Factors Associated with Self-Reported Willingness to Transfer Medical Care to Local Health Centers among Patients with Non-Communicable Diseases Consulting at the UP-PGH Family Medicine Clinic

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Background: Non-communicable diseases (NCDs) such as hypertension and diabetes mellitus, which are mainly primary care conditions, are ideally managed in local health centers (LHCs). However, majority of patients with NCDs utilize tertiary hospitals.
Objectives. To determine factors associated with willingness of patients with NCDs consulting at the UP-PGH Family Medicine Clinic (FMC), a hospital-based primary care clinic, to transfer medical care to local health centers.
Methods: A cross-sectional study using a 5-part, interview-assisted questionnaire was conducted among 380 patients with hypertension and/or diabetes mellitus. Data were analyzed using SPSS and STATA.
Results: Respondents had a low degree of willingness to transfer medical care to health centers at 32% (SD ± 21). Significant predictors include being married, presence of hypertension, PhilHealth coverage, satisfaction with waiting time and perception of appropriate service delivery at FMC.
Conclusion: Patients with NCDs consulting at FMC had low willingness to transfer to local health centers. Moreover, there was low utilization of local health centers despite awareness of presence of LHCs in the community. Almost all viewed that NCDs are best managed in a hospital-based outpatient clinic rather than the health center, consistent with perceptions of higher quality of service delivery and higher service satisfaction in the FMC. Sociodemographic, economic and health system factors were identified to affect willingness to transfer.
Keywords: Primary Health Care, [Patient] Transfer, Health Facilities, [Patient Preference,] Non-communicable Diseases

Introduction

Non-communicable diseases (NCDs) are increasingly becoming a major cause of death for developing countries. Hypertension and Diabetes Mellitus (DM) are the more prevalent non-communicable diseases, found in 22.3% and 12.8% of the adult Filipino population, respectively.[1] Adults with NCDs have unique needs spanning from the preventive, diagnostic and curative phase of the disease. Since NCDs tend to be chronic, there must be regular and constant visits to health facilities for monitoring of clinical indicators such as FBS for diabetes or blood pressure for hypertension.[2]

Primary care centers, such as Barangay Health Stations (BHS) and Rural Health Units (RHUs), are the first contact care between the residents of the community and the health care system. These centers provide basic health services such as first aid, maternal and child care, diagnosis and treatment of primary care cases such as respiratory tract infections, hypertension and

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diabetes. In theory, local primary care centers are the best health facilities to handle NCDs due to services spanning from health education to provision of diagnostics and therapeutics. However, research shows that in general, primary health care facilities are circumvented by patients by going to secondary or tertiary health facilities for primary health concerns, which causes heavy traffic that corresponds to resource overuse.[3] Gate-keeping mechanisms are still poorly developed to prevent this. Dissatisfaction with the quality of services and the lack of supplies, personnel and drugs in public health facilities are some of the reasons for avoiding health centers.[4] On the other hand, hospital-based outpatient practices use more technology and specialty referrals for common conditions, which translate into provision of low value care.[5] This is a concern since almost one-third of health spending is considered potentially wasteful contrary to the ideal that health service delivery must be given in highest-quality care at the lowest per capita cost.[6]

There are some countries that show similar situations. China has similar three-level system of health care as the Philippines, the same imbalance on the amount of patients treated in community health systems (CHS) and hospitals, and enjoy the same freedom to choose a healthcare institution. Patients' choices of community health centers were mainly positively affected by the following: 1) socio-demographic factors, such as being elderly, with elementary education and with medical insurance, 2) evaluation of CHS's convenience, waiting time, reasonable charges, and attitude of the doctors. Patients are less satisfied with the medical charges, drug costs, and medical equipment of CHS.[7] In another study in China, male, older, married, with low or middle incomes, medical staff and students were more satisfied with tertiary outpatient care. Medical needs being met by doctors had the strongest relation to overall satisfaction, followed by satisfaction with doctors' service attitudes, medical costs, waiting time, prescription, and diagnosis and treatment time.[8] In Australia, studies show that hospital-based primary care is chosen due to accessibility and familiarity, the virtue of simply being part of a hospital, and the quality of the doctors.[9] Despite this, the World Health Organization (WHO) showed that 70-80% of diseases can be diagnosed and treated in community health centers, and downward referral can reduce medical costs by 8-16%.[10]

Few studies are available regarding willingness to transfer medical care from a hospital-based primary care to a community primary care setting. Notable is the study by Yu which examined the practices and attitudes of doctors and patients to downward referral in Shanghai, China.[11] It was revealed that most patients were unwilling to be referred from hospitals to community health systems and the willingness for downward referral is at 37.6%. Marital status, economic factors, medical insurance and recognition of the community first treatment system influenced willingness to transfer care. Factors such as type of disease, transportation, location of CHS and provision of medicine in CHS were recommended to be further explored. Medical costs and healthcare quality, as well as reasons, willingness, satisfaction and treatment effects to the patients were also recommended to be studied.

The objective of this study was to determine the factors associated with self-reported willingness of adult Filipino patients with non-communicable diseases consulting at the UP-PGH Family Medicine Clinic (FMC) to transfer medical care to local health centers (LHC). Specifically, it aimed to determine whether sociodemographic factors, clinical profile, perceived disease severity, patient perceptions and level of satisfaction on health service delivery at FMC and LHC affected the overall willingness to transfer medical care from FMC to LHC.

Methods

A cross-sectional study was done to determine the factors associated with self- reported willingness of adult Filipino patients diagnosed with non-communicable diseases to transfer medical care from FMC to local health centers. The study was conducted from January to April 2018 at the University of the Philippines-Philippine General Hospital Family Medicine Clinic (FMC), an outpatient clinic of the Department of Family and Community Medicine which handles primary care cases.

The participants were composed of adult Filipino patients aged 19 years and above, able to read and write in English and Tagalog, and diagnosed with Hypertension Stage I or II and/or Type 2 Diabetes Mellitus consulting at the said clinic. Patients with Type 1 Diabetes, Gestational Diabetes or Hypertension, with poor control of hypertension and DM based on laboratory parameters and presenting with complications were excluded. Also excluded were patients needing urgent referral or transfer to the Emergency Room. An eligibility checklist was used to assess the inclusion and exclusion of patients in the study. Recruitment was done on patients who have finished consulting for the day at the FMC. Systematic random sampling was used.

Eligible participants answered the interviewer-assisted five part questionnaire that took approximately 20 minutes to answer. The first part was the *data collection part* compiling the socio-demographic characteristics of participants. The second part consisted of *clinical profile* and *perceived disease severity* of patients. This included a question about the *presence of a previous local health center consult*, which was the basis for answering the fifth part of the questionnaire. The third part consisted of patient perceptions of health service delivery at FMC, such as *perceived*

and actual physical accessibility of health care facilities defined by *ease of travel*; *availability* of medical personnel, laboratories and medicines; *affordability* of laboratories and medications; and *appropriateness of care* in terms of *effectiveness* of interventions (based on latest guidelines), *efficiency* (in terms of cost-effectiveness), and *appropriateness of treatment setting* (i.e., the need to be treated at a hospital rather than a health center). The *level of satisfaction* of patients regarding health service delivery at FMC was also assessed. The fourth part consisted of a single question where the participants were asked to rate the *degree of willingness to transfer* medical care to the local health center. The fifth part was answered only by patients with previous consults at a local health center (LHC). The same set of questions pertaining to participant perceptions of health service delivery and level of satisfaction at the local health center level were solicited.

Data were collected from the interview-assisted questionnaire and encoded by the researcher and research assistant using Microsoft Excel. IBM SPSS software and Stata version 14 were used to analyze the data. Numeric variables were analyzed using mean and standard deviation. Categorized variables were analyzed using frequency and proportions. Multiple logistic regression was used to determine the significant predictors of willingness to transfer to a local health center. Using a statistical power of 80% at the alpha level of 0.05%, the sample size computed is at 380. Sample size was computed using Epi-Info software.

Results

A total of 380 adult Filipinos consulting in the UP-PGH Family Medicine Clinic with a mean age of 56 years (SD± 9.84) participated in the study. The participants were mostly females (70%), married or with common-law partners (52%) and residing in Metro Manila (63%). Majority attained at least high school level of education (84%) yet most were unemployed (86%) and had an average family income of Php 1,570.71 per month.

Of the study participants, 86% were diagnosed with Hypertension (average duration of 5.5 years) and 29% had Diabetes Mellitus (average duration of 4.1 years), with 16% having both illnesses. Participants rated the level of disease control at an average of 80% among adults with hypertension and 78% with diabetes.

Previous outpatient consultations in the Family Medicine Clinic (FMC) were reported by 79% (301/380), with regular clinic visits for an average of span of 4.7 years (SD ± 4.05). The top comorbid diseases identified were dyslipidemia (18%), osteoarthritis (15%) and obesity (11%). Other specialty clinics mostly visited included Ophthalmology, Rehabilitation Medicine, Otorhinolaryngology, Dermatology and Obstetrics-Gynecology clinics (42%, 18%, 11%, 11% and 10%, respectively).

Out of the 380 participants, 133 (35%) had previous local health center consults and were able to answer questions regarding LHC perceptions.

Accessibility (Ease of Travel), Availability and Affordability

Ninety-five percent (95%) of the study participants were aware of local health centers in the community despite the 35% who were able to consult in them.

The reported travel time to a local health center averaged at 28 minutes (SD± 56.40) while travel to the UP-PGH FMC took an average of 2 hours (SD ± 1.68). However, when the respondents were asked to rate the level of ease of travel to the health care facility, average ratings did not greatly differ with 76% (SD ± 17) for the FMC and 74% (SD ± 20) for the LHC (Table 1).

More than three-fourths of the respondents rated that there was an acceptable number of available doctors and nurses (355/380), laboratory exams (346/380), and prescribed medications (288/380) at the hospital-based outpatient clinic. On the other hand, less than one-fifth of the participants utilizing the local health centers rated that the number of health care staff (21/133), laboratory exams (11/133) and medicines (22/133) were acceptable. However, 41% (55/133) had vaccinations in LHCs compared with less than 1% (3/380) in the FMC. In terms of health care lectures while waiting for consultation, there was significantly higher attendance in the FMC (82%) than in LHCs (18%). Overall, participants rated the availability of services at the health center at only 48% (SD ± 21).

Table 1. Patient perceptions on quality of health service delivery in the Family Medicine Clinic (FMC) and local health centers (LHC) among adult Filipino patients with NCDs consulting at FMC from January to April 2018.

Level of perceived quality of health service delivery	FMC, n=380 Mean % (±SD)	LHC, n=133 Mean % (±SD)
Accessibility of health care facility (ease of travel)	76 (± 17)	74 (± 20)
Availability of medical personnel, laboratories and medications	77 (± 16)	48 (± 21)
Affordability of services	80 (± 15)	54 (± 20)

Out-of-pocket spending for medical care were reported by 93% (349/380) of respondents who consulted at FMC and 93% (123/133) of those who utilized LHC services. Less than 5% of all respondents reported that both government and family members contributed to the cost of health care. While Philhealth was not a source of fund for health among participants who utilized health centers, it was a source of fund for 2% (8/380) of those consulting at the hospital-based outpatient clinic. Overall, the study respondents rated FMC as being more affordable than the local health center with an average rating of 80%.

Satisfaction and Perception of Appropriate Health Service Delivery

Overall average level of satisfaction among respondents was higher for the hospital-based outpatient consultation compared to the satisfaction for consultations in the local health center (Table 2). Satisfaction with healthcare team, record-keeping and facility was also high for FMC when compared to the LHC. However, there was a 20% decrease in satisfaction for FMC when respondents were asked about waiting time and follow-up dates. Despite the decrease in satisfaction, almost all of the participants perceived that the FMC was providing the most updated treatment management (96% or 366/380) and was efficient (97% or 367/380). Likewise, 98% (372/380) of the participants perceived the need for the non-communicable diseases to be treated in a hospital-based outpatient clinic rather than the health center. There was a higher overall rating of appropriateness of health service delivery among all the participants consulting in the FMC (83%) compared to those who were able to consult in local health centers (48%).

Willingness to Transfer

Overall, the respondents at FMC had a low degree of willingness to transfer medical care to local health centers at a rated average of 32% willingness (SD ± 21). Willingness to transfer ranged from not at all (0%) to completely willing (100%).

Factors that were significant predictors of patients' low willingness to transfer to LHCs include being married, presence of hypertension, Philhealth enrollment, satisfaction with waiting time, perception of appropriate care and facility, and perception of ease of travel to the FMC (Table 3).

Table 2. Level of satisfaction in the Family Medicine Clinic (FMC) and in local health centers (LHC) and perceived appropriateness of health service delivery among adult Filipino patients with NCDs consulting at the FMC from January to April 2018

Level of Patient Satisfaction in the following:	FMC, n=380 Mean % (±SD)	LHC, n=133 Mean % (±SD)
Health management	82 (± 35)	55 (± 43)
Healthcare team	83 (± 43)	56 (± 32)
Clinic facility and record-keeping	80 (± 29)	55 (± 19)
Waiting time for consultation	61 (± 23)	47 (± 21)
Follow-up interval for next consultation	61 (± 24)	51 (± 45)
Overall satisfaction with services	84 (± 13)	50 (± 43)
Perceived Appropriateness of health service delivery (in terms of effectiveness, efficiency and facility setting)	83 (± 12)	48 (± 20)

Table 3. Predictors of willingness to transfer care from UP-PGH Family Medicine Clinic to local health centers among adult Filipino patients with NCDs consulting at FMC from January to April 2018

Variable	OR adjusted	95% CI
Sociodemographic and clinical profile		
Married	-6.58 (10.69)	– (2.46)
Hypertensive	-9.99 (17.35)	– (2.63)
Health Service Delivery at UP-PGH FMC		
Perceived ease of travel and accessibility	0.30	0.17 – 0.44
Satisfaction with waiting time for consultation	-0.19	(0.28) – (0.10)
Covered by Philhealth insurance	-26.46	(43.29) – (9.63)
Perceived appropriateness of health service delivery at FMC	-0.26 (0.43)	– (0.08)

Respondent characteristics which were non-significant predictors of willingness to transfer include unemployment, increased travel time, male sex, single/separated, with a higher level of education and have been consulting at the FMC for a longer time period. On the other hand, respondents who were widowed, residing outside Metro Manila, diabetic, with multiple comorbidities and clinics utilized tend to take the direction of decreased willingness to transfer. Moreover, respondents who perceived FMC as more affordable and are government-assisted for medical funding also gravitated to the direction of less willing to transfer. Lastly, respondents who were satisfied with the physician's management of the disease, clinic facility and ambiance, maintenance of records and follow-up time approach the direction of less willing to transfer.

Other non-significant predictors include presence of local health center in the community, previous consult at the local health center, and number of years consulting in the FMC.

Discussion

Patients who were hypertensive, married and with PhilHealth coverage have low willingness to transfer consultation to health centers. Moreover, respondents who viewed FMC as having appropriate services and waited for a longer time before being seen were also less willing to transfer. On the macro-level, the results of the study show the inequities of the health system in the management of non-communicable diseases.

Addressing the burden of NCDs is more urgent than ever. Crude death rates from NCDS are on the rise on areas such as NCR and Region IV-A, where most of the respondents of the current study reside.[3] The urban poor population is more vulnerable to the effects of rapid globalization that lead to unhealthy lifestyle and poor health outcomes.

Hypertension is considered a public health problem and is one of the most common reasons for a medical appointment and drugs prescription.[12] In 2010 alone, hypertension is one of the leading causes of morbidity in the country, placing fourth.[13] It has been shown that community-based primary care is effective in managing hypertension, unfortunately, tertiary health facilities are still often used for NCD-related consults.[14] In the Philippines, government hospitals and private hospitals comprise about 21.69 % and 37.77 % of NCD consults in 2008, respectively.[2] Hypertension and its associated comorbidities such as dyslipidemia and obesity can be easily managed at the local health center level and efforts have been made to address the need at the primary care level. Non-communicable diseases remain one of the priorities in the Kalusugang Pangkalahatan (Universal Healthcare) agenda of the Department of Health (DOH). The DOH-mandated Philippine Package of Essential NCD interventions (PhilPEN) is one such strategy to manage NCDs that range from disease prevention to risk stratification. Medications for hypertension are distributed without cost to patients at the level of rural health units and barangay health stations. Unfortunately, utilization of free-of-charge medications for chronic disease remains low at 6%.[15] A previous study showed that there is a need for better coordination within DOH sectors in order to avoid duplicity and fragmentation of programs for NCDs. The study also mentioned that in a more positive note, collaborations with other government departments, private sectors and local government units or the multisectoral approach have been shown to work in improving NCD prevention and control.[16]

Being married was another sociodemographic predictor of low willingness to transfer. This result is consistent with the study of Yu with which this phenomenon was attributed to economic factors.[11] It was assumed that married patients have fewer financial burdens and thus more likely to refuse downward referral. As satisfaction with waiting time increased, the less likely patients were willing to transfer to local health centers. Studies have shown that longer wait times are negatively associated with clinical provider scores of patient satisfaction, confidence in the care provider and perceived quality of care.[17] However, studies also showed that patients still prefer to use clinics that have longer waiting times due to anticipated better services.[18] In terms of health service delivery, it was noted that patients who have Philhealth insurance were less likely to transfer to local health centers. However, there are doubts towards the accuracy of this observation, as only eight respondents reported having PhilHealth as a source of fund for health. These eight participants were then noted to be all unwilling to transfer medical care. Confusion with Philhealth insurance coverage of FMC may be a contributing factor, as the FMC is not a Philhealth-accredited facility. A local study showed that patients' lack of awareness of Philhealth policies can affect perception. A case in point is that 36% of sponsored Philhealth patients were not aware of Philhealth coverage, reflecting patients' inability to navigate the health system.[19]

A great number of respondents were able to identify a local health center at the community level. Unfortunately, only a few actually had local health center consultation. Health seeking behavior of patients regarding primary care consults is still a concern due to the fragmentation of all levels of health care without a clear-cut referral system. Patients with simple cases would go directly to hospitals as outpatient consults thus crowding hospitals with primary care cases.[3] The dissatisfaction of patients to local health center facilities is evident, as seen in the low LHC satisfaction ratings in the current study which is consistent

with earlier studies.[4] It is interesting to note that willingness to transfer was low for patients who perceived treatment setting as appropriate (or the need to be treated at a hospital rather than a health center). In studies, geographic location, hospital level of service, and clinical care and management (including ancillary service such as laboratory and radiology) may lead to patients seeking direct health care in higher hospital levels.[20] Looking closely, the relatively high ratings given to accessibility, affordability and health service delivery by patients of FMC, a hospital-based primary care clinic may be a reflection of what patients particularly desire in local health centers. Another peculiar finding in the current study showed that ease of travel from place of residence to FMC increased the odds of willingness to transfer to local health centers. Accessibility in the current study was in terms of ease of travel from place of residence to the health care facility. It was interesting to note that although travel time greatly differed between FMC and LHC, the perceived accessibility of the two settings did not greatly differ. This may be explained by the multidimensional concept of accessibility, that the question of "*How easy is it for you to reach FMC?"* does not adequately cover its expansive concept that may include geographic, transportation system, economic and other psychosocial factors. The broad definition and dimension of accessibility may have affected patients' perception and the subsequent response to the question.

Although non-significant, other factors that were predictors of willingness to transfer include being unemployed, having increased travel time, being male, single, with a higher level of education and having consulted at the FMC for a longer period of time. Hypothetically, these characteristics are evident in persons who have the agency to choose a healthcare that is suitable. On the other hand, non-significant predictors of decreased willingness to transfer included being widowed, residing outside Metro Manila, having multiple comorbidities and clinics utilized, and relying in the government for medical assistance. These characteristics hypothetically are found in persons who have increased reliance to an institution that provides comprehensive care at a cost-effective manner. On the other hand, these non-significant predictors of decreased willingness to transfer such as physician's management of the disease, clinic facility and ambiance, maintenance of records and follow-up time may be related to general satisfaction of services offered at the FMC.

Conclusion

Adult Filipino patients with NCDs consulting at UP-PGH FMC were found to have low willingness to transfer to local health centers. Moreover, there was low utilization of local health centers despite awareness of presence of LHCs in the community and government programs for NCDs at the primary care level. Almost all perceived the need for NCDs to be treated in a hospital-based outpatient clinic rather than the health center, which was consistent with perceptions of higher quality of service delivery and higher service satisfaction in the FMC. Lastly, sociodemographic, economic and health system factors that include being married, presence of hypertension, Philhealth enrollment, satisfaction with waiting time, perception of appropriate care and facility, and perception of ease of travel to the FMC were significant predictors affecting willingness to transfer to LHCs.

Recommendation

The unwillingness of patients to transfer medical care from FMC to LHC and general satisfaction with the services of the department reflect satisfactory health service delivery at FMC. The advantage of being a primary care clinic in a hospital is seen as the number of doctors, supplies, medical equipment do not run out of hand. However, the clinic must not be complacent to accept NCDs that can be adequately managed at the community level. It is recommended that for generally uncomplicated hypertensive cases, advise on local health center consult must be included in the standard approach in managing these cases. A referral system may be formulated to connect FMC to local health centers in order to facilitate referrals and to ensure that patients will be well taken care of at the local health center level. Also, education about DOH programs that are vertically relayed at local health centers must be done for the residents. There must also be public health lectures on PhilPEN for patients waiting before consults. These strategies increase awareness of primary care benefits that can be accessed in the community level.

Another caveat of this study shows the inadequacy of the current health system to address NCDs in a consistent manner. This contributes to the perception of patients that appropriate care can only be achieved in a hospital setting. On the macro level, efforts to strengthen primary care can only be achieved by united policies and multisectoral collaborations. The government should step up its efforts in increasing the capacity of primary health care especially in the context that the disease itself and the economic burden it imposes to the patients can be adequately addressed at the level of the community.

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