

# Perspectives on adherence to blood pressure–lowering medications among Samoan patients: qualitative interviews

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## ABSTRACT

**AIM:** To explore influences on adherence to taking long-term medications among Samoan patients in an Auckland general practice.

**METHODS:** Twenty Samoan participants from an Auckland general practice were identified and interviewed about their views on adherence or non-adherence to taking blood pressure–lowering medications. One-to-one semi-structured interviews using open-ended questions were undertaken in Samoan and English, recorded, transcribed and translated into English. Transcriptions were examined by two researchers to identify themes.

**FINDINGS:** Patients with 'high' and 'lower' rates of adherence to taking usual medication were identified using medication possession ratio cut-offs from medical records of timely prescribing. Ten participants with 'high' and 10 with 'lower' rates of adherence were interviewed, including 11 women and nine men. Themes identified for those with lower adherence included 'lack of transport', 'family commitments', 'forgetfulness', 'church activities', 'feeling well' and 'priorities'. Themes identified for those with high rates of adherence included 'prioritising health', 'previous event', 'time management', 'supportive family members' and 'relationship with GP (language and trust)'. A theme common to both was 'coping with the stress of multiple comorbidities'.

**CONCLUSION:** Reasons for adherence and non-adherence to taking blood pressure–lowering medications among the Samoan patients interviewed were multifactorial and encompass personal, social, cultural and environmental factors. Interdisciplinary teams to support treatment decisions (including Pacific health professionals or community health workers), systematic identification of those with low rates of adherence, phone or text follow-up, use of church or family networks, provision of transport where needed and better tools and resources may help address this problem.

**KEYWORDS:** Medication adherence; New Zealand; Pacific Islands; ethnic groups; qualitative research; antihypertensive agents

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## Introduction

Raised blood pressure is an important risk factor for cardiovascular and renal disease.<sup>1–7</sup> There is strong evidence that lowering blood pressure reduces cardiovascular and renal events.<sup>8,9</sup> However, only about 30% of patients who take blood pressure–lowering medication achieve adequate blood pressure control.<sup>10</sup> According to the World Health

Organization (WHO), at least 50% of patients do not take their blood pressure–lowering medications as prescribed.<sup>11</sup> Low adherence threatens the effectiveness of these medications. Unfortunately few interventions have been shown to improve adherence.<sup>3,12,13</sup> The WHO estimates that more health benefit could be achieved by successful interventions to improve adherence than from new medications.<sup>11</sup>

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It is known that Pacific Island people in New Zealand have high rates of coronary heart disease, hypertension, diabetes and renal disease, including dialysis, compared with Europeans.<sup>14-19</sup> Furthermore, low rates of adherence have been documented in Pacific people. A recent audit of a largely Pacific clinic found that 38% of patients with 'hypertension' routinely failed to collect their prescriptions in a timely fashion.<sup>20</sup> Some of the factors that have been suggested to influence adherence among Pacific people include socio-economic factors, cultural values and beliefs, attitudes towards taking medications, views surrounding traditional healing practices compared with Western methods, and the side effects of the medications in use.<sup>21-24</sup>

There are few studies that have investigated the reasons and no studies among Samoan people in New Zealand primary care. Understanding the reasons and addressing these directly may inform interventions to improve adherence and in turn improve health outcomes for Pacific people in New Zealand. The aim of this study was to ex-

plore influences on adherence to taking long-term medications among Samoan patients in an Auckland general practice. The study was a qualitative descriptive study using one-to-one interviews.

## Methods

### Study population

The study population included Samoan patients within one predominantly Pacific general practice in Auckland. An independent researcher randomly selected 10 Samoan patients with 'high rates of adherence' and 10 Samoan patients with 'lower rates of adherence' to taking blood pressure-lowering medications from 280 patients with hypertension, identified only by code number in a recent audit of the practice.<sup>20</sup> 'High rates of adherence' was defined as a medication possession ratio (MPR) of at least 80%.<sup>20,25</sup> In other words, more than 80% of days from the previous 12 months were covered by a prescription according to practice records. 'Lower rates of adherence' was defined as an MPR of less than 80%.

The codes of the 20 selected patients were given to the principal author, a clinician at the practice, who then matched codes with names and contacted the patients by phone to invite participation in the study. If they were interested, patients were sent a participant information sheet in Samoan or English. Informed consent was obtained prior to commencement of the interview. Invited patients were assured that their decision to participate or not would not affect their care.

### Interviews

A semi-structured interview schedule was used. All interviews were one-to-one and recorded by audiotape. The interviews were conducted in Samoan or English, according to the choice of the participant, by the principal author who is fluent in both languages. The interview questions were informed by a literature search and previous studies addressing this specific area.<sup>26</sup> All interviews were conducted during 2008 at the usual general practice of the participant, although participants were given the choice of home or practice venue. Interviews were approximately 45 minutes in duration. Demographic informa-

Table 1. Participant characteristics

Participant	Age	Sex	Years in New Zealand	Years diagnosed with 'hypertension'
P1	60	Male	10	5
P2	70	Female	11	20
P3	70	Male	17	4
P4	69	Female	44	10
P5	46	Female	13	1
P6	64	Female	21	12
P7	45	Male	19	7
P8	47	Male	3	9
P9	81	Male	51	9
P10	68	Male	36	10
P11	61	Female	42	13
P12	44	Female	21	5
P13	63	Female	6	6
P14	59	Female	33	4
P15	59	Male	38	4
P16	66	Male	45	5
P17	41	Female	41	3
P18	65	Female	7	22
P19	63	Male	36	28
P20	55	Female	9	7

tion was also collected, as was information about usual medications and known medical conditions.

### Analysis

The taped interviews were transcribed and transcriptions sent to the patients for final comment before completing analysis of the interviews. The principal author listened to the audiotapes, transcribed, interpreted and translated the interviews from Samoan into English. The transcripts were analysed separately by two researchers to identify themes.

### Ethical approval

Expedited ethical approval for the study was granted by the Northern X Regional Ethics Committee in February 2008, Ministry of Health (NTX/08/17/EXP).

### Findings

All 20 participants completed the interviews. Nineteen were undertaken in Samoan. One participant was New Zealand-born and chose to have the interview conducted in English. Participant characteristics are included in Table 1. Eleven were female and ranged in ages from 41 to 81 years (mean 60 years). The time spent in New Zealand ranged from three to 51 years (mean 25 years) and the duration of 'diagnosed hypertension' varied from one to 28 years (mean nine years).

Participants had between one and eight long-term conditions, such as obesity, hypertension, diabetes, gout, hyperlipidaemia, chronic obstructive airways disease, bronchiectasis, cerebrovascular accidents (strokes), myocardial infarction (heart attacks), aortic stenosis, hepatitis B carrier, Parkinson's disease, peptic ulcer and osteoarthritis.

### Themes from those with 'lower rates of adherence'

#### *Lack of transport*

A number of participants commented on the lack of transport as a problem for them not attending their clinic appointments, thereby being unable to collect their prescriptions for their medication

### WHAT GAP THIS FILLS

**What we already know:** Adherence to taking long-term medications is low internationally, including among Pacific people. Pacific people have high rates of cardiovascular and renal morbidity and mortality. Little is known about the reasons for 'high' or 'lower' rates of medication adherence among Pacific patients. Rates of medication adherence can be estimated using medication possession ratio (MPR), or the percentage of days over the previous 12 months that were covered by a prescription according to practice records.

**What this study adds:** Factors contributing to lower rates of adherence to taking antihypertensive medication by Samoan patients include lack of transport, family and church commitments and priorities, forgetfulness, time management issues and feeling 'well'. Factors conducive to adherence include family support, prioritising health, a previous cardiovascular event, and a good relationship with the health professional. Common language and cultural understanding between patient and health professional also assists in adherence to taking medication.

supply. For example, participant 13 (female, aged 63) commented:

Everyone at home works, so there is no one to bring me to the clinic when my appointment is due. I have to wait for someone to be free and that could be weeks, meanwhile, my tablets are finished. I don't want to be a pain to the workers, so I wait for one of them to be free.

Participant 20 (female, aged 55) commented:

I take the bus because there is no car at home, but if it is a rainy day, then I stay home, because the bus stop is a little far from home.

#### *Family commitments*

Family commitments were also highlighted as another factor for not taking high blood pressure medication. This included being busy with looking after children for the women, and for the men it included their commitment to their work as part of being the main breadwinner, thereby showing their commitment to their family. For example, participant 6 (female, aged 64) commented:

I often look after the grandchildren, so I am very busy looking after them, that I forget my tablets, until late in the night. By then, it is too late to take them.

Participant 7 (male, aged 45) commented:

I have a busy job and I work long hours often leaving home very early in the morning and not returning till very late at night, so I do forget my tablets a lot of the time.

### *Forgetfulness*

Some of the participants mentioned that they often forget to take their medications. For example, participant 17 (female, aged 41) commented:

My day is usually very busy with taking children to school, then there's the shopping and housework and then back at the school again in the afternoon to collect children and once we are home, there's the evening food to prepare, so I forget my tablets. On some days, like the weekends, even if I am not busy, I just forget about the tablets, which I know is bad, but I can't help it, I am just forgetful.

### *Church activities*

Many of the participants also spoke of their responsibilities within the church as another factor that contributed. For example, participant 1 (male, aged 60) commented:

There is always family responsibilities and church activities, like I am a deacon at church, so the responsibilities there are a lot with all the meetings you have to go to, so it is easy to forget the tablets.

### *Feeling well*

Some of the participants stated that they did not take their medications when they felt well. For example, participant 7 (male, aged 45) commented:

When I feel well, I do not take my medication. I only take my tablets when I feel unwell like my head is hurting. Sometimes I do not take my tablets for about three or more weeks.

### *Priorities*

Some did not see taking their medications as a priority. For example, participant 10 (male, aged 68) commented:

I never liked taking tablets in my forties because I was too busy partying and drinking, but then after I had my stroke and now that I am getting older, I need to take my tablets, so I am better at taking the tablets now.

## Themes from those with 'high rates of adherence'

### *Prioritising health*

Most knew that their medications were important so they prioritised taking their tablets over other activities. This group of participants also knew exactly what kind of medication they were taking, and if they did not remember the names of the tablets, they knew the reasons why they were taking the tablets such as a description of the tablets as below:

Participant 14 (female, aged 59) commented:

If I don't take my medication then I don't love myself at all, so yes, it's important to me to take my medication as instructed. For example, I take my betaloc in the morning then my cartia after food. At lunchtime, I take my next tablet. However, if I notice that my medication bag is still on the fridge then I know I have not taken my tablet.

### *Previous event*

Some of the patients had experienced events such as stroke or heart attack and they did not want another event. So, they made sure that they took their medications.

Participant 10 (male, aged 68) commented:

I used to be very bad at taking my tablets in my younger days, but now, after my stroke, I make sure I take my tablets everyday so I do not get another stroke.

Participant 8 (male, aged 47) commented:

The day I had my stroke was a very bad day, so I decided I needed to make some changes and listen to my doctor and take the tablets. I still have some problems with walking and my mind being slow after the stroke, but it also reminds me that I need to continue taking my tablets.

*Time management*

Many planned in advance to collect their medications. For example, participant 4 (female, aged 69) commented:

I make sure I count how many of my tablets are left and when there is only two weeks left of my tablets, then I make my appointment to come and see you to get more tablets.

Participant 2 (female, aged 70) commented:

I try my best to keep an eye on my tablets, and when I see there is only a few left, I tell my children that I need to come and see the doctor to get a check-up and get more tablets. My children are good like that; they will bring me in to the doctors before my tablets run out.

*Supportive family members*

Many commented on a supportive family. Family members would often remind them to take their medication. Participant 3 (male, aged 70) commented:

I am lucky that I have my wife. She knows everything and she reminds me when I need to take my tablets.

Participant 18 (female, aged 65) commented:

My husband is very good at reminding me about my medications. Otherwise I forget. Sometimes when he reminds me, I get annoyed but then I know that it is important to take my medications, otherwise I would not be here.

*Relationship with the GP—language*

The majority of the participants commented on the importance of language, whereby they felt comfortable communicating with a Samoan doctor.

As participant 3 (male, aged 70) said:

We went all the way to... to see Dr... because he was Samoan and we wanted to talk to him in our own language so we can understand each other...and it was good to be able to talk in Samoan. This helped

us understand the blood pressure problem and the need for medication plus diet changes and exercise.

Participant 20 (female, aged 55) commented:

It was the Samoan doctor, Dr... who explained hypertension to me and so I really understood what he said.

Participant 6 (female, aged 64) commented:

I like coming here to see you since I can talk to you in Samoan and I know that you understand and I can also understand what you say. Sometimes when I come in and you are not here, I get shy since I do not have good English and so I prefer to wait until I can get an appointment to see you.

*Relationship with the GP—trust*

All participants had comorbid conditions and multiple medications. The majority of the participants thought that they were coping well with the multi-medication regimes, although a few did mention that their families expressed concern about the number of tablets they were taking.

Participant 6 (female, aged 64) commented:

My children come home and look at my tablets. Then they worry and ask why I am taking so many tablets and maybe I should stop some of them. I just tell them that I have to listen to my doctor and take my medication, no matter how many there are.

Participant 16 (male, aged 66) commented:

Even though I take a lot of tablets, I don't mind since I want to be well, and the doctors know what they are doing, so I do my part and take my tablets.

**Coping with the stress of multiple comorbidities**

Many participants admitted that the multiple medical conditions and medications were stressful. Some coped by having a positive attitude.

Participant 16 (male, aged 66) commented:

Even though my life is busy with being a builder and having to advise my children..., add to this the problem of pain in my back from arthritis plus

blood pressure problem, there are some days when I have just had enough of all the stress. But, then, I think of those who are less fortunate than me, then I try and focus on the good things and cope that way, so I do not feel sad.

Participant 18 (female, aged 65) commented:

If it was just the blood pressure problem, I would be okay. But add to this the Parkinson's plus the diabetes and all these tablets I have to take, then I sometimes feel sad. But, I am usually a positive person and I have a good sense of humour, so I do not feel sad for very long at all.

Those who did not cope so well with the comorbidities plus the pressures of lack of finance and lack of support made the following remarks:

Participant 17 (female, aged 41) commented:

There are times when I feel all the pressure from finances and having no support, add to that all these medical problems then I feel down.

When asked about suicide ideation, the same participant said:

When I look at my children, I know I cannot do anything like that, so they help me get out of the bad place.

Participant 20 (female, aged 55) denied that they had diabetes but accepted they had hypertension:

The diagnosis of diabetes made me angry since there is no one in my family who has diabetes and so therefore I will not accept the diagnosis and I am not going to take the tablets.

## Discussion

### Main findings

This is the first study to investigate reasons for high or lower rates of adherence to taking long-term medications among Samoan people in New Zealand primary health care. This study has highlighted that those with lower rates of adherence had a number of issues such as lack of transport, family commitments, forgetfulness,

church activities, feeling well and other priorities that contributed to the non-adherence to taking blood pressure medications. On the other hand, themes from those with high rates of adherence included: prioritising health; a previous cardiovascular event; time management; supportive family members and the relationship with their GP, both in terms of a common language and trust. The majority of participants also had a number of comorbid conditions and multiple medication regimes, which they found stressful. There was a range of coping mechanisms from having a positive attitude to denial of the condition, and hence conscious non-adherence.

### Compared with the literature

These findings reflect the Samoan model of health as described by the Fonofale model, whereby health belief is viewed in the context of culture, language, and family, and encompasses time and the environment that surrounds a person.<sup>23</sup> For example, the importance of culture and language came through, where patients were willing to travel long distances to see a doctor of their own ethnicity because they could understand the explanations about their medical condition, therefore encouraging adherence.

A study by Barnes et al. in 2004 compared illness beliefs and adherence in diabetes mellitus between Tongan and European patients. This study found that there was a perception that some of the medications were unnecessary, and higher levels of emotional distress related to their diabetes, among the Tongan participants, which were associated with lower rates of adherence to diet and medication taking. The study highlighted the need for an assessment of patients' personal and cultural beliefs about their illness and, most importantly, that there is a need to understand the patients' perceptions about illness and medication, and this may provide avenues for improving adherence to self-care regimens.<sup>27</sup> The current study found similar beliefs among some of the Samoan participants with lower rates of adherence. However, while some did not think taking medications was important, more commonly the beliefs were that the tablets were useful but that the 'busyness' of life took priority.



There are several factors that have been identified in previous studies that contribute to adherence. These include: 'the specific condition being treated, the health care system and team delivering the intervention, the social and economic conditions of the patient and setting, characteristics of the therapy itself and the contribution of the individual patient'.<sup>1,11,28</sup> In Burnier's (2006) review, some of the potential reasons for lower rates of adherence to taking blood pressure medications can be divided into physician and patient factors or medication factors.<sup>1</sup> Physician and patient factors included cost of medication and related care; unclear instructions to the patient; the primary caregivers not increasing the doses of medications or changing the medications; poor patient education and lack of inclusion of the patient in their overall plan. Medication-related factors included the side effects of the medications and, in addition to this, a complicated dosing regimen. In the current study, the issues involving family, church and transport, relate both to socioeconomic factors and cultural priorities. However, there were few comments about the medications themselves, potential or actual side effects or complicated medication regimes. With the problem of comorbidities, despite evidence from the literature that simplifying regimens would help adherence,<sup>29</sup> none of the participants in the current study commented on this as a factor for them.

Medication adherence is only one part of 'self-management' where the individual must manage symptoms, treatment, physical and psychosocial consequences, and the lifestyle changes associated with having a long-term condition.<sup>30</sup> Two literature reviews of self-management interventions found that disease-specific interventions improved knowledge, performance of self-management behaviours such as medication adherence, self-efficacy and aspects of health status compared with standard care.<sup>30,31</sup> Such interventions included individual- or group-based education or counselling led by health professionals, peers or other lay people, addressing barriers to change or adherence, and symptom management techniques.<sup>30,31</sup> Consequently, it was recommended that health care providers focus on improving patients' self-management abilities, promote flexibility and a

patient-centred approach in negotiated management plans, and improve information provision for patients by making it relevant, accessible, while understandable yet evidence-based using flexible modes of delivery.<sup>30,32</sup> Structural changes to improve access to services were also recommended.

### Strengths and limitations

The fact that the researcher was also the doctor of several of the patients may have influenced participation or responses to the questions. This may limit validity of the findings. Use of an independent interviewer may have avoided any risk of participants feeling obliged to participate or limiting responses to questions. On the other hand, the interviewer's fluency in Samoan and

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knowledge of and familiarity with the participants may have been more conducive to trust and disclosure of concerns than if interviewed by someone they did not know. The study also assumed that patient and clinician initially agreed on the use of blood pressure-lowering medication, but the validity of this assumption was not explored.

Almost all participants were born in Samoa; hence the themes may be different for Samoans born in New Zealand. Furthermore, only Samoan patients were interviewed. Issues around adherence to taking medications may be different within other Pacific groups. The study was conducted in one Auckland practice, which again may be different from the experiences of Samoan people from other practices or other regions of New Zealand, or indeed in the Pacific Islands.

## Recommendations

Interdisciplinary teams to support treatment decisions (including Pacific health professionals or community health workers with a common culture and language), systematic identification of those with low rates of adherence, phone or text follow-up, use of church or family networks, provision of transport where needed to improve access to care, or use of community pharmacies, as well as better tools and resources, may help address the problem of low rates of adherence to taking medications.

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## COMPETING INTERESTS

None declared.