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Immigrant Parents' Knowledge of Paediatric Preventative Health Care in Hong Kong: A Pilot Study

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Abstract

Background: Over 14,000 children arrived in Hong Kong from Mainland China last year to join their recently immigrated parents. The aims of this pilot study were to explore immigrant parents' knowledge and perceptions of the accessibility of paediatric preventative health care services. ***Method:*** A descriptive survey was administered to parents. Participants (N=27) were grouped by their child's point of entry into the health care system. ***Results:*** Most participants lacked knowledge about well-child care and health education. Participants whose children lived in Hong Kong for longer than one year used services for well-child care significantly more than those with shorter stays (χ^2=4.50; p=0.03). The major barrier in accessing services was lack of knowledge. ***Conclusions:*** Although a preliminary study, the results suggest a population-based study is needed because lack of familiarity with available services was a reoccurring finding. A more comprehensive assessment of the learning needs of this population is needed so effective ways of familiarising new immigrants and tracking these children can be developed.

Key words Children; Hong Kong; Immigrants; Immunisations; Preventive health

According to the WHO, preventative health behaviours are essential to maintaining a healthy society. Preventative health care is a fundamental aspect of paediatric care; its use and availability is frequently used as a health indicator. Yet a level of knowledge and understanding is required of individuals if preventative health services are to be utilised. Although the Hong Kong (HK) health care system provides a comprehensive range of these services for newly immigrated children and epidemiologic studies of immunisation rates in this population suggest adequate coverage,[1,2] little is known about parental knowledge and perceptions of the range of paediatric preventative services in this vulnerable population.

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Background

About 14,000 children arrive in HK from the Peoples's Republic of China (PRC) yearly to be reunited with their families.[3] Generally immigrant parents are able to bring their children to HK within a relatively short period of time.[4] New immigrant parents have many challenges as they adapt to life in HK, which may make them more vulnerable to illness. In addition to the many socio-cultural changes these parents' face, the health care system in HK operates quite differently than in the PRC. These differences may result in under-utilisation of available services, as immigrant parents may still be experiencing this adaptation process when their children join them.[5] In addition, families of newly immigrant children may be reluctant to use existing social and health care resources that are unfamiliar. It has been suggested that these parents tend to protect their children and may not choose to use social services.[6,7]

The HK government has policies aimed at facilitating the integration process of new immigrants into the local community. The *Services Handbook for New Arrivals*, a government published booklet, is the primary method of introducing new immigrants to services available to them and is to be distributed to all upon their arrival. This booklet includes information concerning HK social services, health care services, schooling, transport system, and employment support. A list of new immigrants' names is provided to the appropriate social service agency (often a non-governmental organisation, NGO), which services the geographic district where the immigrants live. This district agency is the first social or health care contact for new immigrants and acts as the "gatekeeper" for other agencies. Upon entry to HK, new immigrants are advised to make an appointment at their designated social service agency, during this first visit they will be referred to other services as needed. The effectiveness of this system in channelling new immigrants into necessary services has not been studied.

While the HK government heavily subsidises health care, spending on preventative services has been weak, with only 4.2% of health care dollars being allocated to this area.[8] Health services such as immunisation programs and well-child care are provided free of charge at district Maternal and Child Health Centre (MCHC) public clinics. Preventative services for school-aged children (e.g., immunisations and screenings) are provided free of charge by the School Health Service and primary care is provided in general outpatient clinics. Private health care is also available for those who are able and willing to pay more, but rarely has been used by new immigrants.[2] In the PRC, health care services are not completely government subsidised, but are self-supporting.[9] PRC citizens pay for preventative health care services, such as immunisations.

The timing of immunisations varies somewhat between the PRC and HK.[2] Upon entry to HK, children's immunisation records are to be presented to the MCHC or to the School Health Service.[1] Chow and Tse[10] recruited newly immigrated children (N = 457; mean age = 8.8 years) within two weeks of their entry to HK, to investigate health issues in this population. Nearly 90% of participants came from the Guangdong province, which has a Cantonese-based culture similar to HK. The researchers reported that these children usually did not require medical treatment, but did need health education concerning personal hygiene, diet and ingestion of herbal medicines.[10] Almost half of their participants were unable to provide information concerning their vaccination status upon entry to HK. Among these children, 9%, 20% and 50% did not have antibodies against measles, mumps, and rubella respectively. The authors suggested vaccination or re-vaccination of the new immigrant children who could not provide accurate immunisation records, with special attention being given to providing MMR and Hepatitis B vaccines to prevent an outbreak. They also recommended that newly immigrated children have a well-child check up shortly after arrival, receive health education and that their parents be provided with information about available services.[10]

An 2003 epidemiologic study of immunisation coverage for children age 2 to 5 year olds found higher rates for children born in HK (97.8% completely immunised) than those born on the Mainland (90% or above, except for polio type I).[2] A marked improvement from the earlier studies was noted in MMR/measles and Hepatitis B coverage in Mainland born children. Mainland born children received 84.2% of their immunisations while on the Mainland and 15.3% at MCHC in HK (2003). Compared to a similar earlier survey,[1] the 2003 sample had an increase in the percentage of immunisations given on the Mainland and a decreased use of the MCHC. It is difficult to know the meaning of this shift, perhaps children are receiving more complete immunisations on the Mainland or perhaps parental reporting of immunisations is less than adequate. In both studies,[1,2] the number of Mainland born children were considerably smaller than HK born making further comparisons between the two groups difficult. There has not been a comprehensive study of Mainland born children's health care needs, perhaps due to difficulty in identifying these children, particularly the under five years old.

Hong Kong has well-established paediatric preventative health care services available to all children; however, newly immigrated children may be at risk of not receiving timely care. Little is known about immigrant parents understanding of paediatric services. The first step is determining if a lack of knowledge and/or of accessibility affects this population. The aim of this preliminary study was to describe parental knowledge and perceptions of the accessibility of paediatric preventative health care services for their newly immigrated children.

Methods

A descriptive cross-sectional survey was given to a convenience sample of immigrant parents who recently had

children join them in HK. They were recruited from two sites in one district of HK, which has a large immigrant population. The primary recruitment site was an NGO-run community health centre whose staff was responsible for connecting new immigrants in their district with needed services. The second site was a nearby kindergarten also serving the same district and immigrant population. Approval from the Ethics Committee of the Faculty of Medicine of the University of Hong Kong, as well as the Ethical Review Committees at the two data collection sites were obtained before the commencement of the data collection.

The sample selection was designed to create a fairly homogeneous group, while excluding very newly arrived immigrants and non-Cantonese speakers who might have additional barriers to cope with in using and understanding available health care services. Sample selection criteria were parents who: (a) had children between the ages of 18 months and 10 years of age, (b) had a child immigrate to HK from the PRC 6 to 18 months prior to the start of data collection, and (c) were able to understand and speak Cantonese. In addition, participants who had children with chronic illnesses were excluded from this study.

Data Collection

Staff at the community health centre providing services to the target population developed a list of eighty newly immigrated adults along with contact telephone numbers. These adults were contacted by phone to determine if they met the inclusion criteria. Twenty parents, who met the criteria, refused to participate stating that they were too busy. Seventeen parents were willing to participate (45.94% response rate). To increase the sample size, an additional 10 participants were recruited from a nearby kindergarten. The final sample size was 27 parents.

Measurement

A structured 35-question survey was developed using (a) cultural knowledge from expert sources, (b) information about health care services, and (c) a review of the literature. The initial questionnaire was pilot tested between January 2001 and April 2001 with 16 participants to determine its feasibility and reliability.[11] After pilot testing, some modifications were made to enhance clarity and to reduce redundancy. An expert panel consisting of a paediatrician and two masters prepared public health nurses reviewed the survey to determine the content validity. A content validity index of 0.98 was calculated based on the three experts' ratings. The content validity was considered adequate for this pilot study.[11] The revised survey had 25 structured questions (Table 1). Demographic variables collected were parental education, age of parents and children, length of stay in HK, and socio-economic status (above or below the poverty level). Poverty level was defined using the HK governmental indicator of half of the median household income of the community.[12]

Data were collected between mid-November, 2001 and mid-February, 2002. The homogeneity of the data collection procedure (i.e., only one member of the research team collected data) increased consistency and decreased the likelihood of procedural differences interfering with data quality.[11] Using an in-person verbal administration of the survey allowed more complete data collection by eliciting responses from participants who may have been unable or unlikely to complete the questionnaire on their own. For example, if participants did not understand or had any confusion about a question, the investigator would provide further explanation and clarification to ensure that accurate information was being obtained. This method enhanced the stability and the equivalence within the dataset.[13] Each data collection session was audio taped and took about one hour.

Table 1 Examples from the 25-item survey of parental knowledge and perceived accessibility of paediatric preventative health services

	No. of questions	Example of survey questions
Knowledge of services	15	• When did your child have each of the following immunisations? • What is the location of well-child services in this district? • Have you received the government booklet? • Have you attended a health education program while in HK? • When was your child's last well-child visit?
Accessibility of services	10	• How convenient is the location of Maternal Child Health Centre? • What are the major barriers that prevent you from using health care services? • Is the *Services Handbook for New Arrivals* easy to read?

When any of the participants' responses fell into the 'other' category, this necessitated writing a detailed response instead of making a choice from the responses on the survey. Subsequently, these more detailed responses were translated into English by the interviewer and then verified by a second translator.

Data Analysis

Demographic and quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS version 10) to calculate descriptive and inferential statistics. Participants' demographic characteristics were grouped by the children's age. Parents of children eligible to obtain preventative services at the MCHC (i.e., 5 years and under) were placed in Group I (n=15) and parents of children who would be eligible to received preventative health care in their schools (i.e., 6 to 10 years of age) were placed in Group II (n=12). To determine differences between these groups *the t-test* or Chi-square were calculated as appropriate. A p-value of ≤0.05 was considered statistically significant.

Results

Demographics of the Sample

Demographic characteristics for the participants (parents) are displayed in Table 2 and the characteristics of the newly immigrated children in Table 3. Significant differences were not found between Groups I and II on the demographic variables.

Table 2 Demographics characteristics of the participants grouped by their child's age group

Variables	Group I (n=15) n (%)	Group II (n=12) n (%)	Total (N=27) N (%)
Participant			
Mother	14 (93.34)	10 (88.33)	24 (88.89)
Father/Grandfather	1 (6.67)	2 (16.67)	3 (11.12)
Age			
20-30 years	4 (26.67)		4 (14.81)
31-40 years	11 (73.34)	10 (83.34)	21 (77.78)
>60 years		2 (16.67)	2 (7.41)
Education level			
Below secondary level	6 (40.00)	4 (33.34)	10 (37.03)
Secondary level or above	9 (60.00)	8 (66.67)	17 (62.96)
Length of stay in HK			
Less than 1 year	8 (53.34)	4 (33.34)	12 (44.40)
More than 1 year	7 (46.67)	8 (66.67)	15 (55.60)
Socio-economic indicators[a]			
Receiving government income subsidy	0 (0.00)	2 (16.67)	2 (7.41)
Below HKD9,000	9 (64.29)	8 (66.67)	17 (65.38)
Above HKD9,000	5 (35.71)	4 (33.33)	9 (34.62)

[a]One participant in Group I reported that the family income was unknown.

Table 3 Demographics characteristics of the children grouped by their ages (N=27)

Variables		Group I (2-5 years) n=15	Group II (6-10 years) n=12	Total N=27
Gender				
Male	*n* (%)	7 (46.67%)	8 (66.67%)	15 (55.56%)
Female	*n* (%)	8 (53.34%)	4 (33.34%)	12 (44.45%)
Age				
	M (SD)	3.87 (0.99)	7.42 (1.44)	5.44 (2.15)
Length of stay in Hong Kong[a]				
Months	*M (SD)*	8.87 (4.02)	7.92 (2.57)	8.44 (3.42)
	Range	4-18	4-13	4-18

Note: No statistical difference was found between groups.

[a]*t*-test was non-significant between the two groups in the child's length of stay in HK (t=0.71, p=0.48).

Knowledge Concerning Preventative Health Services

Parental knowledge about preventative health activities (immunisations, well-child check-ups and health education), and the *Services Handbook for New Arrivals* was measured (Table 4). Immunisations and well-child visits were the most common reasons (93.30%) for seeking services at MCHC. Participants' knowledge of the location of the MCHC was significantly related to their use of these services (χ^2=7.670; p=0.006). Two of the participants who had children 5 years old or less did not know the location of the MCHC. All of the Group II participants knew that preventative services were offered by the school system but were less able to articulate what services their children had received than Group I.

All of the participants reported knowing that immunisations were required for their children; however, only 77.78% had an immunisation record available upon their child's immigration to HK. Five participants (Group I=3, Group II=2) were unable to provide an immunisation record after several requests to do so. Of the participants who had immunisation documentation, 63% of their children were completely immunised (for their age), with the last booster doses of polio (66.67%), DPT (70.37%) and Hepatitis B (70.37%) having the lowest immunisation rates.

Most of the children who received well-child check-ups had them in HK (Group I, 90.00%; Group II, 75.00%). The participants whose children lived in HK for longer than one year used HK health care services for well-child check-ups significantly more than those participants whose children's length of stay were less than one year (χ^2 = 4.50; p=0.03). In addition to their lack of knowledge about preventative health service, reasons participants gave for not using services were (a) it was unnecessary (n=1); (b) they did not have time (n=1), and (c) transportation difficulties (n=1).

Three participants in Group I (11.12%) reported that they had attended health education activities and had received information about these services from their MCHC or by searching on the Internet. None of Group II participants attended health education sessions. Of the other seven participants (in both groups) who were aware of health education services, the reasons they reported for not choosing to participate were (a) a lack of time to attend (n=4); (b) they felt that health education was not relevant (n=2) and (c) one participant chose not to answer this question.

While all new immigrants are mandated to receive the *Services Handbook for New Arrivals*, only sixteen (59.25%) participants reported being aware that they had received it. Seven of those who had received if felt it provided essential information. Among the 16 participants who had the handbook, 4 of them reported it was easy to use and 14 (87.50%) stated that it was easy to read. Participants reported that they usually obtained information about needed services from their social network, rather than using this booklet.

Perceived Accessibility of Services

Accessibility of health care services was measured by parents' perceptions of (1) the convenience of the service location and (2) the barriers to using to health care services. All 22 of the participants who knew where the MCHC was located, reported that the location was convenient. Although Group II participants expected the need for care to be determined by the health care staff in the schools and care to be given in the schools, they also used the MCHC in their district for preventative services. All of Group II participants reported not knowing exactly what preventative health services had been provided at their child's school. A higher percentage of barriers to receiving care were reported by Group I (Table 5). Almost half of the participants

Table 4 Participants' knowledge of paediatric preventative health care services

Variables	Group I (n=15) *n* (%)	Group II (n=12) *n* (%)	Total (N=27) N (%)
Knowledge of well-child check ups	11 (73.34)	10 (83.34)	21 (88.00)
Knowledge of health education	7 (46.67)	3 (25.00)	10 (37.04)
Location of Maternal Child Health Centre	13 (86.67)	9 (75.00)	22 (81.48)
Had a copy of *Health Services Handbook*	9 (60.00)	8 (66.67)	17 (62.96)
Child had a check-up	10 (66.67)	8 (66.67)	18 (66.67)
Attended health education session(s)	3 (20.00)	0 (0.00)	3 (11.12)
Obtained services at MCHC	9 (60.00)	9 (75.00)	15 (55.56)

MCHC refers to the district Maternal Child Health Centre

Table 5 Barrier to use of paediatric preventative health services grouped by child's age (n=18)*

Barriers	Group I n=15	Group II n=9	Total n=24
Expense of the consultation fee	5 (33.34)	2 (22.23)	7 (38.89)
Lack of familiarity with health care services	6 (40.00)	2 (22.23)	8 (44.45)
Long waiting time for services	0	1 (8.34)	1 (5.56)
Discrimination by health care providers	0	1 (11.12)	1 (5.56)
No difficulties using services	4 (26.67)	3 (33.34)	7 (38.89)

Note: Group I is 18 months to five years old and Group II is children over five years old.

*Three (25%) of the 12 participants in Group II reported a response of "no opinion".

(44.45%; n=12) reported they received better quality of health care services in HK. For those participants who preferred the PRC health care system, their reasons were familiarity with the health care services and the affordability of health care service in the PRC.

Discussion

Access to paediatric preventative services in HK is usually not an issue for the general population due to inclusion of these services in the government-subsidised health care and the channelling of new parents into this system upon hospital discharge after childbirth. The goal of this study was to explore if families with children, who immigrate from the PRC to HK, are at risk of slipping through Hong Kong's well-established preventative health safety net. To meet this goal our pilot study explored immigrant parents' knowledge and perceptions about paediatric preventative health services.

The main reasons participants sought preventative services (i.e., immunisation and well-child care) were similar to the findings of other researchers studying the general HK population.[14] Participants were mostly aware of the need for childhood immunisations. The overall immunisation coverage found in this sample (63%) was considerably lower than the rate reported in the HK-wide epidemiologic study (84%);[2] however, 18.5% of the participants in the current study did not provide any immunisation information and there is not a way to determine the accuracy of the information provided. Although it may be difficult to determine accuracy due to the second-hand nature of the immunisation records brought by immigrants, future research with this population should make every attempt to ensure accuracy in reporting. If doubts about immunisation coverage exist, Chow and Tse have suggested reimmunisation.[10]

Although parents of the older children (Group II) understood that preventative services would be carried out in the school setting, a higher percentage of this group used the MCHC than did Group I. Group II parents also could not report what services their child had received at the school; they did not appear to be well informed about their child's health care. This situation raises two important issues (1) the need for immigrant parents of school-aged children to be better informed about their child's health care and (2) the possibility of inappropriate health services due to duplication or lack of services. The former relates to informational needs and the latter to infrastructure issues. The health care system in HK has been described as compartmentalised due to a lack of coordination across service areas.[8,15] This situation may be an example of how compartmentalisation may affect health care.

Well-child care is readily available in HK for children under 5 years old. The system is effective and efficient in meeting the needs of the general population at a low cost. Almost a quarter of the participants did not know about the availability of these services. More participants knew about the availability than actually participated in these services. Children of participants who had been in HK for more than a year had significantly more well-child check-ups than those with shorter lengths of stay. The two age groups did not differ much on this variable. The lack of familiarity with well-child services may be a manifestation of the differences between the health care system in the PRC and HK. Improving new immigrants understanding of the benefits of preventative well-child care may be needed. It is possible that new immigrants are not as assertive in finding the services that they need, as are native HK residents who readily seek out care. This reluctance to be assertive has been identified by researchers studying this population.[4,6] Because most of the new immigrants to HK share the Cantonese cultural background with HK residents, perhaps subtle differences in social norms that may affect

delivery of health care have not been fully appreciated and need to be better understood.

Study participants reported a lack of knowledge and accessibility to paediatric preventative health services, particularly well-child care and health education. Predictably, the participants that knew of the MCHC used these services significantly more often. This finding suggests that lack of knowledge does affect utilisation in this sample, which confirms the need for a more in-depth investigation of the learning needs of immigrant parents and how these learning need affect utilisation of health care services. A study with a larger more representative sample would provide insight into ways health care providers could better facilitate connecting this population to needed services, which has the potential to save health care dollars as do most preventative health care services.

Health education empowers individuals toward greater self-care, self-help and self-improvement.[16] One of the major roles of physicians and nurses is to educate people about preventative health behaviours and promote normal growth of individuals.[15] Two forms of health education were addressed in this study: the *Services Handbook for New Arrivals* provided upon entry to HK and health education talks given at the MCHCs. Eleven participants did not recall receiving the government booklet. It is possible that they had forgotten or that they had not actually received one. It was not widely used by participants who had received a copy. Although this booklet is written at a low literacy level, participants relied on family and friends for information about services instead of the booklet. All new immigrant families may not have a social network to rely upon for accurate health care information. Seow et al[17] found the use of printed materials alone did not encourage people to participate in health-screenings in Singapore and that in-person contact was much more effective. Perhaps another method of connecting new immigrant families to needed services would work more effectively.

New immigrants' need for preventative health knowledge and for healthy behaviours was identified by Chow and Tse.[10] Most parents (85.12%) in our sample reported that they had not attended any health education sessions due to lack of information about them. Simply providing information, however, may not directly increase the rate of attendance at health promotion programs.[16] Participants who knew of health education services but chose not to attend stated that this was because they did not have the time (n=4) or they felt it was not relevant for their child (n=2). Clearly the timing of health education programs needs to be convenient to the target audience. The first step, however, must be to determine the informational needs in this population. Our investigation suggest that learning needs related to well-child care and health education may be considerable, but these findings are not generalisable and a more comprehensive approach is required.

Limitations

Limitations of this pilot study are related to the nature of a pilot study and the use of a new survey. The small sample size was intentional and no attempt to generalise these findings can be made. A larger randomised investigation would provide a more definitive understanding of the needs of this population. The affect of self-selection could not be assessed and may have contributed to the findings. The data were collected at a one point in time. A parent who has been in HK for 18 months may have a very different perception of preventive health care than one who has been in HK for only 6 months. A study using a longitudinal design would better explore these differences and the learning that occurs over time about available services.

The researchers had to design a questionnaire for this study as none existed. Although the content validity index was high prior to its use, the questionnaire failed to address some issues in sufficient detail. For example, it did not adequately address the preventative services obtained in the school setting and the section on barriers to accessing services could be enhanced to provide greater depth of understanding. For future research, the questionnaire would need to be revised to address identified problem areas in more detail.

Conclusions

Immigrant children form a large and vulnerable group whose preventative health needs have not been well identified. Better informed immigrant parents are more likely to use existing services. To improve parents' knowledge of services and to more effectively plan programs that target this population, it is essential to understand the informational needs and barriers to using services. This study was a preliminary look at their parents' knowledge and perceived accessibility of preventative services in HK, findings suggest that a more comprehensive and rigorous investigation is needed.

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