



Bringing Medicine from Pakistan and Self-Medication Among Pakistani Mothers in New Zealand

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Abstract

Worldwide migration leads to people bringing beliefs and practices from one country into another, including those related to self-medication. This study explores the self-medication practices of Pakistani mothers for their children and their reasons for self-medication. We interviewed 23 immigrants. Each interview lasted 60–80 min and was conducted in Urdu. Participants had been living in New Zealand on average 3.25 years. They talked about their prior knowledge and experiences regarding self-medication behaviour for their children. The majority of the mothers treat their children at home before visiting a general practitioner (GP) due to previous unsatisfactory experiences. There was a significant relationship between participants who had family members in healthcare professions, their experiences of healthcare services and self-medication. Bringing medicines from Pakistan is a key source for self-medication practices. Self-medication awareness programs could help mothers to practice safe and responsible use of medicines for the benefit of their children.

Keywords Self-medication · Migrants · Mothers · Children · Pakistan · New Zealand

Background

Migrants coming from culturally different backgrounds have ethnically diverse views, cultural insights, and understandings that impact their outlook on medicines therapy, attitude towards disease, and optimal selection of treatment [1]. In New Zealand, researchers have investigated the cultural and psychological difficulties experienced by Asian immigrants [2, 3]. Babar et al. explored the attitudes, beliefs, and perceptions of new Asian immigrants. They highlighted the barriers limiting their access to medicine, such as financial, information transfer and misconceptions due to cultural and language barriers [4]. Self-medication is related to the use of medicines as first aid in daily life [5]. Different factors,

such as personal qualities, socioeconomic status, culture, and the healthcare system, play a vital role [6]. Appropriate self-medication can save time as well as money and helps to boost public decision-making to improve health [7]. On the other hand, there are risks associated with self-medication, such as financial costs incurred by consumers, delaying necessary treatment, and there is also a chance of drug to drug interactions [8].

Self-medication products account for approximately 20% of the total international pharmaceutical market [9]. Multiple studies show that self-medication is very well used in developed countries such as Australia, Italy, and Spain [6, 10, 11], in middle-income countries such as Brazil and China [12, 13], and low- and middle income countries such as Ethiopia, Kenya, Mongolia, Nepal, Pakistan and Zimbabwe [14–17].

It is standard practice that medicine for young children is given by their parents, and this includes medicine for coughs, analgesics and antipyretics such as ibuprofen and paracetamol [18, 19]. Self-medication in children can have side effects. [19] Paracetamol poisoning cases in Sri Lanka increased from 35 in 2003 to 515 in 2005 [20]. A recent study found that 95% of mothers attending the Outpatient Department (OPD) in Colombo South Teaching Hospital self-medicated their children during the study period. There was a positive relationship between the level of

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education of mothers and self-medication practice [21]. Over time, as mothers become more knowledgeable about pharmaceuticals and more familiar with specific medicines' brand names, they may identify and treat children with different medications before consulting their family doctor.

Pakistan and New Zealand have different socioeconomic and cultural backgrounds. New Zealand has a mostly public-funded healthcare delivery system. Care in public hospitals is free, general practice and pharmaceuticals are subsidised, and there are no medication charges for children. In Pakistan, however, there is a large informal healthcare sector and a lack of public awareness programs about health and medicines. The private sector offers the most healthcare (79%) in Pakistan [22]. There is a high prevalence of self-medication in Pakistan. Contributing factors are easy to access to medicines, lack of healthcare knowledge, and excessive marketing of medicines [23–25]. A New Zealand study found widespread use of antibiotics without prescription among migrant groups (Indian, Egyptian, and Korean) and a lack of knowledge about antibiotic use [26]. Another study on Zimbabwean households in New Zealand identified four main themes: the use of traditional medicine over allopathic medications; storage, practices of storage and sharing of medicines; availability and affordability of medications; and the role and influence of media in decision making about medicine purchase [27].

There is limited research in New Zealand on immigrant mothers' medicine practice and access to child healthcare services. Internationally literature has highlighted that immigrant women experience different obstacles while trying to access appropriate healthcare [28, 29]. One reason for self-medication could be limited advice about the New Zealand health system available in Urdu. The available health resources are mainly for Auckland residents, and there are minimal resources for other cities. Urdu translations are not available for essential healthcare navigation, unlike other languages like Hindi, Korean, Chinese. During Covid-19 a few resources became available in Urdu. A further challenge could be that most immigrants in rural areas do not have interpreters for GP visits.

This study aimed to examine how mothers from a low-income country deal with the new health and social environment in a developed country, specifically looking at the role of Pakistani mothers in the self-medication of their children in New Zealand. Appropriate and safe self-medication practices with antibiotics and other medicine are important to consider among children. The study's main objectives are: (1) to better understand the role of mothers in self-medication; (2) to identify reasons for self-medication, and (3) to better understand mothers' perceptions about bringing medicines from overseas.

Method

Study Setting

We conducted individual face-to-face, semi-structured interviews to explore mothers' beliefs and experiences of self-medication practices in New Zealand. We followed literature which states that in this type of qualitative research, 20 to 30 participants are sufficient or to continue to collect data until saturation is reached [30].

Eligible participants were Pakistani mothers born and educated in Pakistan, aged 18 years or more with at least one child under 12 years, had migrated to New Zealand within the last five years and were living in Wellington, New Zealand's capital city. Most participants were recruited through the Pakistan High Commission in New Zealand, based in Wellington. The lead researcher (SA) initially contacted potential participants by telephone, WhatsApp or Facebook, and explained the purpose of the research and participants' role. SA also explained to potential recruits the inclusion/exclusion criteria. Mothers who had healthcare education or worked in healthcare were excluded. Those who wanted to be involved were given an information sheet and consent form. Written consent was obtained before the interview. SA also took chocolate/cake for participants to thank them for their time and help in the study.

Ethical Approval

Ethics approval was obtained from the University of Otago Human Ethics Committee (# D17/132).

Data Collection

The lead researcher developed a schedule of questions based on the literature and discussions with the other authors.

A pilot study was conducted on three participants before finalising the interview guide. The interview guide was drafted so that participants could talk using their prior knowledge and experiences about medicine-taking behaviour for their children and how this varied from their home country. In Pakistan, English and Urdu are official languages. The majority of the population understands and speaks Urdu, although Pakistan also has multiple languages in various parts of the country. The "study instrument" (participation information sheet, consent form, and interview schedule) was translated into Urdu by SA. The lead researcher, SA, conducted all the interviews. Each interview lasted between 60 and 80 min. SA also took field notes and reflections during the interview. All interviews were audio-recorded with the consent of the participants. SA continued with interviews

until no new themes were identified, and after 23 interviews, reached saturation. The interviews were conducted between April and October 2017.

Data Analysis

The audio interviews were transcribed verbatim by SA using Microsoft Word. Identifying information was removed and interviews labelled with specific code numbers. The lead researcher SA discussed initial results with the research team (SH and PN) and then proceeded to code using NVivo 11 software. Topics and themes related to the research aims were identified. We used a general inductive approach (GIA) for the thematic analysis as it is considered useful in dealing with both deductive and inductive studies [31].

Results

Demographic Characteristics of Participants

The sample consisted of 23 mothers (all were married), with an average age of 34 years and a range of between 30 and 42 years. The majority of the participants identified Masters as their highest educational qualification ($n = 13$, see Table 1 for a description of the participants' details). Ninety-one per cent (91%) of the mothers were taking care of two or more children, whereas only 9% looked after one child. Most (65%) mothers were housewives, with only 35% involved in paid work. The visa status of mothers is also given in Table 1. It was essential to know a participant's visa status

Table 1 Demographic characteristics of participants

Demographic	$n = 23$
Average age	34
Average number of years in New Zealand	3.25
Education	
Intermediate	2
Bachelor	8
Masters	13
Number of children	
One	2
Two	16
Three	5
Working/housewife	
Housewife	15
Casual work	3
Full-time work	5
Visa status	
Resident	21
Student	2

because they had access to public funding for healthcare if they were on a resident visa. Still, with a student visa, they were not eligible. In the sample, 91% of the participants were on a resident visa and 9% on a student visa.

Self-Medication for Their Children

Most mothers said that they treat their children first at home before taking them to the doctor. However, all also stated that it depends on the severity of the illness. For example, in the case of serious injuries, they immediately visited the doctor. However, they prefer to treat children at home for the first few days of illness and stated that they have enough knowledge to manage them based on their previous experiences.

Bringing Medicine from Pakistan

Most mothers stated that they brought medicine from Pakistan for their children when they first came to New Zealand as were not sure how they would manage to get all the necessary medicines in case their children became sick. In Pakistan, these were readily available from a pharmacy even without a doctor's prescription. Mothers stated that they bring all kinds of medicines that are not easily available or available without a prescription in New Zealand. Most also said that they ask their relatives and friends to bring medicine when they visit New Zealand from Pakistan.

Yes, I think half of my luggage consists of medicines.
(Interview 7: Housewife with two children)

I brought Grivinite® for vomiting, Motilium® for abdominal pains. And some antibiotics.
(Interview 9: Working mother with two children)

Most of the time, medicine like Panadol®, ibuprofen, antihistamine as well as antibiotics.
(Interview 1: Casual working mother with three children)

Reasons for Self-Medication

In Pakistan, the medicines are cheap and easily accessible without a prescription. Mothers can purchase medicine whenever required, which gave them the experience of instantly treating their children without healthcare professionals' help. Most of the mothers reported that they were previously using medicine for the same symptoms in Pakistan. In New Zealand, they are not getting a prescription even after requesting or demanding one. This disappointed them and encouraged them to bring medicine from Pakistan or ask friends and family who visit Pakistan to bring

medicine. Other reasons that led them to bring medicine and practice self-medication are dissatisfaction with the new healthcare system. All of the mothers mentioned having faced challenges when accessing healthcare services for their children during their initial period in New Zealand: e.g. unavailability of a general practitioner (GP) appointment on the same day; long waiting at after-hours or emergency services; dissatisfaction, and expensive healthcare services in New Zealand.

They gave you medicine when you are on edge, and things are worse. You must make three visits before being prescribed antibiotics, so everyone preferred to go to the GP at that stage when they immediately prescribed you antibiotics.

(Interview 18: Full-time working mother with two children)

Types of Medicines Used for Self-Medication

The most frequently used medicines for self-medication in children were antipyretics, anti-allergic, analgesics (NSAIDs), eye and nasal drops, topical steroid creams, and Flagyl® for stomach problems. Mothers mentioned that they gave antibiotics, generally from the penicillin class and particularly Amoxil® and Augmentin®, but broad-spectrum drugs like the cephalosporin group are also frequently and commonly used. They self-medicated children for symptoms like cold, fever, flu, cough, sore throat, throat infection, chest infection, diarrheal symptoms or abdominal pain, upper respiratory infection, urinary tract infection (UTI), nasal congestion, aches/pain, allergies, and constipation. Most mothers confidently reported that they could detect chest infection

among their children by listening and observing their chest and other signs.

The process of choosing the precise medicine, dosage, and interval varied between participant. Some mothers followed advice from health professionals in the family or friends. Others followed instruction leaflets in the medicine. Some searched for the best match on the internet, and others tried to decide mutually with their spouse, and, finally, some made an informed guess that could result in an overdose.

Most mothers reported that they have analgesics, antiemetics, antibiotics, antidiarrheals, laxatives, cough, flu and cold medications at home (see Table 2). The majority (90%) self-medicate their children at home before consulting the doctor. Those participants who had relatives in healthcare said they practised self-medication more frequently and confidently. Most claimed confidently that they know about the doses of different medicines for their children and ask health professionals in the family or check online in case of uncertainty. Most also mentioned that being the mother of two or more children enabled them to learn about all the essential medicines from their experiences.

As we already had lots of doctors in the family and very much aware of medicines. So, when you are from a doctor's family or related to them so that influences you.

(Interview 1: Housewife with two children)

I usually have paracetamol, Flagyl® (metronidazole), and medicine for diarrhea and constipation. I buy medicine from the supermarket like cough syrup, sachets like Lemsip® for flu.

Table 2 Types of medicine used for self-medication by participants

Brand name	Generic name	Indication
Pamol/Panadol®	Paracetamol	Fever and pain-relieving
Nurofen/Brufen/Fenpaed®	Ibuprofen	Pain-relieving
Flagyl®	Metronidazole	Diarrhoea, Infections
Motilium®	Domperidone	Nausea, vomiting, acid reflux
Grivinate®	Dimenhydrinate	Nausea, vomiting, dizziness, motion sickness
Strepsils®	Amylmetacresol	Mouth and throat infection, sore throat
Robitussin®	Guaiphenesin	Cough and chest congestion
Gaviscon®	Sodium alginate, magnesium alginate	Heartburn, upset stomach, or indigestion
Infacol®	Simethicone	Colic and griping pain
Imodium®	Loperamide	Diarrhoea
Coldrex®	Phenylephrine	Sinusitis symptoms
Amoxil®	Amoxicillin	infections of the ear/ nose/ throat/ skin/ urinary tract
Cebosh®	Cefixime	Infection of skin/respiratory/urinary tract
Augmentin®	Amoxicillin and clavulanate	Use to treat bacterial infections

(Interview 13: Housewife with two children)

Now I get the idea if she had ‘gala’ (throat infection) she will only be recovered by antibiotics. Otherwise, it will not get better.

(Interview 20: Housewife with two children)

Discussion

Although there is strict control border security in New Zealand, no participants mentioned facing barriers on the border. People entering New Zealand are allowed to bring medicine for personal use [32]. Sheridan et al. (2011) concluded that there is a need for public awareness regarding the possible risks and harms of importing prescription medicines such as antibiotics [33]. In many countries such as Pakistan, self-medication, including antibiotics, is a common practice due to the availability of antibiotics without prescription [34, 35]. When people move to another country, they take their prior experience and knowledge and may continue with such practices [26, 36, 37]. We have found that almost 87% of participants admitted having brought medicine, including antibiotics, into New Zealand during their last trip to Pakistan. Babar et al. (2013) found that Asian migrants bring many traditional medicines when they return to New Zealand from their country of origin [4]. The practice of bringing medicines from Pakistan allowed self-medication with antibiotics. Similar results have been found in other international studies, for example, many Latino Americans carried nonprescribed antibiotics into the United States [38]. Another study found 32% of Chinese migrants (participants) brought antibiotics into Australia during their last overseas trip [39]. Gaps in understanding and misunderstandings of antibiotics have also been identified amongst migrants in New Zealand [26, 36].

This research explores the factors that influence Pakistani migrant mothers’ role in self-medication related to their children. Results indicate that about 90% of the mothers practice self-medication in New Zealand. This high rate is in line with findings from many other studies from low, middle, and high-income countries. For example, in Sri Lanka and Nepal, 85% of the mothers practised self-medication for their children [40, 41]. A study from Germany found that 25.2% of mothers had used self-medication for their children within one week [19]. At the same time, another study in Western Australia concluded that 73% of the mothers did so [42]. In line with other studies, we noted that a significant factor for self-medication comes from the child’s health variables [22, 41]. A primary reason was the severity of sickness. Most mothers

tried to treat the children by themselves for mild diseases using their experience of treating similar problems in the past. In our study, many mothers practice self-medication due to long waiting times at healthcare centres and their previous knowledge of treatment for similar symptoms but not being given a prescription. A study on Pakistani immigrant women in the US found multiple reasons for self-medication practices, including long waiting times [43].

Several studies have concluded a high correlation exists between self-medication and medicines available at home [44, 45]. Availability of medicine at home promotes easy access to medicine for self-medication. In our study, the most frequently used medicines for self-medication stored at home were antipyretics and antibiotics and in line with studies from Ethiopia, India, Italy, Sri Lanka, and Pakistan. These types of medicine are used for minor diseases such as cough, pain, headache, and fever [6, 16, 17, 21, 37]. However, we also found that self-medication was more common in families who have relatives in the healthcare professions. It has been observed that correct information about antibiotics was linked with the increased use of the antibiotics without consultation of a doctor or a pharmacist [46]. While healthcare professionals in the family can advise, this implies that the mothers had access to antibiotics without a prescription. This is of concern as healthcare professionals (doctors and pharmacists) are significant in advising people about the proper use of medicine.

One of our study’s key findings contrasts with other studies where self-medication is associated with low income, rural area, less educated [47–49]. Our participants were well-educated and migrated to New Zealand in the skilled category.

Our study concluded that self-medicating with antibiotics and other medicine among Pakistani migrant mothers for children in New Zealand is common. Challenges experienced while accessing healthcare and dissatisfaction with healthcare services influenced self-medication practices. Their previous experiences of using the medicine for the same symptoms and instant relief were factors in their decision to bring medicine from Pakistan. Unfamiliarity and lack of appropriate navigation of New Zealand’s healthcare system led mothers to implement approaches to manage their children’s health needs. Such practices may lead to increased antibiotic resistance in the community. Studies have suggested that using antibiotics for bronchitis and minor ailments is linked with a higher risk of self-medication [35]. Misunderstandings that antibiotics could cure the flu, cold, or sore throat were also related to self-medication [50]. Overall, we suggest that further information and education are required for mothers about the correct dosage of medicine by weight/age of the child and antibiotic resistance development.

This study has some limitations. The sample size is small and covers mother participants only from Wellington.

Contribution of the Study

This study contributes to the international literature on self-medication practices in migrant households. The requirement for a prescription and long waits and delay in GP appointments were the critical factors for self-medication in children. Our research has important implications for local and international healthcare policymakers, the Ministry of Health, medical centres, GPs, after-hours/emergency. The Ministry of Health can develop healthcare awareness programs targeting new immigrants about antibiotic resistance and the potential risk of self-medication practice to prevent this self-medication practice and increase utilisation of health care.

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Declarations

Conflict of interest We have no conflicts of interest to disclose.

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