Background

Primary non-adherence (PNA) occurs when patients fail to fill a newly-prescribed medication. PNA has been found to range from 1% to 57% with a mean and median of 16.4% and 15.0%, respectively. Adherence interventions for PNA have not been widely studied nor implemented in clinical or pharmacy practice. Before effective adherence interventions can be developed for PNA, it is essential to understand the patient point of view as to why newly-prescribed medications are not filled. This study abstracted patient-centered reasons for PNA and their prevalence from the peer-reviewed.

Methods

A systematic review using PubMed was conducted through October 2015. The search focused exclusively on PNA and not other type of medication-taking behaviors (e.g., cost-related medication underuse) or adherence behaviors (e.g., failing to obtain the first refill after an index fill). Each abstracted article’s reference list was reviewed for additional references. Patient-provided reasons for primary non-adherence and their prevalence were abstracted from each reviewed article. Possible reasons for PNA derived from administrative or claims data bases were not considered patient-centered reasons for PNA and were not included in the review.

Results

A total of 337 articles met search-term criteria. However, 34 (10%) were not published in English, and 121 (36%) were not specific to patient medication-taking behavior or medication adherence. A total of 162 articles were subject to full review; 80 (44%) addressed medication adherence but not specifically PNA, and an additional 76 (42%) were specific to PNA but provided no patient-centered reasons for PNA. A review of the reference lists of the 182 articles provided an additional six articles with patient-centered reasons for PNA. Thus, a total of 32 articles were included in this review and analysis.

• Dates of publication spanned 1985 to 2015: 1980's (6%), 1990's (9%), 2000-2009 (37%), and 2010 onward (41%).
• The geographic location for the 32 studies was US (75%), UK (9%), Sweden (6%), Canada (6%), and Italy (3%).
• Patients were sampled from ambulatory health care (31%), emergency departments (22%), pharmacies (12%), claims data (12%), national surveys (6%), post-surgical practices (6%), military health facilities (6%), and school-based clinics (3%).
• Samples size ranged from n=7 to n=664 (mean and median= 130 and 73.0, respectively): 1-49 (25%), 50-99 (26%), 100-199 (19%), and 200+ (19%).

• A total of 68 unique reasons for PNA were abstracted. After qualitative analysis, they were reduced to eight mutually-exclusive reasons.
• Lack of perceived need for the medication was the most common reason for PNA. It was endorsed by patients in 30 studies (94% of the studies) with a range of endorsements from 2% to 39% (mean and median=17% and 18%, respectively).
• Perceived medication concerns were noted in 23 studies (72%), and endorsements ranged from 2% to 77% (mean and median=23% and 16%, respectively).
• Prescription-medication affordability was endorsed by patients in 23 studies (72%). The percentage of patients endorsing it as a reason for PNA ranged from 5% to 56% (mean and median=20% and 12%, respectively).
• Access barriers to pharmacies was noted in 17 studies (53%) with a mean and median endorsement of both 11%.
• Lack of perceived drug efficacy was noted in 12 studies (37%); endorsements ranged from 5% to 21% (mean and median=9% and 7%, respectively).
• Forgetfulness was endorsed in ten studies (31%), and endorsement rates ranged from 4% to 19% (mean and median both 11%).
• Having an existing supply of medications at home was noted in ten studies (31%), and endorsements rates ranged from 7% to 50% (mean and median of 22% and 19%, respectively).
• Insufficient patient knowledge were noted in eight studies (25%) with a mean and median endorsement of both 10%.

Conclusion

PNA is common both in the US and abroad. Relative to medication non-persistence, relatively few adherence interventions have been developed and evaluated for PNA. The first step in conceptualizing, executing, and evaluating adherence interventions for PNA is to gain an understanding of patient-centered reasons for PNA. This review identified the eight foremost reasons for PNA from 32 published studies that solicited and reported patient reasons for PNA. The eight reasons were: lack of perceived need for the medication, perceived medication concerns, prescription-medication affordability, access barriers to pharmacies, lack of perceived drug efficacy, forgetfulness, having leftover medications at home, and patient knowledge.

A limitation of the review was the necessity to synthesize diverse reasons for PNA across the 32 studies. Only two of the articles reviewed used the same standardized checklist of reasons for PNA. As research continues in PNA, it will be important for researchers to standardize the content of PNA reasons to facilitate comparisons across patient samples and diseases. Additionally, researchers should be mindful of the possibility for socially-desirable responses to PNA questions (e.g., it may be easier – less socially undesirable – to endorse medication affordability than lack of perceived need for the medication).

Providers need to appreciate that a new prescription heralds uncertainty. Patients may question the results of diagnostic tests, they may question the diagnosis, they may question the rationale behind the prescribed therapy vs. alternative prescription or non-prescription therapy, they may question their provider’s skills, and they may question their prognosis provided they are even aware of it. In 2008, Tarn and colleagues reported that, on average, physicians spend 49 seconds introducing and discussing all aspects of newly-prescribed medications: 49 seconds is not enough time to reduce patients’ uncertainty and ambivalence about the need for newly-prescribed medications, allay their concerns, allow for questions, and offer reassurance. PNA is a perfect example of doctor-patient communication gone awry at the point of prescribing. One of the only ways to prevent PNA is more effective patient-centered communication at the time of prescribing or patient-centered prescribing.

Many of the reasons for PNA identified herein can be addressed with patient-centered counselling at the time of prescribing. If we are intervene to reduce PNA, doctor-patient communication at the time of prescribing must be improved and address patients beliefs about the need for the medication, their concerns about it, their perceptions of drug efficacy, and their knowledge about the disease and prescribed medication. By prescribing generic medications, which are widely available for many chronic conditions, medication-affordability concerns could be alleviated. Researchers should monitor whether the increased use of e-prescribing impacts on PNA in a negative manner.