# Barriers to Treatment Adherence to Hypertension: A Qualitative Study with *PBI* and Non-*PBI* Patients of a *Puskesmas* in Surabaya

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Abstract: Non-adherence to hypertension treatment has been reported as being a major problem, leading to an increased incidence of cardiovascular diseases. A qualitative exploratory multi-case study has been designed to identify factors influencing treatment non-adherence for *BPJS Kesehatan* members with hypertension at a selected community health centre (*Puskesmas*) in Surabaya. Semi-structured interviews were conducted with four patients who were beneficiaries of the contributions (*PBI*) and four non-*PBI* patients who were purposively selected based on gender, age, blood pressure readings, and the frequency of visits to the *Puskesmas*, as recorded in the *Puskesmas*' system for information and management (*SIMPUS*). Thematic analysis showed that patient-related factors, including misperception and poor knowledge about hypertension, were mostly identified as the barriers to non-adherence. Such barriers were deemed as a consequence of insufficient information given by the health providers. Lack of family support, common use of herbal medicines and unhealthy traditional foods were reported as socio-cultural barriers. Finally, the enormous number of patients served and the limited number of medicines received at the *Puskesmas* were identified as the health system-related barriers. Additionally, unfamiliarity with the *BPJS* program for patients with chronic conditions (*PROLANIS*) was found. The re-arrangement of national health insurance programs, thus, is a considerable need in order to offer great benefits for hypertensive patients.

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## 1 INTRODUCTION

The increased prevalence of hypertension, a primary risk factor of cardiovascular disease, has been reported in developed and developing countries as the majority of patients with hypertension are less likely to non-adhere to treatment (WHO, 2013). To overcome such an issue, the long-term management of chronic diseases in the primary health care setting is crucial and well-developed organisational health care by the government is expected to address the challenges of chronicity (Beaglehole, et al., 2008).

The Indonesian government has implemented universal health coverage since January 2014 organised by *Badan Penyelenggaraan Jaminan Sosial Kesehatan* (*BPJS Kesehatan)* to help improve access to health care services and to reduce out-of-pocket health expenditure (WHO, 2014). Pharmacists who participated in a previous study expect that such a strategy may enhance the delivery of continuity in care (Puspitasari, et al., 2015). For example, through participation with *BPJS Kesehatan*, members with chronic diseases can be helped in the management of their chronic disease (*Program Pengelolaan Penyakit Kronis* [*PROLANIS*]). The participation of all family members in *BPJS Kesehatan* and the involvement of patients with hypertension in regular treatment has been stated by the Ministry of Health in 2016 as 2 out of 12 healthy family indicators (Kementerian Kesehatan RI, 2016).

*BPJS Kesehatan* memberships are classified into beneficiaries of the government's contribution (*Penerima Bantuan Iuran* [*PBI*]) and non-*PBI* *(Indonesia Government, 2016)*. The government covers monthly fees for *PBI* members, while the non-*PBI* classification consists of members whose monthly payment is made by their employer (*BPJS Askes*) and members who make individual monthly payments (*BPJS Mandiri*).

Despite the government's existing strategies to manage chronic diseases, the findings of a previous study revealed that the majority of patients with hypertension, including *BPJS Kesehatan* members, at a community health centre (*Pusat Kesehatan Masyarakat* (*Puskesmas*) with the highest



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prevalence of hypertension in Surabaya were identified to non-adhere when it comes to visiting the *Puskesmas* regularly (unpublished work) as expected every 7-10 days. In comparison to patients who were *PBI* members, non-*PBI* members were less likely to adhere to make regular visits to the *Puskesmas*. Although published articles show that non-adherence to hypertension treatment can be categorised into factors related to patient, the disease, medicine, health provider, health-system and socio-culture, it was unclear about the factors affecting non-adherence to hypertension treatment for *BPJS Kesehatan* members (WHO, 2013; Tsiantou, et al., 2010; Albrecht, 2011; Osamor and Owuni, 2011). Therefore, a study identifying the factors influencing treatment non-adherence for *BPJS Health* members with hypertension in *Puskesmas* was designed.

# 2 METHODS

A qualitative multi-case study was applied to explore the barriers to treatment adherence for patients with hypertension who were members of *BPJS Kesehatan* and visited *Puskesmas* to receive health services. A *Puskesmas* in Surabaya with the highest prevalence of hypertension (unpublished work) had been approached to obtain a list of patients with hypertension who were non-adherent when it came to visiting the *Puskesmas* for treatment. The *Puskesmas*' system for information and management (*SIMPUS*) was utilised to identify the patients with hypertension who met the selection criteria: 1) members of *BPJS Kesehatan*, either *PBI* or non-*PBI*; 2) having a frequency of *Puskesmas* visits between 3 and 24 times during the study period from March to August 2016; 3) having unstable blood pressure readings (normal/grade 1/grade 2) as recorded in *SIMPUS*; 4) full home address was recorded in *SIMPUS* to enable visit for conducting the interviews; and 5) willing to participate in the study. A participant information sheet was directly handed to each selected patient, followed with an explanation about the study. Once a patient had agreed, a date and time for a face-to-face, semi-structure interview was arranged at their convenience and a consent form was completed. An interview protocol that was developed based on a literature review of published articles on the factors related to non-adherence was used during the interviews (WHO, 2013; Tsiantou, et al., 2010; Albrecht, 2011; Osamor and Owuni, 2011). All interviews were audio-recorded and transcribed *ad verbatim*. Coding was conducted using thematic analysis, followed by a verification of the themes by the researchers.

# 3 RESULTS

A total of 1,240 patients with hypertension were recorded in the *Puskesmas*' *SIMPUS*, consisting of 199 members of *BPJS Kesehatan PBI* and 542 members of *BPJS Kesehatan* non-*PBI*. After considering the study's selection criteria, 22 and 40 members of *BPJS Kesehatan PBI* and non-*PBI*, respectively, were likely to be participants. Prior to home visits to conduct the interviews, a list of priority participants was prepared. The decision was then made to finally select the informants, including four members of *PBI* and four members of non-*PBI*, representing different gender and groups of age (≤60 or >60 years old).

**Case 1.** A 61-year old female, member of *PBI* who was diagnosed with hypertension since she was 25 years old and who has been diagnosed with diabetes mellitus in the last four years. As captopril 25mg tablets had been previously prescribed causing side effects that led to her non-adherence, her doctor replaced them with nifedipin tablets. Taking several different tablets did not affect her adherence to take medicines. She believed that antihypertensive agents should not be taken when normal blood pressure was reached. As a house wife, she had plenty of time to make frequent visits to the *Puskesmas*. Despite that, she felt uncomfortable in doing so as she had to spend an additional budget for public transport. When her prescribed medicines were running out, she usually depended on the mobile *Puskesmas*. She was not aware of *PROLANIS*.

**Case 2**.A 45-year old male, member of *PBI* who was diagnosed with hypertension two years ago. Experiencing side effects of several antihypertensive agents affected his adherence, therefore his doctor replaced his medicines with amlodipin 5mg tablets. He understood that hypertension required regular treatment, but he often forgot to take his medicine. He also could not stop taking his favourite unhealthy food that was a trigger for his hypertension. Although his doctor often reminded him to visit the *Puskesmas* regularly, he objected as there was often a long wait due to the great number of patients being served at the *Puskesmas* which was time-consuming. Moreover, he expressed his dissatisfaction at the limited number of medicines that he received from the *Puskesmas* for only a 7-10 day treatment course. As a result, he preferred to get his medicine at a

nearby community pharmacy or consume individually-made herbal medicines. He was not aware of *PROLANIS*.

**Case 3**.A 45-year old female, member of *PBI* who was diagnosed with hypertension since she was 27 years old. Her doctor prescribed captopril 25mg tablets. She understood that hypertension required regular treatment, but she often felt lazy when it comes to take the same medicine for a long period of time. Due to the great number of patients being served at the *Puskesmas* that made her have a long wait, she decided to get her medicine at a nearby community pharmacy or consume individually-made herbal medicines. She was not aware of *PROLANIS*, but might be interested in participating in the program.

**Case 4**.A 69-year old male, heavy smoker, member of *PBI* who was diagnosed with hypertension and hypercholesterolemia nine years ago. He realised that his favourite unhealthy food had caused hypertension, but he could not stop eating them. Because of his physical disabilities, he often failed to adhere to his doctor's suggestion to make regular visits to the *Puskesmas* without the help from family members. When he felt that he had increased blood pressure, he consumed individually-made herbal medicines. He was not aware of *PROLANIS* and was not interested in participating due to his physical disabilities.

**Case 5**. A 49-year old male, member of non-*PBI* (*Askes*) who has lived with hypertension for the last year. His doctor had prescribed captopril 12,5mg tablets and hidrochlorothiazide 25mg tablets. The unpleasant taste of the medicine often made him avoid taking his medicines routinely. He also often felt lazy and bored to do with taking his medicine for a long period. He believed that antihypertensive medicines should not be taken when reaching normal blood pressure readings. To avoid taking the prescribed medicines, he frequently consumed traditional medicines, either individually-made or bought at a nearby traditional medicine stall. The long distance away from the *Puskesmas* and the numerous patients served at the *Puskesmas* caused him to not visit the *Puskesmas* regularly. He sometimes visited a nearby community health sub-centre (*Puskesmas Pembantu*) that served a fewer number of patients, but only provided the most basic health services. As a consequence, he usually paid for the blood pressure checking service and got his medicine at a nearby community pharmacy. He was aware of *PROLANIS*, but never received a proper explanation about the program.

**Case 6**. A 53-year old female, diagnosed with hypertension about eight years ago who become a member of non-*PBI* (*Mandiri*) in the last two years. Her doctor had prescribed amlodipin 5mg tablet, to be taken once at night. Despite this, she often missed taking the medicines. Prior to being a member of non-*PBI*, she often could not afford to pay for her prescribed brand-name medicines, leading to non-adherence. Her daily activities including taking care of her grandchildren made her miss visiting the *Puskesmas*. As a consequence, she visited a nearby community pharmacy to pay for the medicine. She also reported that she lacked support from her family members to regularly visit the *Puskesmas* and to take her medicine. She was not aware of *PROLANIS* and was not interested in participating in the program.

**Case 7**.A 70-year old male, member of non-*PBI* (*Askes*) who has been diagnosed with hypertension since he was 45 years old. His doctor had prescribed him amlodipin 5mg tablets to be taken once at night, and hidrochlorothiazide 25mg tablets to be taken once in the morning. Prior to receiving information from his doctor, he believed that the antihypertensive agents were to be taken only when needed. The symptoms of hypertension were unrecognised, therefore he often felt that the medicines were not required. He also reported that he frequently forgot to take his medicine due to the lack of support and reminders from his family members. He was not aware of *PROLANIS* but was interested in participating in the program.

**Case 8**.A 73-year old female, member of non-*PBI* (*Mandiri*) who has lived with hypertension for the last few years. Her doctor had prescribed captopril 25mg tablets, to take a half tablet twice daily. Her physical disabilities prevented her making routine visits to the *Puskesmas*, particularly when no family members could help her to do so. When the prescribed medicines were running out, she consumed herbal medicines that were bought at a nearby herbal medicine stall. She was not aware of *PROLANIS* and was not interested in participating in the program.

# 4 DISCUSSIONS

The findings of this study showed that non-adherence to hypertension treatment for *BPJS Kesehatan* members was influenced by six factors as reported in the previous studies (WHO, 2013; Tsiantou, et al., 2010; Albrecht, 2011; Osamor and Owuni, 2011). Despite that, the factors related to the

patient, health provider, health-system and socio-culture were found to be predominant.

Patient-related factors that were commonly found in this study included the patients' likelihood to miss their medicine due to laziness, busyness, forgetfulness and boredom, as mostly reported in other studies (WHO, 2013; Tsiantou, et al., 2010; Albrecht, 2011; Osamor and Owuni, 2011). Poor knowledge about the need of long-term treatment for the hypertension condition was also revealed, and interestingly, it seemed to be related to the lack of information provided by the healthcare professionals. Pharmacists were expected to provide full responsibility for the rational use of medicines were also reported to not highlight the importance of adherence to hypertension treatment.

A weak tendency for interactions between health providers and patients was understandable when a large number of the patients at the *Puskesmas* should be served by a small number of health providers (BPJS, 2017). Moreover, many informants in this study reported that the number of medicines they received was normally only for a 7-10 day course of treatment. As a result, only patients who were unemployed were more likely to adhere to make regular visits as suggested. The *Puskesmas*, as a government health facility to support the success implementation of health insurance, therefore, should consider their policies about procurement and the delivery of medicines, particularly for patients who required long-term treatment to enhance their adherence as international studies have shown the impact of social health insurance on the management of chronic diseases (Cockerham, et al., 2017; Hamar, et al., 2013; Kim & Richardson, 2014).

The *PROLANIS* program that was designed to manage chronic disease was thought to fail due to a low participation from *BPJS Kesehatan* members and their unfamiliarity with the program. Harnessing the untapped potential of health providers, such as community pharmacists, could be an innovative solution to supporting chronic disease management (Puspitasari, et al., 2015) through such a structured program.

Another important factor to consider was the likelihood of the informants consuming herbal medicines. The common use of herbal medicines for patients with hypertension in Indonesia, as also reported earlier, could lead to further problems, not only causing an irregular use of prescribed medicines which challenges the monitoring by health providers, but it also increases the potential for interaction between the prescribed and herbal medicines, particularly when scientific evidence was insufficient (Pujianto, 2007).

# 5 CONCLUSIONS

The management of chronic diseases, including hypertension, has been developed by the Indonesian government through the implementation of universal health coverage organised by *BPJS Kesehatan*. Despite that, barriers related to health-system were reported as one of predominant factors influencing non-adherence to hypertension treatment. Therefore, the government along with health professionals should take special considerations to improve health-system to enable reaching the obvious improvements needed in the health services for all Indonesians.

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