

Consumer choice of health facility among the lowest socioeconomic group in newly established demand-side health-financing scheme in Pakistan

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Abstract

Background: The Social Health Protection Initiative (SHPI) was introduced initially in Pakistan in Khyber Pakhtunkhwa Province. The initiative aimed to provide the lowest socioeconomic group of the population with in-patient healthcare services, which otherwise would be financially hard to obtain. It is one of the flagship projects of the Provincial Government to contribute towards the United Nations Sustainable Development Goals and universal health coverage.

Aims: To assess consumer choice of health facility and its determinants for public versus private sector health facilities by people enrolled in SHPI.

Methods: We used secondary data of availed health services from February 2016 to September 2017 under SHPI. A proxy outcome variable, visit to health facility, was used to determine consumer choice between public and private sector health facilities. The treatment group (health services received by beneficiaries) was used as an independent variable controlled for age groups, cost groups, and geographic location of health facilities. All statistical analyses were performed by SPSS version 20.

Results: Most beneficiaries chose private over public health facilities (90.25%). The adjusted odds of visiting a public sector health facility for surgical and obstetrics/gynaecological services were 0.12 [95% confidence interval (CI): 0.10–0.16] and 0.11 (95% CI: 0.09–0.14) respectively, when compared to medical services.

Conclusion: SHPI beneficiaries have lesser odds of visiting a public hospital over a private one. The choice may be affected by factors such as age of the beneficiary, cost of health services, and geographic location of health facilities.

Keywords: health insurance, consumer choice, health facilities, Social Health Protection Initiative, Khyber Pakhtunkhwa, Pakistan

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Introduction

The Social Health Protection Initiative (SHPI) is a public sector project that financially enables and empowers people of low socioeconomic status (SES) with a choice of health provider by enrolling both public and private health facilities (1). SHPI targets 67% of the lowest SES population of Khyber Pakhtunkhwa Province that earns a daily wage of US\$2 or less (1,2). The rates for services are negotiated at the time of contract between insurance company and hospitals and are higher in private compared with public facilities for similar healthcare services (1,3). Hence, the consumers in this programme benefit from zero cost sharing as well as autonomy regarding the choice of healthcare provider.

SHPI assumes 8 members per household, and covers each individual household member with up to US\$288 (US\$2308 per household) for secondary care inpatient services (1). The premium per household is about US\$14 that is paid by the Provincial Government to the

insurance company (1). The conversion rate is adjusted by the average dollar exchange rate for 2016.

One of the beliefs underlying SHPI is that low SES beneficiaries would mostly visit the public sector health facilities under SHPI due to the cost cap. This belief may have been based on the premise that limiting expenditure may result in people choosing public sector health facilities. This is the case when low SES groups choose public sector facilities in the absence of social protection because they do not have sufficient finances to spend on treatment in the private sector (4). These beliefs yielded 2 major expectations: (1) SHPI would benefit the public sector through widespread use of public sector health facilities, thus returning public funds to the public sector; and (2) public sector health facilities may improve the quality of their services to gain a larger proportion of public funds by competing with the private sector.

There is little evidence about the trends of consumer choice between the public and private health sector facilities under a demand-side health-financing scheme. SHPI is Pakistan's first ever demand-side financing model

for people in the lowest SES group. This study provides empirical evidence for important policy developments regarding optimum allocation and regulation of resources, thus contributing towards the future strategic planning in the public sector for health.

The aims of the study were: (1) to assess consumer choice between public and private health facilities among the lowest SES beneficiaries under SHPI; and (2) to determine the factors affecting consumer choice of the health facility among enrolled beneficiaries in SHPI.

Methods

This was an observational cross-sectional study. The secondary, coded and deidentified data were acquired from the SHPI website, publicly available at the time of study, for health services utilized by the beneficiaries from February 2016 to September 2017 in Khyber Pakhtunkhwa Province. All the beneficiaries in this study belonged to the lowest SES in the Province. The study was approved by the Institutional Review Board of the Prime Foundation. Ethical approval was waived by the institution as deidentified secondary data were used.

During the early stages of the SHPI project, limited information was collected on the beneficiaries: including age, type of treatment, treatment cost, location of health facilities, and list of enrolled health facilities. The outcome variable was choice of health facilities. There was no variable in this secondary dataset that measured the choice of public or private health sector facilities by the SHPI beneficiaries; therefore, a proxy measure for consumer choice of health facility was used. This proxy measure was the participant (SHPI beneficiaries) visiting the enrolled public or private sector health facilities to receive inpatient health services. The independent variable was treatment groups, which were broadly categorized as surgical, obstetrics/gynaecological, and medical services. Other explanatory variables included the age groups, cost groups, and geographic location of health facilities. There were 4 age groups: 0–17, 18–35, 36–49, and ≥ 50 years. The cost groups were defined by the total treatment cost incurred estimated by the average US dollar exchange rate in 2016, which were categorized into 7 categories: 1–48, 49–96, 97–144, 145–192, 193–240, 241–288 and > 288 US dollars. The geographic location of health facilities in the Province was categorized into 3 categories: northern, central and southern districts.

The total number of observations was 37 323, and 408 (1.09%) were excluded because of incomplete information about variables of interest. The final number of observations was reduced to 36 915.

All the variables were categorical in nature; therefore, the χ^2 test was used to describe the data and assess the association of all variables with the outcome variable. Multivariable logistic regression analysis was also conducted to find an adjusted association of the choice of health facilities by the SHPI consumers for the type

of treatment sought, controlling for age, cost, and geographic location of health facilities. $P \leq 0.05$ was considered significant. All the statistical analyses were conducted using SPSS version 20.

Results

It was noted that 90.3% of the total visits were made to the private sector health facilities as compared to 9.7% of the total visits to the public sector health facilities. More than half of the visits were for surgical services, followed by one third for medical services. Almost a quarter of all the visits were made to the health facilities by each age group. One third of the total visits fell in the cost range of US\$1–48, followed by 23.2% in US\$96–144. Moreover, nearly half of the total visits were made in the central districts of the Province. Further details on the distribution of health facility visits can be seen in Table 1. Table 1 also shows the association of the characteristics of SHPI beneficiaries' visits with the choice of public or private sector health facilities. All the variables showed a highly significant statistical association with the choice of public/private sector health facilities.

The multivariable logistic regression analysis was conducted to predict the consumers' choice of public sector health facilities for health services received (treatment groups) controlling for age group, cost group, and geographic location of the health facilities (Table 2). The Nagelkerke R^2 value showed that predictor variables explained 17.2% of the variation in the outcome variable. Logistic regression showed that the adjusted odds of a consumer choosing a public sector health facility were significantly low for all the treatment groups in the southern region. For example, the adjusted odds of choosing a public sector health facility for surgical and obstetrics/gynaecological services were 0.12 [95% confidence interval (CI): 0.10–0.16] and 0.11 (95% CI: 0.09–0.14), respectively, when compared to medical services. Similarly, the adjusted odds of choosing a public sector health facility were 0.18 (95% CI: 0.16–0.21) for the southern region when compared with the northern region. However, the adjusted odds of choosing a public sector health facility significantly increased with age and cost. The 18–35 years' age group had 1.26 times (95% CI: 1.12–1.42) the odds of choosing a public sector health facility when compared with the 0–17 years' age group. The 36–49 and ≥ 50 years' age groups had 1.52 (95% CI: 1.35–1.71) and 2.51 (95% CI: 2.25–2.79) times the odds of visiting a public sector health facility as compared to the 0–17 years' age group. This demonstrated that the likelihood of a consumer visiting a public sector health facility increased with age. Similarly, the adjusted odds of visiting a public sector health facility increased from 1.76 (95% CI: 1.40–2.19) to 9.89 (95% CI: 6.61–14.81) for the US\$48–96 and > 288 cost groups, respectively.

Table 1 Distribution and association of SHPI beneficiaries' choice between public/private sector health facilities

Variables	Health facility choice		Total visits, % (n = 36 915)
	Public sector, % (n = 3598)	Private sector, % (n = 33 317)	
Overall	9.7	90.3	100
Treatment groups*			
Surgical	6.6	93.4	53.8
Obstetrics/Gynaecological	5.4	94.6	12.9
Medical	16.5	83.5	33.3
Age groups (yr)*			
0–17	6.1	93.9	25.8
18–35	7.0	93.0	25.8
36–49	9.5	90.5	22.9
≥ 50	16.4	83.6	25.5
Cost groups (US\$)*			
1–48	15.3	84.7	33.0
49–96	7.8	92.2	8.6
97–144	7.0	93.0	23.2
145–192	5.8	94.2	16.1
193–240	6.6	93.4	10.3
241–288	7.8	92.2	8.2
> 288	24.8	75.2	0.6
Geographic location of health facilities*			
Central region	13.4	86.6	47.9
Southern region	3.1	96.9	23.6
Northern region	9.1	90.9	28.5

*P significant at < 0.01.

SHPI = Social Health Protection Initiative.

Discussion

This study assessed the utilization of public and private sector healthcare facilities in terms of medical, surgical, and obstetrics/gynaecological services. Demand-side financing encourages people to choose between the public and private sector health facilities (4). This study also showed a freedom to choose between public and private sectors for different categories of health services. We found an increased utilization of private sector health facilities for surgical and obstetrics/gynaecological services as compared to medical services. The findings from several studies (5–9) also support the finding of increased utilization of private healthcare facilities by consumers in demand-side financing. However, this is in contrast to the findings of the World Health Report that the utilization of public sector health facilities has increased in low- and middle-income countries (10). Similarly, SHPI consumers, who belong to the lowest socioeconomic group and who would otherwise have no choice of choosing health service provider (11), significantly prefer private health facilities when the financial risk is minimized (9).

The odds of choosing public sector health facilities increased with age and cost groups in the present study. There has been an almost sustained trend in preference for the public sector with increase in age and cost (11,12).

The elderly population mostly suffers from chronic illnesses and need frequent and continuous health care as compared with younger age groups (13). Most chronic illnesses require medical management, thus, it is not possible to predict the number of inpatient visits for medical management for the same or different illnesses when compared to surgical or obstetrics/gynaecological services. Therefore, there is a risk of going over and beyond the spending limit in an insured period. If elderly patients exhaust the insured financial limit, they may still obtain treatment at the government's subsidized rate that is available to everyone in society. This could be why the utilization of medical health services increases with age (13), to continue receiving uninterrupted medical services in the public sector health facilities.

There was more utilization of private health facilities in the southern region compared with the northern region. One reason for this might be the less-developed public sector healthcare facilities in the southern region, with issues of staffing, performance and quality (14–16). However, the choice of health facilities in the central region was more for public sector health facilities as compared with the northern region. The reason for this trend may be the higher number of public sector health facilities enrolled in the central region. Another explanation could be that consumers may be traveling

Table 2 Multivariable logistic regression analysis of SHPI beneficiaries for the choice of public sector health facilities (n = 36 915)

Variables	^a OR	95% CI
Treatment groups		
Surgical	0.12	0.10–0.16
Obstetrics/Gynaecological	0.11	0.09–0.14
Medical	Reference group	
Age groups (yr)		
18–35	1.26	1.12–1.42
36–49	1.52	1.35–1.71
≥ 50	2.51	2.25–2.79
0–17	Reference group	
Cost groups (US\$)		
49–96	1.76	1.40–2.19
97–144	1.92	1.52–2.42
145–192	1.96	1.53–2.51
193–240	1.81	1.40–2.36
241–288	2.25	1.73–2.93
> 288	9.89	6.61–14.81
1–48	Reference group	
Geographic location of health facilities		
Central region	1.81	1.67–1.97
Southern region	0.18	0.16–0.21
Northern region	Reference group	
Nagelkerke R ²	17.2%	

^aOR = adjusted odds ratio; CI = confidence interval; SHPI = Social Health Protection Initiative.

from other parts of the Province to the central region to seek treatment from tertiary care hospitals. The provincial capital is located in the central region and has 3 tertiary care public sector hospitals, which were all enrolled under SHPI. Moreover, beneficiaries are covered for the cost of travelling for treatment. This might have created an incentive for the beneficiaries to receive treatments in large and specialized tertiary care hospitals.

This study used census data for the use of health facilities. The results can be generalized to the lowest socioeconomic population in Khyber Pakhtunkhwa Province. However, the results cannot be extrapolated in terms of gender-based application because the data obtained from the SHPI Project's website were not disaggregated by gender.

Conclusion

SHPI beneficiaries have lesser odds of visiting a public sector health facility over a private facility for surgical and obstetrics/gynaecological health services. However, there is more likelihood for the utilization of public sector health facilities with increasing age and cost. It is evident from the study that demand-side financing empowers the consumers to exercise their choices in the selection of health facilities across the sectors. A qualitative study might be needed to understand, in-depth, the reasons for increased private sector utilization by the consumers of SHPI for surgical and obstetrics/gynaecological services.

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Choix des établissements de santé par les usagers appartenant au groupe socio-économique le plus bas dans le cadre d'un nouveau programme de financement de la santé axé sur la demande mis en œuvre au Pakistan

Résumé

Contexte : L'initiative de protection sociale de la santé (Social Health Protection initiative, SHPI) a été initialement mise en place au Pakistan dans la province de Khyber Pakhtunkhwa. Son objectif était de fournir au groupe socio-économique le plus bas de la population des services des soins hospitaliers, dont l'accès serait autrement financièrement difficile. Il s'agit de l'un des projets phares du gouvernement provincial visant à contribuer à la réalisation des objectifs de développement durable des Nations Unies et à la mise en place de la couverture sanitaire universelle.

Objectifs : Évaluer le choix des établissements de santé par les personnes inscrites à l'initiative de protection sociale de la santé et les facteurs qui déterminent ce choix entre les établissements du secteur public et ceux du secteur privé.

Méthodes : Nous avons utilisé les données secondaires des services de santé dispensés de février 2016 à septembre 2017 dans le cadre de l'initiative de protection sociale de la santé. Une variable de résultat de substitution

– la fréquentation d'un établissement de santé – a été utilisée pour déterminer le choix des usagers entre les établissements de santé des secteurs public et privé. Le groupe de traitement (services de santé dispensés aux bénéficiaires) a été utilisé comme variable indépendante qui a été contrôlée pour les groupes d'âge, les groupes de coûts et l'emplacement géographique des établissements de santé. Toutes les analyses statistiques ont été réalisées à l'aide du logiciel SPSS version 20.

Résultats : La plupart des bénéficiaires ont préféré les établissements de santé privés aux établissements publics (90,25 %). Cependant, les probabilités ajustées de se rendre dans un établissement de santé du secteur public pour des services chirurgicaux et gynécologiques étaient de 0,12 [intervalle de confiance (IC) à 95 % : 0,10 à 0,16] et de 0,11 (IC à 95 % : 0,09 à 0,14) respectivement, par rapport aux services médicaux.

Conclusion : Les bénéficiaires de l'initiative de protection sociale de la santé sont moins susceptibles de se rendre dans un hôpital public que dans un hôpital privé. Le choix peut être influencé par des facteurs tels que l'âge du bénéficiaire, le coût des services de santé et l'emplacement géographique des établissements de santé.

اختيار المستفيدين للمرفق الصحي في أدنى فئة اجتماعية واقتصادية من السكان في المخطط الحديث للتمويل الصحي على جانب الطلب في باكستان

سدرة مالك، نافيد صادق، سعيد أنور، عمير قاضي

الخلاصة

الخلفية: بدأت مبادرة الحماية الصحية الاجتماعية في باكستان في مقاطعة خيبر بختونخوا. وكانت المبادرة تهدف إلى تزويد أدنى فئة اجتماعية واقتصادية من السكان بخدمات الرعاية الصحية للمرضى الداخليين، التي لولا ذلك لواجهوا صعوبة مالية في الحصول عليها. وهي أحد المشاريع الرئيسية لحكومة المقاطعة للمساهمة في تحقيق أهداف الأمم المتحدة للتنمية المستدامة والتغطية الصحية الشاملة.

الأهداف: هدفت هذه الدراسة إلى تقييم اختيار المستفيدين المسجلين في المبادرة للمرفق الصحي ومحددات اختيارهم لمرافق القطاع العام الصحية مقابل مرافق القطاع الخاص.

طرق البحث: استخدمنا بيانات ثانوية بشأن الخدمات الصحية التي قدمت من فبراير/ شباط 2016، حتى سبتمبر/ أيلول 2017، في إطار المبادرة. واستخدم متغير مخرجات بديل، هو زيارة المرفق الصحي، لتحديد اختيار المستفيد بين المرافق الصحية للقطاع العام والخاص. واتخذت مجموعة العلاج (الخدمات الصحية التي تلقاها المستفيدون) متغيراً مستقلاً مضبوطاً للفئات العمرية وفئات التكلفة والموقع الجغرافي للمرافق الصحية. وأجريت جميع التحليلات الإحصائية بالنسخة 20 من برنامج SPSS.

النتائج: فضل معظم المستفيدين المرافق الصحية الخاصة على المرافق الصحية العامة (90.25 %). ومع ذلك، بلغت نسبة الأرجحية المصححة لزيارة مرفق صحي في القطاع العام من أجل الخدمات الجراحية وخدمات أمراض النساء 0.12 [فاصل الثقة 95 % : 0.10–0.16] و0.11 (فاصل الثقة 95 % : 0.09–0.14) على التوالي، عند مقارنتها بالخدمات الطبية.

الاستنتاجات: احتمالات زيارة المستفيدين من مبادرة الحماية الصحية الاجتماعية لمستشفى عام أقل من احتمالات زيارتهم لمستشفى خاص. وقد يتأثر الاختيار بعوامل مثل عمر المستفيد، وتكلفة الخدمات الصحية، والموقع الجغرافي للمرافق الصحية.

References

1. Ayub A, Khan RS, Khan SA, Hussain H, Tabassum A, Shehzad JA, et al. Progress of Khyber Pakhtunkhwa (Pakistan) towards universal health coverage. *J Ayub Med Coll Abbottabad JAMC*. 2018 Jul-Sep;30(3):482–5. PMID: 3046539
2. Cheema I, Farhat M, Hunt S, Javed S, Pellerano L, O'Leary S. Benazir income support programme. Oxford: Oxford Policy Management Limited; 2014.
3. Nishtar S. Choked pipes: reforming Pakistan's mixed health system. Islamabad: Oxford University Press; 2010.
4. Zweifel P, Manning WG. Moral hazard and consumer incentives in health care. In: Culyer AJ, Newhouse JP, editors. *Handbook of health economics*. Elsevier; 2000:409–59.
5. Devadasan N, Seshadri T, Trivedi M, Criel B. Promoting universal financial protection: evidence from the Rashtriya Swasthya Bima Yojana (RSBY) in Gujarat, India. *Health Res Policy Syst*. 2013 Aug 20;11(1):29. <https://doi.org/10.1186/1478-4505-11-2> PMID:23961956
6. Ensor T. Consumer-led demand side financing in health and education and its relevance for low and middle income countries. *Int J Health Plann Manage*. 2004 Jul-Sep;19(3):267–85. <https://doi.org/10.1002/hpm.762> PMID:15387092
7. Shaikh M, Woodward M, Rahimi K, Patel A, Rath S, MacMahon S, et al. Use of major surgery in south India: a retrospective audit of hospital claim data from a large, community health insurance program. *Surgery*. 2015 May;157(5):865–73. <https://doi.org/10.1016/j.surg.2015.01.002> PMID:25934024

8. Shoree S, Ruchismita R, Desai K. Evaluation of RSBY's key performance indicators: a biennial study. Geneva: International Labour Organization; 2014.
9. Victoor A, Delnoij DM, Friele RD, Rademakers JJ. Determinants of patient choice of healthcare providers: a scoping review. *BMC Health Serv Res*. 2012 Aug 22;12(1):272. <https://doi.org/10.1186/1472-6963-12-272> PMID:22913549
10. Saksena P, Xu K, Elovainio R, Perrot J. Health services utilization and out-of-pocket expenditure at public and private facilities in low-income countries. Geneva: World Health Organization; 2010 (<https://www.who.int/publications/m/item/world-health-report-2010-background-paper-20>, accessed 23 June 2021).
11. Mushtaq MU, Gull S, Shad MA, Akram J. Socio-demographic correlates of the health-seeking behaviours in two districts of Pakistan's Punjab province. *J PMA-J Pak Med Assoc*. 2011 Dec;61(12):1205. PMID:22355968
12. Awoke MA, Negin J, Moller J, Farell P, Yawson AE, Biritwum RB, et al. Predictors of public and private healthcare utilization and associated health system responsiveness among older adults in Ghana. *Glob Health Action*. 2017;10(1):1301723. <https://doi.org/10.1080/16549716.2017.1301723> PMID:28578615
13. Chou KL, Chi I. Factors associated with the use of publicly funded services by Hong Kong Chinese older adults. *Soc Sci Med*. 2004 Mar;58(6):1025–35. [https://doi.org/10.1016/s0277-9536\(03\)00275-2](https://doi.org/10.1016/s0277-9536(03)00275-2) PMID:14723899
14. Aman B, Abbas F. Patient's perceptions about the service quality of public hospitals located at District Kohat. *J Pak Med Assoc*. 2016 Jan;66(1):72–5. PMID:26712186
15. Gul A, Zahra F, Iqbal A, Ghafoor T, Hussain M. Linkage between poverty, inequality, and income distribution: a case on Bannu District, Pakistan. *Asian Dev Policy Rev*. 2020 Dec;8(4):330–9.
16. Kundi GM, Javed A, Saif N. Satisfaction of female patients: A survey of DHQ Zanana Hospital Dera Ismail Khan, KPK, Pakistan. *Res J Finance Account*. 2013;4(6):268–80.