

# Medications for Sexual Health Available from Non-Medical Sources: A Need for Increased Access to Healthcare and Education Among Immigrant Latinos in the Rural Southeastern USA

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**Abstract** This study documented the types and quality of sexual health medications obtained by immigrant Latinos from non-medical sources. Samples of the medications were purchased from non-medical sources in the rural Southeast by trained native Spanish-speaking “buyers”. Medications were screened the presence of active pharmaceutical ingredients using mass spectrometry. Eleven medications were purchased from tiendas and community members. Six were suggested to treat sexually transmitted diseases, one was to treat sexual dysfunction, one was to prevent pregnancy, and two were to assist in male-to-female transgender transition or maintenance. All medications contained the stated active ingredients. Findings

suggest that medications are available from non-medical sources and may not be used as indicated. Interventions that target immigrant Latinos within their communities and rely on existing structures may be effective in reducing barriers to medical and healthcare services and increasing the proper use of medications to reduce potential harm.

**Keywords** Latino · Sexual health · Medication · Southeastern USA · Viagra · Transgender

## Introduction

Recently arrived immigrant Latinos living in the United States (US) face multiple barriers that limit access to, and utilization of, formal medical and healthcare services. Most southeastern states that are experiencing rapid growth of immigrant Latino communities do not have a history of providing Spanish-language medical and healthcare services, and public and private agencies and community-based organizations are just beginning to explore the needs of these predominantly Spanish-speaking communities. Latinos currently immigrating to the southeast tend to be different from Spanish-speaking immigrants who traditionally settled in California, Florida, New York, and Texas. They often come from southern Mexico and Central America and have lower literacy rates [1]. Lack of knowledge of the US healthcare system further limits their access to, and utilization of, medical and health care. Many immigrant Latinos report experiencing discrimination when seeking health care, and most lack health insurance. Furthermore, undocumented Latinos report fearing discovery and deportation and avoiding formal systems of health care, which lead to limited use of healthcare services and low levels of exposure to preventive education [1, 2]. Distrust of the healthcare system

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and providers, limited clinic hours, lack of bilingual and bicultural resources, and insufficient public transportation also have been identified as barriers to accessing health care for this population [2, 3].

Given multi-level barriers that limit access to, and utilization of, formal medical care and prior experiences with healthcare systems outside of the US that may provide easier access to prescription drugs [4], some immigrant Latinos in the US have reported obtaining prescription drugs from non-medical sources such as *tiendas* (grocers), *botánicas* (stores selling folk medicine, religious candles, amulets, and other products regarded as magical or as alternative medicine), flea markets, and other businesses marketing to immigrant Latinos [4–9].

Because very little is known about the use of non-medical sources of prescription drugs, this pilot study was designed to document the type and quality of prescription drugs available to immigrant Latinos from non-medical sources in a southeastern US state. We focused on medications related to sexual health including those used to treat sexually transmitted diseases (STDs) and erectile dysfunction, prevent unplanned pregnancy, and assist in male-to-female transgender transitioning or maintenance given preliminary findings that suggested that these were commonly obtained from non-medical sources [8, 9].

## Methods

This study took place in a southeastern US state experiencing one of the fastest growing Latino populations in the US [10] and with disproportionate rates of STDs [11, 12]. The immigrant Latino population in this area tends to be young and healthy; typically, women are of childbearing age [1]. Two adult immigrant Latinos (one male, one female) originally from Mexico were trained as “buyers” to inquire from potential non-medical sources (e.g., *tienda* and flea market staff and informal community leaders) and buy samples of drugs to treat STDs. They also sought to purchase medication used for erectile dysfunction and/or sexual enhancement (e.g., Viagra, Cialis, and Levitra), birth control, and hormones for male-to-female transgender transitioning or maintenance based on preliminary findings suggesting that these are commonly obtained from non-medical sources [8, 9].

Data were collected about each drug, including: the symptom described by the buyer (i.e., infection related to sexual health or erectile dysfunction) or other type of reason (i.e., birth control or male-to-female transgender transitioning or maintenance), the source of the purchase (e.g., *tienda*, community member), drug name, quantity

purchased, and price. Purchased medications were analyzed to examine whether they contained the expected primary active ingredients using mass spectrometry [13].

Human subject review and study oversight were provided by the Institutional Review Board (IRB) of Wake Forest University Health Sciences.

## Results

Overall, eleven medications were purchased from eleven different sources. Two were the same product (Pentrexyl [ampicillin]). All were purchased from *tiendas* or community members. One community member provided medications through his church. Pills and capsules came in sealed manufacturer’s box and/or unbroken blister packages. Injectable liquids came in sealed manufacturer’s box, sealed syringes, and blow-fill-seal vials. All of the medications, except Viagra, came in Spanish-language packaging and instruction inserts, and had expiration dates. None had expired. Data about each medication are presented in Table 1. Four of the six medications that were purchased to treat STDs are available over the counter (OTC) in the US. Three of them were B-vitamin supplements. The fourth was Flanax (naproxen), a nonsteroidal anti-inflammatory drug (NSAID), commonly used for minor aches and pains resulting from head, back, and toothaches, and menstrual cramps. These OTC medications are not sufficient for STD treatment. The treatment of curable STDs, which are often bacterial, requires specific antibiotics dependent upon the specific STD [15].

Pentrexyl, which was purchased in two different *tiendas*, is a semi-synthetic derivative of penicillin taken orally as a broad-spectrum antibiotic. It is not approved for use in the US; however, it is approved in Mexico. More importantly, penicillin is not a recommended for treatment as penicillin-resistant *Neisseria gonorrhoeae* increased from the 1970s to the mid 1980s throughout the US; therefore, it is not included as a treatment for gonococcal infections in the CDC STD Treatment Guidelines [14, 15].

A one month dose of Microgynon, (ethinylestrodial/levonorgestrol), an estrogen and progestin combination contraception pill, was purchased for birth control; ten Viagra pills were purchased from a community member at \$25.00 per pill; and two different brands of female hormones were purchased.

Results from the chemical investigations found that the stated active ingredient in each medication was present. The rapid screening method used, however, did not assess quantity or possible degradation of the active ingredient from improper storage.

**Table 1** Medication purchased from non-medical sources in rural North Carolina without a prescription

Label	Drug	Form	Price	Source	Symptoms/reason	Content analysis
Available over the counter (OTC)						
Flanax	Naproxen sodium	Pill	\$3.50/pill	Tienda	STD	Naproxen
Dolo-Neurobi6n	Diclofenac with sodium and vitamins	Injectable liquid	\$35.00/box of 3 doses	Community member	STD	B1, B2, B3, B5, and B6*
Bedoyecta Tri	Vitamin B complex	Injectable liquid	\$19.95/box	Tienda	STD	B1 and B6*
Fortiplex	Vitamin B complex	Injectable liquid	\$1.00/vial	Community member (Church)	STD	B1, B2, B3, B5, B6*
Available by prescription only						
Pentrexyl	Ampicillin	Capsule	\$52.00/box of 28 capsules	Tienda	STD	Ampicillin
Pentrexyl	Ampicillin	Capsule	\$8.94 for 6 capsules	Tienda	STD	Ampicillin
Microgynon	Levonorgestrel and Ethinylestradiol	Capsule	26.50/month	Tienda	Birth control	Levonorgestrel and Ethinylestradiol
Viagra	Sildenafil citrate	Pill	\$25.00/pill	Community member	Erectile dysfunction	Sildenafil citrate
Patector	Estradiol and progesterone	Injectable liquid	\$40.00/box	Tienda	Hormones for male-to-female transgender	Estradiol and progesterone
Perlutal	Estradiol and progesterone	Injectable liquid	\$26.50/box	Tienda	Hormones for male-to-female transgender	Estradiol and progesterone

\* Known peaks of B12 were out of selected range

**Discussion**

Although there has been limited research exploring the sources and quality of medications obtained from non-medical sources [4, 6], this is one of the few studies that documents the types, sources, uses, and quality of medications obtained from non-medical sources in the US. It is the first to examine medications specifically used for sexual health.

Buyers faced no problems locating and buying these medications. In all cases, they asked for help from tienda staff. Staff either had what they decided was needed or referred them to a community member. Although research among immigrant Latinos in New York City has identified the role of bot6nicas to provide fast, affordable, accessible, and culturally congruent products and services to the community [6], buyers in this study were not referred to bot6nicas or flea markets. Bot6nicas or flea markets may be more commonly used to purchase traditional remedies such as teas, tonics, and herbs.

Furthermore, the majority of the medications purchased for STD treatment (four out of six) were never indicated for STD treatment, and the remaining two (i.e., ampicillin) are not recommended treatments for any STD [15]. Given problems with penicillin-resistant *Neisseria gonorrhoeae* [14], Latinos in rural communities would benefit from both increased awareness on how to access medical and healthcare services and eligibility and education on the proper use of commonly used medications. Because many immigrant Latinos come from countries where access to medications that require a prescription in the US is less limited, training tienda staff and informal community leaders may help ensure that the correct medication is used as indicated. Education about proper dosage and the completion of regimens may be key to reducing transmission of STDs and preventing drug resistance.

Third, Viagra was easily obtained. As was the case in all medications purchased, no explanation was provided in terms of dose or side effects. Viagra’s side effects in otherwise healthy individuals are usually mild. However, serious cardiovascular risks may occur in individuals taking nitrate medications. Immigrant Latinos who obtain prescription medications from non-medical sources may not be well-informed of potentially hazardous interactions.

Buyers also were able to purchase hormones used for male-to-female transgender transitioning or maintenance. There are significant potential health risks associated with the use of hormones including increased blood pressure, heart disease, stroke, and blood clots, and these risks increase among smokers and as users age. Again, barriers must be reduced to increase access to formal medical care. However, because of the expense associated with utilization of formal medical care for transgender health is high,

some, if not all, transgender individuals will choose not to utilize or be unable to afford care, and thus, self medicate. Outreach is warranted to proper use of these medications and minimize harm.

It is important to note that the use of medications obtained from non-medical sources without a prescription is not unique to the immigrant Latino community. It is well documented that the Internet has facilitated access to medications through online prescription writing and/or filling without an in-person provider visit for those with Internet access. Even online no-prescription websites have proven difficult to control [16]. Furthermore, some individuals may travel to countries outside the US to get access to many medications that require a prescription in the US. Even individuals with insurance find medications less expensive in other countries [17].

## Conclusions

In this pilot study, medications available from non-medical sources have some level of quality. However, research is clearly needed to explore other types of medications obtained from non-medical sources and more in-depth analysis of chemical content to identify substandard or degraded products.

None of the medications available for STD treatment was appropriate. The brand names of some of these drugs (e.g., Pentrexyl, Flanax, and Microgynon) indicate a source outside of the US because these drugs are distributed only outside of the US; they are sold without the same restricted access as prescribed versions in the US.

It makes no sense to spend limited resources identifying and penalizing non-medical sources of prescription medication. Rather, barriers to access and utilization of formal medical and healthcare services among immigrant Latinos must be reduced. Furthermore, interventions that target immigrant Latinos and rely on existing structures, such as local tienda staff and informal community leaders trained to serve as health advisors, may be effective to improve proper use of medications. This information must include matching medication type with symptoms, the proper dosing regimen, the importance of completion, and medication interactions. Such an approach has proven to be successful within other health topics [18].

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