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Cover Page Footnote

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Patients' experience in Hong Kong hospitals: A comparison between south Asian and Chinese people

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Abstract

Patient experience in hospital is positively associated with both self-rated and objectively measured health outcomes. In many countries ethnic minority patients have more negative experience and bear a disproportionate burden of disease than their majority counterparts. However, hospital experience of ethnic minority patients in Asia is still unexplored. We aimed to explore the hospital experience of South Asian ethnic minority and compare that with local Chinese patients' experience in Hong Kong. A cross-sectional study sample comprised of 783 participants (388 South Asian and 395 Chinese). Picker Patient Experience-15 (PPE-15) questionnaire was used for data collection. Simple and multiple regressions were used to compare South Asian and Chinese participants' in-hospital stays. The regression analyses were done before and after adjusting for demographics and after Propensity Score Weighting (PSW). All estimates were accompanied by a 95% confidence interval. Two-sided tests were conducted with a significance concluded by a p-value.

Keywords

Ethnic minority patients, patient-provider communication, patient experience, cultural competency, propensity score weighting, Picker Patient Experience-15 (PPE-15)

Introduction

A patient's experience in the hospital forms an integral part of the quality of care. The patient's satisfaction with in-hospital care depends on the treatment manner and the hospital environment. A higher patient hospital experience rating indicates a higher quality of clinical care and patient safety.¹ Moreover, patient experience is positively associated with both self-rated and objectively measured health outcomes.² For instance, a positive patient experience may be associated with higher use of preventive care, along with adherence to recommended clinical practices and medication.³ Hence, listening and learning from patient experiences are the first steps toward patient-centered care.^{4,5}

Several factors, such as age, gender, ethnicity, disease severity, insurance coverage, economic status, treatment choices, and migrant status affect a patient's hospital experience.⁶⁻⁹ Migration speed, volume, and diversity have increased significantly in recent decades, making societies more multiethnic. The host countries' healthcare systems face challenges when providing appropriate healthcare to migrant and ethnic minority (EM) populations.¹⁰ The literature invariably shows healthcare disparities due to access barriers, lower quality of care, and worse health outcomes for EM patients in Europe.¹¹ EM patients have

more negative experiences than their majority counterparts¹²⁻¹⁴ due to inadequate provisions for intercultural care.¹⁵ This is extremely challenging during hospitalization when acute, necessary, and inevitable care is required.¹⁶ Several factors affect intercultural care, including language barriers, different health literacy levels, EM patients' lower socio-economic status, scarce hospital resources (i.e., time, money, people), different ethno-cultural traditions, differences in understanding, and perception toward, illness and treatment, and lack of mutual trust between the EM patient and healthcare providers from an ethnic majority background.^{17,18} Although the concepts of transcultural nursing, culturally appropriate care, and cultural competence have received significant attention worldwide,^{19,20} ethical guidelines for good intercultural care are still absent. Hence, chances of misunderstandings in the care process remain.¹⁸

The population of Hong Kong is approximately 7.2 million, 8.1% of whom are ethnic minorities, primarily from Indonesia, the Philippines, Thailand, India, Pakistan, Nepal, Bangladesh, and Sri Lanka. This non-Chinese ethnic population is collectively known as the EM.²¹ The EM population continued to expand rapidly between 2011 and 2016 at an average annual rate of increase at 5.8%.²¹ People from India, Nepal, Pakistan, Bangladesh, and Sri Lanka are generally referred to as South Asians (SA). After

excluding foreign domestic helpers, SA constitutes the largest portion of the EM community, around 30.6%.²² According to the 2016 Hong Kong Poverty Situation Report, EM groups' poverty situations varied. More than 40% of the poorest EMs is SAs. The unemployment rates among Pakistanis and Nepalese are 18.7% and 17.9%, respectively, slightly higher than the 16.6% overall average. Language barriers limit EMs' employability and community integration in Hong Kong.²³ The Hospital Authority (HA), a statutory body, manages all public hospitals that provide care for 90% of the patients in Hong Kong.²⁴ This system introduced the patient experience and satisfaction survey in 2010. The latest survey was conducted in 2017, and 99.7% of its participants were Chinese-speaking discharged patients. This survey found that over 90% of the respondents rated their overall patient experience as good to excellent.²⁵

Although we are living in an increasingly multi-ethnic society, research on EM patients' hospital experiences is rather scarce, especially in an Asian context.^{14,26} A better understanding of the bedside experience from the EM patients' perspective will be indispensable for developing good intercultural care practices. Hence, this study will attempt to fill this gap and generate knowledge by exploring the experiences of SA EM patients. Their experiences will then be compared to that of Hong Kong Chinese patients.

Methods

Design

This study was a population-based cross-sectional survey of SA and Hong Kong Chinese living in Hong Kong. SA participants were recruited from a convenience sampling. On the other hand, Chinese participants were employed from a population-based household survey. The study was a part of a larger study.²⁷

Participants

We included participants aged 18 years and above who had stayed overnight in a hospital in Hong Kong within the past year. Those who were unable to describe their hospital experience or had any history of psychiatric illness were excluded from the study.

Procedures

Since there was no representative sampling frame of SA people in Hong Kong, we had to recruit participants using convenience sampling. This was obtained through social networks, non-government organizations, community centers serving the EM population, and cultural and religious centers. For the Chinese participants, we retrieved the sampling frame of residential addresses from the Hong Kong Census & Statistics Department. We then used a stratified sampling method to recruit the Chinese participants. From each geographical district and type of

dwelling, we took a random sample of addresses. An invitation letter explaining the details of the study was sent by post to each address in the sample. If more than one person was eligible to participate in the study, we invited the person with the nearest upcoming birthday. The participants' interviews were scheduled, and an interviewer visited their houses. All participants provided informed consent before the interview.²⁸

Measures

Demographics

The participants' demographic information included self-reported ethnicity, sex, age, education level, married or cohabitation status, monthly household income, English language proficiency, Cantonese language proficiency, medical insurance, and existing disease.

Patients' hospital experience

The Picker Patient Experience Questionnaire (PPE-15) was adopted to measure the patients' hospital experiences. We adopted the PPE-15 questionnaire to obtain information from participants regarding their previous in-patient stays. The Picker Institute derived and validated this questionnaire from the 40-item Picker in-patient instrument.²⁹ The PPE-15 instrument comprised 15 items that were distributed into seven domains of care: 1) Information and education, 2) Coordination of care, 3) Emotional comfort, 4) Respect for patient preferences, 5) Physical comfort, 6) Involvement of family members, and 7) Continuity and transition of care. Each item was coded as a dichotomous "Problem score" and "No problem score" with 1 and 0 indicating the presence and absence of a problem, respectively. A problem in an aspect of health care was defined as that the patient perceiving that his overall hospital experience needs improving. For example, in the item "Did doctors talk in front of you as if you weren't there?" there were three possible responses: 1) Yes, Often; 2) Yes, Sometimes; and 3) No. The response "Yes, often" or "Yes, sometimes" was coded as 1, and "No" was coded as 0. Each domain contains one to three items. The details about the items, domains, and coding are illustrated in Box 1.

For each domain, the corresponding items were added together and standardized using a metric of zero (no problem at all) to 100 (very problematic). The mean of all seven domain scores represented the participant's overall hospital experience. The standardized domain scores enhance comparability across domains with different numbers of available items. A higher domain score indicates a more problematic experience.

We used English and Chinese versions of the PPE-15 after obtaining permission from the Picker Institute, Europe. PPE-15 items were translated into Chinese. These

Box 1. PPE-15 items, domains and scoring methods

S.No.	Items	Domains
1.	When you had important question to ask a doctor, did you get answers that you could understand? Yes, always/ <u>Yes, sometimes</u> /No/I had no need to ask	Information and education
2.	When you had important question to ask a nurse, did you get answers that you could understand? Yes, always/ <u>Yes, sometimes</u> /No/I had no need to ask	Information and education
3.	Sometimes in a hospital, one doctor or nurse will say one thing and other will say something quite different. Did this happen to you? <u>Yes, Often</u> / <u>Yes, sometimes</u> / No	Coordination of care
4.	If you had any anxieties or fever about your condition or treatment, did a doctor discuss them with you? Yes, completely/ <u>Yes, to some extent</u> / No/I didn't have any anxieties or fears	Emotional Comfort
5.	Did doctors talk in front of you as if you weren't there? <u>Yes, Often</u> / <u>Yes, sometimes</u> / No	Respect patient preferences
6.	Did you want to be more involved in decisions made about your care and treatment? <u>Yes, definitely</u> / <u>Yes, to some extent</u> /No	Respect patient preferences
7.	Overall, did you feel you were treated with respect and dignity while you were in hospital? Yes, always/ <u>Yes, sometimes</u> /No	Respect patient preferences
8.	If you had any anxieties or fever about your condition or treatment, did a nurse discuss them with you? Yes, completely/ <u>Yes, to some extent</u> /No/I didn't have any anxieties or fears	Emotional Comfort
9.	Did you find someone on the hospital staff to talk to about your concerns? Yes, completely/ <u>Yes, to some extent</u> /No/I had no concerns	Emotional Comfort
10.	Were you ever in pain? Yes/No If Yes... Do you think the hospital staff did everything they could to help control your pain? Yes, definitely/ <u>Yes, to some extent</u> /No	Physical Comfort
11.	If your family or someone else close to you wanted to talk to a doctor, did they have enough opportunity to do so? Yes, definitely/ <u>Yes, to some extent</u> /No/No family or friends were involved/My family didn't want or need information/I didn't want my family or friends to talk to a doctor	Involvement of family and friends
12.	Did the doctors or nurses give your family or someone close to you all the information they needed to help you recover? Yes, definitely/ <u>Yes, to some extent</u> /No/No family or friends were involved/My family didn't want or need information	Involvement of family and friends
13.	Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand? Yes, completely/ <u>Yes, to some extent</u> /No/I didn't need an explanation/I had no medicines – go to question 15	Continuity and transition
14.	Did a member of staff tell you about medication side effects to watch for when you went home? Yes, completely/ <u>Yes, to some extent</u> /No/I didn't need an explanation	Continuity and transition
15.	Did someone tell you about the danger signals regarding your illness or treatment to watch for after you went home? Yes, completely/ <u>Yes, to some extent</u> /No	Continuity and transition
Underlined items were coded as problems adopted from Jenkinson et. al ¹		

translated items demonstrated good validity and reliability in the local setting.^{25,29,30} The PPE-15 items were also included in the in-patient satisfaction survey that was conducted in 26 public hospitals in Hong Kong.³¹ It is very concise and easy to use among Chinese in Hong Kong. This further encouraged us to use this questionnaire to compare SA patients' experience with that of Chinese patients in this study.^{32,33}

Statistical Analysis

Data analysis was conducted using IBM SPSS Statistics version 23.0 software. In this study, the numbers and frequencies for categorical variables were calculated. The Chi-square test, Mann–Whitney U test and t-test were used to calculate demographic differences between SA and Chinese participants. Because we used different sampling methods for SA and Chinese participants, it is essential to balance the data obtained from both groups. Therefore, we used propensity score weighting (PSW) to balance the two groups before comparing their responses to the survey.³⁴ To conduct PSW, we first calculated the propensity score for each participant as the probability of being SA. This was done by using logistic regression. We used ethnicity as a dependent variable on sex, age, marital or cohabitated status, education level, monthly household income, English language proficiency, medical insurance, and existing disease. We then calculated the result's weight using inverse probability of treatment weighting. For this procedure, SAs were taken as the treatment group. Propensity scores were checked manually for covariate overlap and were trimmed at the threshold of six.³⁵ The demographic balance was reassessed after conducting PSW. Simple and multiple regressions were used to compare SA and Chinese participants' in-hospital stays. The regression analyses were done before and after adjusting for demographics and after PSW. All estimates were accompanied by a 95% confidence interval. Two-sided tests were conducted with a significance concluded by a p-value <0.05.²⁸

Results

Demographic characteristics

Of the 1069 recruited participants, 783 responded to the PPE-15 questionnaire. The response rate was 73.2%. Table 1 (Appendix) summarizes the participants' basic demographic characteristics (388 SA and 395 Chinese). Notably, the HA oversees all of Hong Kong's public hospitals and manages 27,645 hospital beds. This accounts for nearly 8 million patient days per year (>90% total bed days). The private system takes about 70% of all fee-for-service outpatient services.²⁴ Hence, majority of participants have used public hospitals.

The differences between SA and Chinese participants were statistically significant ($p < 0.01$) for sex, age, marital or cohabitation status, monthly household income level,

English language speaking proficiency, and for having no medical insurance. However, the differences between all demographic characteristics of SA and Chinese participants then became insignificant after PSW.

Domain scores of SA and Chinese participants

Table 2 (Appendix) shows the mean scores of seven domains. The mean scores are with regard to SA and Chinese participants, computed on the scale of 0–100.

Patients' experience of staying in hospital

Table 3 (Appendix) presents the experience between 388 SA and 395 Chinese participants who had received in-patient hospital care in Hong Kong in the past 12 months. The difference in mean scores (SA mean score – Chinese mean score) for each domain and for the overall hospital experience was calculated. The unadjusted mean score difference was statistically significant ($p < 0.001$) for all seven domains and for the overall hospital experience. When adjusted for demographic characteristics, the differences were still statistically significant ($p < 0.05$). The differences between the mean scores did not change, even after using PSW for domains such as information and education, coordination of care, emotional comfort, physical comfort, the involvement of family and friends, continuity and transition of care, and overall hospital experience ($p < 0.01$). The difference became insignificant only for the respect for patient preferences domain after PSW ($p = 0.174$).

Based on the PSW differences, SA participants scored higher than Chinese participants in the following domains: information and education, coordination of care, respect for patient preference, emotional comfort, physical comfort, the involvement of family and friends, continuity and transition of care, and overall hospital experience. Their mean differences were 12.15 (95% CI = 5.89–18.40), 9.49 (95% CI = 2.68–16.30), 2.91 (95% CI = –1.29–7.12), 11.23 (95% CI = 5.64–16.83), 12.69 (95% CI = 5.59–19.79), 8.70 (95% CI = 2.45–14.94), 18.03 (95% CI = 12.53–23.52), and 10.85 (95% CI = 7.15–14.55), respectively (Table 3, Appendix). Higher scores indicated that SA participants had more problematic experiences than Chinese participants during their stay in the hospital.

Discussion

This is the first study to address the issue of disparities in the hospital experiences of EM patients and Chinese patients in a Chinese oriented society in Hong Kong. Through the PPE-15 questionnaire, we found that SA participants generally reported more problematic experiences than Chinese participants. Continuity and transition of care and physical comfort are the two most problematic domains for SA participants when compared with Chinese participants.

Continuity and transition of care of a hospital refers to the information and advice a patient receives when getting discharged from the hospital in order to manage the condition at home. SA patients in Hong Kong had an almost 18% lower perceived continuity and transition care than Chinese patients.

In the United States, African-American breast cancer survivors reported a dissatisfaction with the amount of information they received on cancer-related side-effects.³⁶ Furthermore, African-American patients with mental illnesses also reported that they felt less likely to receive adequate follow-up for treatment within 30 days of discharge compared to Caucasian patients.³⁷ In Hong Kong, such disparity can be attributed to three main reasons.³⁸ First, most EM patients and healthcare providers do not speak the same native language.³⁹ When either patients or healthcare providers communicate using their second languages, there is a risk of inadequate information exchange because of the language barrier.¹² Second, SA patients may have their own cultural-specific needs, preferences, and values; local healthcare providers may be unaware of them or may not acknowledge them.²⁷ Inadequate understanding of the patients' socio-cultural necessities has a negative effect on the support and care these patients should be getting during hospital discharge.¹⁴ Third, there was a shortage of human resources and limited consultation time in public hospitals in Hong Kong.²⁴ This phenomenon may demotivate healthcare providers from focusing on the essential continuity and transition of care during hospital discharge.⁴⁰ While this problem may apply to all patients regardless of their ethnicity, the two above-mentioned problems may have aggravated its impacts on SA patients.

SA participants reported more problems with physical comfort, referring to the healthcare providers' efforts in reducing the patients' pain during their hospital stay.²⁹ This finding highlights a unique issue of pain perception among providers, known as "ethnic pain."⁴¹ The disparity in the pain perception due to ethnic differences has been well identified.^{42,43} For instance, SA and African ethnic minorities living in the UK expressed different levels of musculoskeletal pain than the White European population.⁴⁴ A systematic review indicated that African-Americans experienced greater pain as compared to Whites in the United States when facing other conditions, such as glaucoma, AIDS, migraine, jaw pain, postoperative pain, myofascial pain, angina pectoris, joint pain, nonspecific daily pain, and arthritis.⁴⁵ Moreover, individuals with an EM background relative to the country where they live demonstrate an increased sensitivity to pain than ethnic majority groups.⁴⁵ Various processes, from neurophysiological factors to structural elements of the healthcare system, may be responsible for shaping individual pain differences.^{45,46} For example, the experience of pain differentially activates stress-related

physiological responses across various ethnic groups. Members of different ethnic groups appear to use differing coping strategies in managing pain complaints, and providers' treatment decisions vary as a function of patient ethnicity. These diverse factors, as well as other aspects, may lead to elevated levels of pain-related suffering among individuals from EM backgrounds.⁴⁵ This phenomenon may create a conflict in opinion toward the level of pain a patient experiences, and the level a healthcare provider from an ethnic majority background perceives.⁴³ Healthcare providers from an ethnic majority background may perceive less pain than an EM patient.⁴⁷ In that case, healthcare providers may be insufficiently motivated to reduce an EM patient's pain.⁴⁸

Sometimes, healthcare providers may even think that an EM patient is pretending or exaggerating to get attention.⁴⁹ Healthcare providers in Hong Kong must understand this phenomenon better in order to provide proper care when a SA patient is in pain. This will, in turn, make the SA patient feel better cared for and valued.

SA participants' problems with information and education 12% were more often than Chinese participants. This domain encompasses the availability of doctors or nurses in answering the patients' questions in such a way that the patient can easily understand.⁵⁰ In general, a doctor-patient relationship starts from a consultation session. This involves: 1) gathering details about the patient's health complaints, 2) developing a therapeutic regime, and 3) communicating information and advice.⁵¹ In this study, 64.4% of the SA participants cannot speak Cantonese, while most local healthcare providers do. Under such circumstances, the communication between SA patients and healthcare providers is hindered by a language barrier. SA patients may then feel less informed, less involved, and disconnected. Moreover, they may also have a feeling of helplessness and dependence on the healthcare providers.^{12,27} Additionally, the local hospitals often had limited, if any, culturally and linguistically appropriate healthcare information and education provisions suitable for SA patients. This limitation may have further aggravated the problematic experience.³⁹

SA participants also reported more problematic experiences with emotional comfort that encompasses the availability of doctors, nurses, or hospital staff to discuss anxieties or fear-related problems concerning the patients' condition or treatment during their stay in hospital. This disparity could be caused by over-crowded facilities and health professional shortages in Hong Kong's public hospitals, both of which can lead to inadequate health service delivery.²⁴ Healthcare providers in Hong Kong are often preoccupied with their routine work of treating the disease. However, they lack the holistic approach of care to address patients' emotional comfort.⁵² A patient who feels emotionally comfortable is more likely to engage in

recovery-promoting activities. Furthermore, they may also have a greater sense of empowerment, enablement, and engagement.⁵³ This is the same for all patients regardless of their ethnicity, but it has greater effects on patients of foreign origin.^{13,54-57} An ethnographic study of the mental health status of EM patients from Morocco, Algeria, Turkey, Congo, and Portugal in a multiethnic urban hospital in Belgium showed that EM patients under critical care experienced extreme emotional loneliness.¹³ A patient, while staying in hospital, has some social needs, such as wanting to have social contact and proximity with relatives, healthcare professionals, and other patients, both verbally and non-verbally.^{4,16,58} This need is even more significant when patients experience difficulty with verbal communication due to a language barrier or other clinical reasons. Therefore, patients, at times, want their family and friends visiting them to stay longer than visiting hours permit.¹³ It is crucial that the healthcare provider identify and meet the patients' unique basic social needs.^{16,59}

The coordination of care domain showed a disparity perceived by both groups. This domain refers to the conflict or state of confusion among healthcare providers regarding the care they are providing their patients. Inadequate cultural competency of the healthcare professionals, and inadequate support to provide care to culturally diverse patients at the system level may be the reason for such disparity.³⁸ This concern was also raised in an Equal Opportunity Commission report to the legislative council of Hong Kong. Mandatory training was recommended to raise cultural sensitivity among healthcare providers in Hong Kong.⁶⁰

The involvement of family and friends domain was also reported to be more problematic among SA participants than Chinese participants. This includes providing enough opportunity for family members or friends to talk with a doctor and learn whether the doctor or nurse shared all the information needed for the patient's recovery. In the SA community, family members are often responsible for decision-making on behalf of the patient. Furthermore, friends visiting a patient in the hospital is deemed a necessary and essential social norm.¹⁶ However, due to strict visiting hour enforcement in hospitals, family members do not have enough time to talk to the doctor.¹² In Hong Kong, all public hospitals have set visiting hours, mostly after lunchtime and for no more than three to four hours. The number of visitors each time is also restricted to only two because of the limited space in public hospitals.²⁴ Restricted visiting hours is not a common practice in the home countries of SA patients.⁶¹

SA patients also report more difficulties with respect to the patient preference domain of the PPE-15. However, the difference became statistically insignificant after PSW. This domain refers to being ignored by the doctors, lacking involvement in treatment, lacking respect from the

healthcare providers, and not being treated with dignity during their stay in hospital. The SA population has strong religious beliefs and practices that influence their treatment preferences. Their beliefs may be different from those of Chinese healthcare providers, who follow evidence-based decision-making principles.⁶² These differences can result in conflicts between the patients and healthcare providers.⁶³ The healthcare providers have to follow the hospital practices and discount the patient's personal views and preferences that go against the hospital protocols.⁶⁴ Studies in Denmark and England reported that healthcare providers may, at times, react with agitation and ethnocentric behavior when responding to the EM patients' cultural and religious-based expectations. Because of this, they ended up conveying an uncaring attitude, affecting the patients' overall experience in hospital.^{42,65}

There are several study limitations that are important to note. First, there can be a recall bias because the participants only self-reported their experiences with their hospital stay. Although a prospective study design would be ideal, it would take much time and resources. Since the PPE-15 questionnaire recalls the past year experience of hospital stay, which is often taken as a major event, the degree of recall bias would be minimal. Second, we did not have a sample size calculation for the outcome of the PPE-15 since this study was part of a more extensive study. However, the statistically significant differences in the PPE-15 domains between the two groups of participants clear the doubt on the lack of study power. Third, most SA participants were interviewed face-to-face in their native languages instead of completing the English version of the PPE-15. Translating the PPE-15 questionnaire into different EM languages would be worth pursuing in the near future.

Conclusions

Effective measures, such as proper education and training provisions for solving cultural incompetence among healthcare providers, are required. Engaging SA patients as partners in their treatment through a patient-centered communication approach and the frequent use of interpretation services may reduce the communication problem to a large extent. This will also give healthcare providers a better understanding about SA patients' unique needs, preferences, and expectations. Adequate information exchange, as well as linguistically and culturally appropriate patient education provision in hospitals, may further improve SA patients' health literacy. This may also enable SA patients to care for themselves and manage their conditions more effectively after discharge from a hospital.

References

1. Nemeth L, Hendricks H, Salaway T, Garcia C. Integrating the patient's perspective: Patient pathway development across the enterprise. *Topics in Health Information Management*. 1998;19(2):79.
2. Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open*. 2012;3.
3. Robert J. Fortuna, Angela K. Nagel, Thomas A. Rocco, Sharon Legette-Sobers, Quigley DD. Patient Experience With Care and Its Association With Adherence to Hypertension Medications. *American Journal of Hypertension*. 2018;31(3).
4. Ubogaya SK, Alfred SM, Chen SX, Wint SD, Worrall SP. The effectiveness of culturally-focused interventions in increasing satisfaction of hospitalized adult Asian patients: a systematic review protocol. *JBI Database of Systematic Reviews and Implementation Reports*. 2014;12(9):146-157.
5. Williams JS, Walker RJ, Smalls BL, Hill R, Egede LE. Patient-Centered Care, Glycemic Control, Diabetes Self-Care, and Quality of Life in Adults with Type 2 Diabetes. *Diabetes Technology & Therapeutics*. 2016;18(10):644-649.
6. Plumb AA, Ghanouni A, Rees CJ, et al. Comparison of patient experience of colonoscopy and CT colonography in the English bowel cancer screening programme. 2014.
7. Okunrintemi DV, Valero-Elizondo DJ, Patrick DB, et al. Abstract 12436: Gender Differences in Patient Reported Outcomes Among Adults With Atherosclerotic Cardiovascular Disease. *Circulation*. 2018;138(Suppl_1 Suppl 1):A12436-A12436.
8. Martsof RG, Elliott NM, Haviland MA, et al. Care Experiences Among Medicare Beneficiaries With and Without a Personal Physician. *Medical Care*. 2018;56(4):329-336.
9. Fortuna KL, Lohman MC, Batsis JA, et al. Patient experience with healthcare services among older adults with serious mental illness compared to the general older population. *The International Journal of Psychiatry in Medicine*. 2017;52(4-6):381-398.
10. Acuña DL, Mosca D, Pace P, Fortier JP, Rijks B, Weeker J. *Health of Migrants- The way forward. Report of a global consultation*. Spain2010.
11. Bernd Rechel, Philipa Mladovsky, David Ingleby, Johan P Mackenbach, McKee M. Migration and health in an increasingly diverse Europe. In: *Lancet*; 2013.
12. Liesbet D, Gastmans C, Mahieu L, Casterl BDD, Denier Y. *How do ethnic minority patients experience the intercultural counter in hospitals? A systematic review of qualitative research*. 2017.
13. Keer RLV, Deschepper R, Huyghens L, Bilsen J. Mental well-being of patients from ethnic minority groups during critical care: a qualitative ethnographic study. *BMJ Open*. 2016;7.
14. Weech-Maldonado R, Elliott MN, Adams JL, et al. Do Racial/Ethnic Disparities in Quality and Patient Experience within Medicare Plans Generalize across Measures and Racial/Ethnic Groups? *Health Services Research*. 2015;50(6):1829-1849.
15. Pharos EvA. *The Amsterdam Declaration Towards Migrant-Friendly Hospitals in an ethno-culturally diverse Europe. Migration, diversity, health and hospitals*. 2003.
16. Deschepper R, Francke A, Huyghens L, Bilsen J. Conflicts between healthcare professionals and families of a multi-ethnic patient population during critical care: an ethnographic study. *Critical Care*. 2015;19(441).
17. Priebe S, Sandhu S, Dias S, et al. Good practice in health care for migrants: views and experiences of care professionals in 16 European countries. *BMC Public Health*. 2011;11(1):187-187.
18. Denier Y, Gastmans C. Realizing good care within a context of cross-cultural diversity: An ethical guideline for healthcare organizations in Flanders, Belgium. *Social Science & Medicine*. 2013;93:38-46.
19. Weech-Maldonado R, Elliott M, Pradhan R, Schiller C, Dreachslin J, Hays RD. Moving Towards Culturally Competent Health Systems: Organizational and Market Factors. *Soc Sci Med*. 2012;75(5):815-822.
20. Betancourt JR, Green AR, Carrillo JE, Ananeh-Firempong O. Defining cultural competence: a practical framework for addressing racial/ethnic disparities in health and health care. *Public health reports (Washington, DC : 1974)*. 2003;118(4):293.
21. Census. 2016, Population-By-census, Thematic Report : Ethnic Minorities In: Census and Statistic Department HKSAR, ed. Hong Kong2017.
22. Tang L. Snapshot of the Hong Kong Population. In: Census and Statistic Department H, ed. Hong Kong2017.
23. Region GotHKSA. Hong Kong Poverty Situation Report on Ethnc Minorities 2016. In: Department CaS, ed. Hong Kong2018.
24. Schoeb V. Healthcare Service in Hong Kong and its Challenges The Role of Health Professionals within a Social Model of Health. *China Perspectives*. 2016.
25. Eliza LYW, Angela C, Paul H, et al. Patient experience and satisfaction with inpatient service: development of short form survey instrument measuring the core aspect of inpatient experience. *PLoS ONE*. 2015;10(4):e0122299.
26. Pinder RJ, Ferguson J, Møller H. Minority ethnicity patient satisfaction and experience: results of the National Cancer Patient Experience Survey in England. *BMJ Open*. 2016;6(6).
27. Vandan N, Wong JYH, Gong WJ, Yip PSF, Fong DYT. Health system responsiveness in Hong Kong: a comparison between South Asian and Chinese patients' experiences. *Public health*. 2020;182:81-87.

28. Vandan N, Wong J, Yip P, Fong D. Patients' experience with Hong Kong healthcare system: A comparison between South Asian ethnic minority and Chinese people. In: The University of Hong Kong; 2019.
29. Jenkinson C, Coulter A, Bruster S. The Picker Patient Experience Questionnaire: development and validation using data from in-patient surveys in five countries. *International Journal for Quality in Health Care*. 2002;14(5):353-358.
30. Wong ELY, Coulter A HP, Cheung AWL, Yam CHK LS, Tam WWS, EK. Y. Patient experience and satisfaction with inpatient service: development of short form survey instrument measuring the core aspect of inpatient experience. *PLoS One*. 2015;10(4):e0122299.
31. Leong JCY. Patient Experience survey on inpatient service 2017. In: Authority H, ed. Hong Kong 2017.
32. Wong ELY, Leung MCM, Cheung AWL, Yam CHK, Yeoh EK, Griffiths S. A population-based survey using PPE-15: relationship of care aspects to patient satisfaction in Hong Kong. *International Journal for Quality in Health Care*. 2011;23(4):390-396.
33. Chan SKK, Wong IOL, Tin KYK, Fung A, Johnston JM, Leung GM. *Satisfaction with inpatient care in a population-based Hong Kong Chinese sample*. 2008.
34. Crystal D. Bishop WLL, and Patricia A. Snyder. Using Propensity Score Weighting to Reduce Selection Bias in Large-Scale Data Sets. *Journal of Early Intervention*. 2018;40(4):347-362.
35. Brian K. Lee, Justin Lessler, Stuart EA. Weight Trimming and Propensity Score Weight. *PLoS ONE*. 2011;6(3).
36. Burg MA, Ellen D. S. Lopez, Amy Dailey, Mary Elspeth Keller, Prendergast B. The Potential of Survivorship Care Plans in Primary Care Follow-up of Minority Breast Cancer Patients. *J Gen Intern Med*. 2009;24(2):467-471.
37. Palmer B, Macfarlane G, Afzal C, Esmail A, Silman A, Lunt M. Acculturation and the prevalence of pain amongst South Asian minority ethnic groups in the UK. 2007;46(6):1009-1014.
38. Vandan N, Wong JYH, Lee JJJ, Yip PSF, Fong DYT. Challenges of healthcare professionals in providing care to South Asian ethnic minority patients in Hong Kong: A qualitative study. *Health & Social Care in the Community*. 2020;28(2):591-601.
39. Vandan N, Wong JYH, Fong DYT. *Accessing health care: Experiences of South Asian ethnic minority women in Hong Kong*. 2018.
40. Hall RW. *Patient Flow: Reducing Delay in Healthcare Delivery*. Vol 91. Boston, MA: Boston, MA: Springer US; 2006.
41. Wingfai K, Thakshyanee B. The relationship between ethnicity and the pain experience of cancer patients: A systematic review. *Indian Journal of Palliative Care*. 2014;20(3):194-200.
42. Nielsen B, Birkelund R. Minority ethnic patients in the Danish healthcare system—a qualitative study of nurses' experiences when meeting minority ethnic patients. *Scandinavian journal of caring sciences*. 2009;23(3):431-437.
43. Patel S, Peacock SM, McKinley RK, Clark-Carter D, Watson PJ. GPs' perceptions of the service needs of South Asian people with chronic pain: A qualitative enquiry. *Journal of Health Psychology*. 2009;14(7):909-918.
44. Allison TR, Symmons DPM, Brammah T, et al. Musculoskeletal pain is more generalised among people from ethnic minorities than among white people in Greater Manchester. *Annals of the Rheumatic Diseases*. 2002;61(2):151.
45. Campbell CM, Edwards RR. Ethnic differences in pain and pain management. *Ethnic differences in pain and pain management*. 2012;2(3):219-230.
46. Wennberg JE, Bronner K, Skinner JS, Fisher ES, Goodman DC. Inpatient care intensity and patients' ratings of their hospital experiences. *Health affairs (Project Hope)*. 2009;28(1):103.
47. Rahavard B, Candido K, Knezevic N. Different pain responses to chronic and acute pain in various ethnic/racial groups. *Pain Management*. 2017;7(5):427.
48. Jha AK, Orav EJ, Zheng J, Epstein AM. Patients' Perception of Hospital Care in the United States. *The New England Journal of Medicine*. 2008;359(18):1921-1931.
49. Kennel J, Withers E, Parsons N, Woo H. Racial/Ethnic Disparities in Pain Treatment: Evidence From Oregon Emergency Medical Services Agencies. *Medical Care*. 2019;57(12):924-929.
50. Crispin Jenkinson, Angela Coulter, Rachel Reeves, Bruster S, Richards N. Properties of the Picker Patient Experience questionnaire in a randomized controlled trial of long versus short form survey instruments. *Journal of public health medicine*. 2003;25(3):197-201.
51. Handayani M. Challenges in Interpersonal, Intercultural and Technology Aspect in Doctor and Patient Relationship. 2011.
52. Xu RH, Cheung AWL, Wong ELY. The relationship between patient engagement and health-related quality of life in patients: a cross-sectional study in general outpatient clinic in Hong Kong SAR, China. *Patient preference and adherence*. 2019;13:1451-1462.
53. Williams AM, Lester L, Bulsara C, et al. Patient Evaluation of Emotional Comfort Experienced (PEECE): developing and testing a measurement instrument. *BMJ Open*. 2017;7.
54. Moss JL, Reiter PL, Rimer BK, Brewer NT. Collaborative patient-provider communication and uptake of adolescent vaccines. *Social Science & Medicine*. 2016;159:100-107.
55. Kumar K, Greenfield S, Raza K, Gill P, Stack R. Understanding adherence-related beliefs about medicine amongst patients of South Asian origin with

- diabetes and cardiovascular disease patients: a qualitative synthesis.(Report). *BMC Endocrine Disorders*. 2016;16(24).
56. Devraj R, Young HN. Pharmacy language assistance resources and their association with pharmacists' self-efficacy in communicating with Spanish-speaking patients. *Research in social & administrative pharmacy : RSAP*. 2016.
 57. Ana Castaneda-Guarderas, Jeffrey Glassberg, Corita R. Grudzen, et al. Shared Decision Making With Vulnerable Populations in the Emergency Department. *ACADEMIC EMERGENCY MEDICINE*. 2016;23.
 58. Clucas C. Cancer patients' respect experiences in relation to perceived communication behaviours from hospital staff: analysis of the 2012–2013 National Cancer Patient Experience Survey. *Support Care Cancer*. 2016;24:1719-1728.
 59. Bett CJ. *Influence of social capital on community-based health care programs in rural Papua New Guinea: An ethnographic study* [Ph.D.]. Ann Arbor, The University of New Mexico; 2015.
 60. Subcommittee on Rights of Ethnic Minorities Housing, Healthcare and Support Service Centres for Ethnic Minorities [press release]. Hong Kong 2017.
 61. Waxler-Morrison, Nancy, Joan Madge Anderson, Richardson. E. *Cross-cultural Caring : A Handbook for Health Professionals in Western Canada*. Vancouver: U of British Columbia 1992.
 62. Heeren, Oscar, A. Srikumar Menon, Allen Raskin, Ruskin. P. Religion and End of Life Treatment Preferences among Geriatric Patients. *International Journal of Geriatric Psychiatry*. 2001;16(2):203-208.
 63. Tännsjö, Torbjörn. Context-Dependent Preferences and the Right to Forgo Life-Saving Treatments. *Social Theory and Practice* 2015;41(4):716-733.
 64. Superdock, Alexandra, Raymond Barfield, Debra Brandon, Docherty S. Exploring the Vagueness of Religion & Spirituality in Complex Pediatric Decision-making: A Qualitative Study. *BMC Palliative Care*. 2018;17(1):107.
 65. Vydelingum V. Nurses' experiences of caring for South Asian minority ethnic patients in a general hospital in England. *Nursing Inquiry*. 2006;13(1):23-32.

Table 1. Demographic Characteristics of Participants

Characteristics (n=783)	Before Propensity score weighting			After Propensity score weighting		
	South Asian (n=388)	Chinese (n=395)	p-value ^a	South Asian (n=369)	Chinese (n=382)	p-value ^a
Sex (%)						
Male	33.8	44.3	0.003	40.4	40.5	0.981
Female	66.2	55.7		59.6	59.5	
Age in years (%)						
18-29	27.6	24.8	<0.001	24.8	25.5	0.061
30-59	68.8	51.9		67.7	58.2	
60+	3.6	23.3		7.5	16.3	
Married/cohabitated status (%)						
Unmarried	21.6	43.5	<0.001	33.7	33.7	0.065
Married/cohabitated	75.3	48.1		61.7	60.4	
Divorced/separated/widowed	3.1	8.4		4.6	5.9	
Educational level (%)						
Till education	19.8	11.3	0.392	16.9	8.1	0.849
Secondary	35.6	46.0		34.5	50.5	
Tertiary or above	44.8	42.7		48.6	41.4	
Monthly household income level (HKD) (%)						
0-14,999	34.8	21.9	0.001	30.0	21.7	0.064
15,000- 34,999	39.2	46.6		39.5	52.6	
35,000 and above	26.0	31.6		30.5	25.7	
English language proficiency (%)						
Fluent	50.5	26.8	<0.001	41.7	38.0	0.292
Average	36.9	42.8		40.6	42.3	
Nil	12.6	30.4		17.8	19.7	
Cantonese language proficiency (%)						
Fluent	9.8	100		N/A		
Average	25.8	0				
Nil	64.4	0				
Medical Insurance (%)						
Yes	36.9	55.8	<0.001	46.0	49.4	0.366
No	63.1	44.2		54.0	50.6	
Any existing Disease (%)						
Yes	25.3	23.5	0.577	24.7	20.5	0.162
No	74.7	76.5		75.3	79.5	

^a Chi-square test/ Man-Whitney U test/T-test

Table 2. Domain Mean Score (SD) of South Asian and Chinese participants (0-100) scale*

S.No.	Domains	South Asian	Chinese
1	Information and education	68.81(41.21)	49.62(45.27)
2	Coordination of care	47.03(49.97)	33.92(47.40)
3	Respect patient preferences	61.82(30.70)	53.67(26.76)
4	Emotional comfort	74.25(36.38)	55.36(41.63)
5	Physical Comfort	77.54(41.78)	57.18(49.55)
6	Involvement of family and friends	69.84(39.77)	55.94(45.85)
7	Continuity and transition	69.84(38.24)	43.76(38.63)
8	Overall hospital experience	66.86(26.68)	49.79(25.68)

Table 3. Mean Score differences (South Asian-Chinese) of hospital experiences between South Asian and Chinese respondents in Hong Kong

Domains scale (0-100)	South Asian-Chinese (Mean Differences)								
	Unadjusted difference			Adjusted difference ¹			Propensity score weighted ¹		
	Co-efficient	95% CI	p-value	Co-efficient	95% CI	p-value	Co-efficient	95% CI	p-value
Information & education	19.19	(13.11, 25.27)	<0.001	16.47	(9.46, 23.49)	<0.001	12.15	(5.89, 18.40)	<0.001
Coordination of care	13.10	(6.26, 19.94)	<0.001	10.78	(2.84, 18.72)	0.008	9.49	(2.68, 16.30)	0.006
Respect for patient preferences	8.14	(4.10, 12.19)	<0.001	4.77	(0.08, 9.46)	0.046	2.91	(-1.29, 7.12)	0.174
Emotional comfort	18.88	(13.39, 24.38)	<0.001	15.23	(8.87, 21.59)	<0.001	11.23	(5.64, 16.83)	<0.001
Physical comfort	20.35	(13.91, 26.80)	<0.001	19.38	(11.33,27.42)	<0.001	12.69	(5.59, 19.79)	<0.001
Involvement of family and friends	13.89	(7.87, 19.92)	<0.001	13.51	(6.42, 20.60)	<0.001	8.70	(2.45, 14.94)	0.006
Continuity & transition of care	26.07	(20.67, 31.48)	<0.001	20.76	(14.49,27.03)	<0.001	18.03	(12.53,23.52)	<0.001
Overall hospital experience	17.06	(13.44, 20.68)	<0.001	14.39	(10.18,18.59)	<0.001	10.85	(7.15, 14.55)	<0.001

¹ Adjusted for sex, age, marital status, education level, monthly household income, English language proficiency, medical insurance, and any existing diseases.