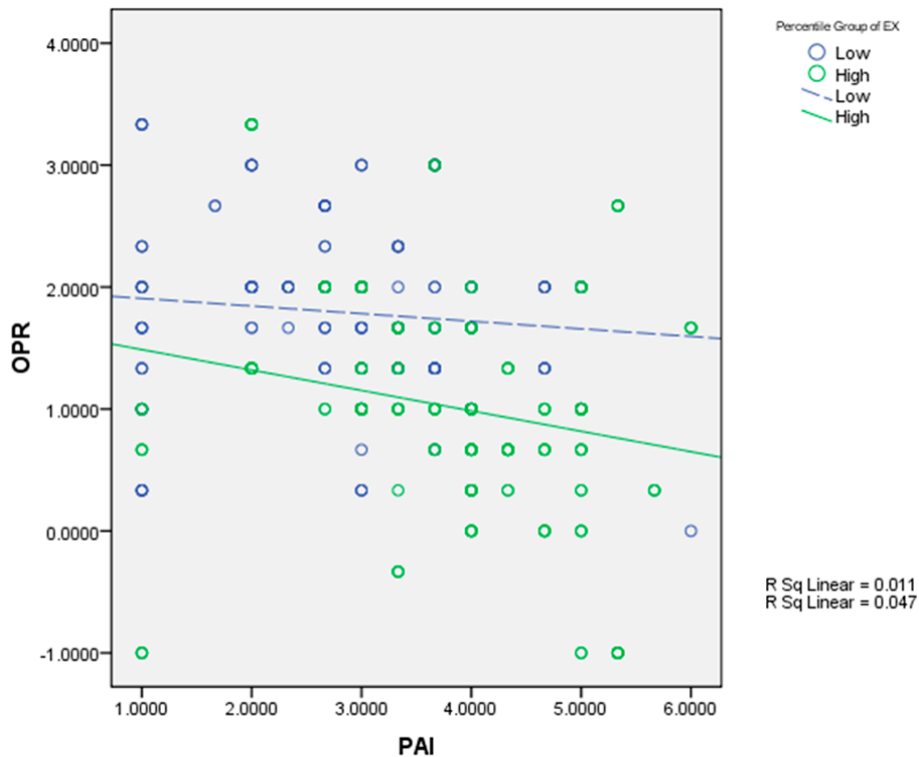
Figure 1 Scatter graphic of relationship of physician information and overall perceived risk and moderated by moderating variable of ‘experience’ (see online version for colours)



Source: SPSS 16.00 result, 2016

From Figure 2, it is shown that the better experiences, the more frequent (high experience) and better the information given by pharmacists to the society, the overall perceived risk of the generic drugs will significantly decrease. However, when the less good experience experienced by the society and the less often they use it (low experience), the more and the better information given by physicians, so the overall perceived risk of generic drugs will decrease.

Figure 2 Scatter graphic of the relationship of pharmacist information and overall perceived value which moderated by moderating variable of 'experience' (see online version for colours)



Source: SPSS 16.00 result, 2016

4.3 Discussion

From the research conducted, the result is all of the five hypotheses proposed are supported based on *t*-test and scatter graphic that shown above.

5 Conclusion, limitation and research extension

5.1 Conclusion

Using generic drugs is one of the ways taken by the government in order to reduce the cost of healthcare. So the allocation of health fund can be more evenly spread out and reach all levels or classes of the society who needs it the most. If most of Indonesian

society underestimate the generic drugs then there are two kinds of cost, which are economic cost and psychological cost. Economic cost is when the society tries to buy well-known medicine brand, and it is expensive. The medicine purchased is wasting money, because the medicines are not included in the health coverage program of BPJS Indonesia. The psychological cost is when the society does not like the generic drugs but they have to use them. Then, they have a mindset that generic drugs are not that good, the effectiveness of generic drugs will decrease, and it will be more disliked by the society. Therefore, it is important for the government to know the variables that will significantly affect the prescription request intention of generic drugs.

Overall, the perceived risk variable is the one that affects the prescription request intention of generic drugs the most. The reason is because the use of medicine is directly related to the risk of the use. Physician information is the variable that negatively affects the overall perceived value the most. When it comes to medicine, the most trustworthy party in giving information is physician. Therefore, it is important for physicians to give proper information, options and recommendations about generic drugs to the society. Thus, the society will trust and willing to consume generic drugs when they need them. Pharmacist information is the second most influential variable that negatively affects the overall perceived risk. Beside physician, the party who fully understand about medicine is pharmacist. The way of Indonesian society tend to think is following the information and reference from pharmacists. Experience is used as the moderating variable that moderates the negative relationship between physician information and pharmacist information to overall perceived risk. Good and frequent experiences will moderate the effect of physician information to overall perceived risk and it is greater than pharmacist information. This is due to physicians are considered as the party who know more about the medicine rather than pharmacists, thus with the experiences of using, then physician information will reduce more overall perceived risk rather than pharmacist information. In low experience, either physician information or pharmacist information are affecting in decreasing the overall perceived risk but the effect is not as big as the high experience.

Acknowledgements

The research for this study was supported by Universitas Pelita Harapan Surabaya.

References

- Ajzen, I. (1991) 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, pp.179–211.
- Armitage, C. and Conner, M. (2001) 'Efficacy of the theory of planned behaviour: a meta-analytic review', *British Journal of Social Psychology*, Vol. 40, No. 4, pp.471–499.
- Bonoma, T. (1982) 'Major sales: who really does the buying?', *Harvard Business Review*, Vol. 60, No. 3, pp.111–119.
- Cline, R. and Mott, D. (2003) 'Demand for a medicare prescription drug benefit: exploring consumer preferences under a managed competition framework', *Inquiry-Excelsus Health Plan*, Vol. 40, No. 2, Summer, pp.169–183.
- Drennan, J., Sullivan, G. and Previte, J. (2006) 'Privacy, risk, perception and expert online behavior: an exploratory study of household end users', *Journal of Organizational and End User Computing*, Vol. 18, No. 1, pp.1–22.

- Gallent, C. and Cases, A. (2007) 'Le rôle du risque perçu et de l'expérience dans l'achat de vin en ligne', *Decisions Marketing*, Vol. 45, No. 1, pp.59–74.
- Garattini and Tediosi, F. (2000) 'A comparative analysis of generics markets in five European countries', *Health Policy*, Vol. 51, No. 3, pp.149–162.
- Gönül, F.F., Carter, F., Petrova, E. and Srinivasan, K. (2001) 'Promotion of prescription drugs and its impact on physicians' choice behaviour', *Journal of Marketing*, Vol. 65, No. 3, pp.79–90.
- González, C., Díaz, A.M. and Trespalacios, J.A. (2006) 'Antecedents of the difference in perceived risk between store brands and national brands', *European Journal of Marketing*, Vol. 40, Nos. 1–2, pp.61–82.
- Hassali, M.A., Kong, D.C. and Steward, K. (2007) 'Knowledge and perceptions of recent pharmacy graduates about generic medicines', *Pharmacy Education*, Vol. 7, No. 1, pp.89–95.
- Königbauer, I. (2007) 'Advertising and generic market entry', *Journal of Health Economics*, Vol. 26, No. 2, pp.286–305.
- Kumar, S.J. and Srivastava, R.K. (2013) 'An exploratory study of product and brand positioning typologies with respect to pharmaceutical companies', *Review of Integrative Business and Economics Research*, Vol. 2, No. 2, pp.638–654.
- Liu, Y.M., Yang, Y.H.K. and Hsieh, C.R. (2009) 'Financial incentives and physicians' prescription decisions on the choice between brand-name and generic drugs: evidence from Taiwan', *Journal of Health Economics*, Vol. 28, pp.341–349.
- Mintzes, B., Barer, M., Kravitz, R., Basset, K., Lexchin, J., Kazanjian, A., Evans, R., Pan, R. and Marion, S. (2003) 'How does direct-to-consumer advertising (DTCA) affect prescribing? a survey in primary care environments with and without legal DTCA', *Canadian Medical Association*, Vol. 169, No. 5, pp.421–425.
- Mitchell, V. (1993) 'Understanding consumer's behaviours: can perceived risk theory help', *Management Decision*, Vol. 30, No. 3, pp.26–31.
- Nguyen, B. and Dilip, S.M. (2012) 'A review of customer relationship management: successes, advances, pitfalls and futures', *Business Process Management Journal*, Vol. 18, No. 3, pp.400–419.
- Pires, G., Stanton, J. and Eckford, A. (2004) 'Influences on the perceived risk of purchasing online', *Journal of Consumer Behavior*, Vol. 4, No. 2, pp.118–131.
- Prabowo, A., Budisantoso, W. and Iwan, V. (2012) 'Analisis kebijakan penggunaan obat generik di Indonesia serta dampaknya pada biaya belanja obat masyarakat (studi kasus pada obat penyakit diabetes menggunakan pendekatan sistem dinamik)', *Jurnal Teknik ITS*, Vol. 1, No. 1, September, pp.592–594.
- Suh, D., Greenberg, M., Schneider, D. and Colaizzi, J. (2002) 'Pharmacist's perceptions of healthy people goals in economically stressed citie', *Academic Research Library*, Vol. 27, No. 2, pp.133–150.
- Venkataraman, S. and Stremersch, S. (2007) 'The debate on influencing doctors' decisions: are drug characteristics the missing link?', *Management Science*, Vol. 53, No. 11, pp.1688–1701.
- Wong, M.W. and Zeng, X-Y. (2015) 'Price and quality of remanufactured products related to consumer behaviour', *International Journal of Trade and Global Markets*, Vol. 8, No. 1, pp.17–26.
- World Bank (2008) *Berinvestasi dalam Sektor Kesehatan Indonesia: Tantangan dan Peluang untuk Pengeluaran Publik di Masa Depan*.