Quality and cultural sensitivity of linguistically appropriate CVD information for Chinese immigrants: a review of online resources from heart foundations

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ABSTRACT (245 words - max 250)

Background: Chinese immigrants are at increased risk for cardiovascular diseases (CVD) compared to Chinese nationals, partly due to lifestyle changes and knowledge deficits. Translated patient resources are available on the Internet and are often provided by health professionals, however the quality and cultural sensitivity of these resources has not been reported.

Objective: Assessment of availability, quality, and cultural sensitivity of Chinese-language information available from National “Heart Foundations” (cardiac research bodies) of the five most popular destinations of Chinese immigration.

Methods: Descriptive research in which National “Heart Foundation” Websites were systematically searched for Chinese-language CVD patient education resources. Quality (content, identification, structure) was assessed using Ensuring Quality Information for Patients (EQIP) tool. Cultural sensitivity was evaluated using Cultural Sensitivity Assessment Tool (CSAT).

Results: From 107 identified resources, 33 were CVD specific: coronary heart disease (n=20), arrhythmias (n=7), heart failure (n=6). Quality of resources was adequate (mean EQIP score = 69%), but scores varied significantly (min=60%, max=85%). While all resources were classified as culturally sensitive (CSAT score ≥2.5), 2 resources scored low (≤2.5) for visual impact, and across all resources written and visual domains were assessed as least culturally sensitive. Most resources lacked culturally-specific references.

Conclusions: Chinese-language CVD resources were inconsistent in the supply of key information. Quality and level of cultural sensitivity were adequate, but most resources lacked culturally-specific references. Comprehensive, high-quality CVD resources tailored for Chinese immigrant are urgently needed for healthcare providers to support CVD education and care of patients belonging to this population.

INTRODUCTION

Chinese immigrants, mostly from mainland China, Taiwan, Hong Kong and Macau, make up one of the largest and fastest-growing migrant populations in Western countries; reaching 50 million in the past three decades.[1,2] The United States (US), Canada, Australia, New Zealand, and the United Kingdom (UK) are the most popular destinations for Chinese immigrants, and this migratory trend is predicted to continue.[1] Migration has several health implications for Chinese immigrants, including a deterioration in cardiovascular health profile.[3]

The more accultured Chinese immigrants become, the more susceptible they are to cardiovascular diseases (CVD) due mainly to worse dietary habits, stress, and increased BMI and diabetes.[4-6] The impact of migration compared to those living in China is reflected in higher rates of coronary heart disease (CHD) (3.2%[7] vs. 0.77%[7]), valvular heart disease (17.6%[8] vs. 2.05[9]) and atrial fibrillation (0.75%[10] vs. 0.65[11]). Rising CVD risk factors and prevalence signal an urgent need to equip this rapidly expanding population with necessary health knowledge to reduce CVD risk factors, and engage in disease prevention and management.

CVD knowledge deficit is common among Chinese immigrants due to complex linguistic and cultural communication barriers.[12] In fact, one-third of Chinese immigrants cannot name any signs or symptoms of a heart attack.[13] Research across the UK, US, Canada and Australia have reported language barriers as the most common reasons for health knowledge deficits in Chinese immigrants[13-16] and those with low English proficiency are particularly likely to have poorer CVD knowledge.[13] More than 25% of Chinese immigrants in Western countries have limited English proficiency,[15] but most health information produced by host countries is in English at an advanced reading level.[13,17] More worryingly, translated resources written based on Western medical norms may not be culturally sensitive for Chinese immigrants due

to the lack of cultural references.[12,18,19] On a surface-level cultural references are observable characteristics of the intended population (e.g. images and dialects) and on a deep-level cultural references address key concepts and assumptions .[20] For healthcare, Chinese culture centres on balancing yin/yang energies and heat/cold elements, healing through traditional food, and the use of traditional medicine.[21] In the context of health education, cultural sensitivity is matching intervention materials and messages to the observable characteristics and health practices of an ethnic population.[22]

To obtain culturally and linguistically appropriate CVD information, Chinese immigrants commonly browse websites developed in their home origins.[23] Heart disease is of the most searched medical condition, which closely reflects growing CVD burden in this population.[24] However, the knowledge and recommendations received from these websites are often not applicable to host countries,[23,24] and the quality of CVD information is often questionable as commercial websites are generally unregulated.[25,26]

With increased internet utilisation, Heart Foundations are now providing electronic information for online access. Historically, they are major outlets of evidence-based CVD resources for healthcare providers.[27] In response to changes in patient demographics, Heart Foundations recommended, that healthcare providers should provide tailored information for culturally and linguistically diverse groups.[28] High-quality and cultural specific information is a valuable tool for healthcare professionals caring for immigrant populations. However, to our knowledge there is no published research evaluating the quality and cultural sensitivity of patient resources on CVD that are available in Chinese-language.

STUDY AIMS

The aims of this study were to:

1. Identify online Chinese-language resources on adult onset cardiac diseases from the National Heart Foundations of the five most popular destinations for Chinese immigration, and
2. Assess the quality and cultural sensitivity of identified patient education resources.

METHODOLOGY

Search and review strategy

The British Heart Foundation (BHF), American Heart Association (AHA), National Heart Foundation of Australia (NHFA), Heart and Stroke Foundation of Canada (HSFC), and National Heart Foundation of New Zealand (NHFNZ) were selected because they are the National Heart Foundations for the five most popular destinations for Chinese immigrants. Heart Foundation websites were searched for Chinese-language patient education information on adult-onset CVD. These included written information in traditional or simplified texts, graphics and images, and audio-visual resources spoken in any Chinese dialects. The Heart Foundation websites were found via Google Search Engine using Google Chrome browser. On the American and Canadian websites, a “Chinese-language” link was available to filter resources; a keyword search using “Chinese” was used for all other websites. On each Heart Foundation website, all resources were manually reviewed by title and content to determine eligibility. The search was performed between 15 June 2016 and 15 March 2017, the process is displayed in figure 1.

Eligibility

Inclusion criteria

- Patient education resources
- Focused on adult-onset CVD
- Written resources in either traditional or simplified texts. These are identical in meanings and differ only in the number of strokes per character

- Graphics and images resources
- Audio-visual resources in Mandarin or Cantonese dialects. They differ in pronunciations but convey identical meanings and therefore unlikely to influence cultural sensitivity.

Exclusion criteria

- Focused on childhood onset heart diseases (rheumatic heart disease and congenital heart disease)
- Non-cardiac specific and general information on medication management and lifestyle
- Health conditions other than heart disease (e.g. diabetes, hypertension, and stroke), or were designed primarily for healthcare professionals.

Assessment

Eligible resources were assessed by three independent reviewers (J.L.L, K.J, and L.Z) fluent in Chinese, with an expert healthcare background. The resources were summarised based on topics, source, title, language (written and spoken), format, and length by J.L.L. All reviewers assessed each resource using two appraisal tools; Ensuring Quality Information for Patients (EQIP) and the Cultural Sensitivity Assessment Tool (CSAT).[29,30] Results produced by the reviewers were compared to identify discrepancies. In the event of significant differences, a mediator with healthcare background was available to re-evaluate the disputed score. If an audio-visual file was presented in both Mandarin and Cantonese dialects, it was reviewed as a single resource to avoid duplication because the meanings are the same, therefore are treated the same. The same rule applied to written information available in both traditional and simplified texts.

Ensuring Quality Information for Patients (EQIP)

The EQIP tool is a validated 20-item questionnaire developed in 2004 by health informatics and nursing professionals for assessing the quality of written texts and images on a range of health topics.[29] Moult et al. rated health information using EQIP and the validated assessment tool DISCERN.[31] EQIP demonstrated good preliminary validity and reliability, Kendall's τ B rank correlation between EQIP and DISCERN was 0.56 (P = 0.001). EQIP was initially used to assess paper-based written health information but has since been used to assess various forms of online health information including dermatology[32] and diabetes[33]. EQIP questions assess three domains: content (questions 1, 10, 15-20), identification (questions 11-13), and structure (questions 2-9, 14).[29] Responses to EQIP questions occur in a 4-tier scoring system: "yes" (fulfils criteria, 1 point), "partly" (somewhat fulfils criteria, 0.5 points), "no" (criteria unmet, 0 points), and "not applicable" (not counted in final scoring). A specific formula is used to calculate an overall percentage score, which then provides direction for action as detailed in Box 1.

Box1: EQIP scores and associated recommendations

76% or above:	continue to stock the resource and review in two to three years
51% to 75%:	review in one to two years
26% to 50%:	immediate review and replace within 12 months
0 to 25%:	immediate removal from circulation

Cultural Sensitivity Assessment Tool (CSAT)

CSAT is a 31-item questionnaire designed to assess the level of cultural sensitivity of cancer information material for African-Americans.[30,34] While CSAT was intended for assessing cancer material, the main assessment domains are not cancer-specific. CSAT is used because it is the only published numeric instrument for assessing the cultural sensitivity of health information. It has been adopted by research literature to assess health information for Jewish, First Nations, Black/Caribbean, and East Indian minority populations.[35,36]

Box 2: CSAT assessment domains and minimum index score	
Assessment domains	Format (3 items)
	Written message (11 items)
	Visual presentation (16 items
Overall evaluation	Calculated based on mean score of assessment domains
Minimum index score	>2.5 (min=0, max=4)

CSAT has three assessment domains and an overall evaluation, as shown in Box 2.[30] A Likert scale is used to indicate acceptability by intended audience (4 = very acceptable, 3 = acceptable, 2 = unacceptable, 1 = very unacceptable, 0 = not applicable). Scores calculated for each domain are averaged to obtain the overall score (range 0-4). To qualify as acceptable for use in an ethnic community, a resource must score >2.5; higher scores are regarded as more culturally sensitive.

Synthesis

Statistical Package for the Social Sciences (SPSS) (Version 21.0) was used to analyse the data. Descriptive statistics, including frequencies, percentages, and means, were tabulated for questionnaire items measuring quality and cultural sensitivity. EQIP and CSAT scores presented were mean scores calculated from 3 assessors. Inter-rater reliability was not calculated due to statistical constraints arising from the small sample size.

RESULTS

From a total of 107 resources, 33 eligible resources were identified from the American, Australian, and Canadian Heart Foundation websites and the links to these materials are provided in the references (Tables 1-3). The British Heart Foundation and the National Heart Foundation of New Zealand did not feature Chinese-language information at the time of the review, which is a potential limitation to information access as there are sizeable Chinese populations in the UK and New Zealand. Areas of CVD addressed were CHD (n=20),

arrhythmias (n=7), and heart failure (n=6). Nil resources on valvular heart disease (n=0). The surface-level cultural references used included images of Chinese persons (pamphlets, n=2[37,38]; videos, n=4[39-42]), characters speaking Chinese dialects (audio files, n=3[43-45]; videos, n=4[39-42]), images of Chinese foods (pamphlet, n=1[37], video, n=1[40]). The deep-level cultural references used included balancing the elements of "yin/yang", "heat/cold" (n=0), healing through traditional foods and exercise (video, n=1[40]), traditional medicine (n=0).

CHD

There were 20 resources on CHD covering heart attack (n=9), interventions (n=3), women and heart disease (n=2), medication (n=2), recovery (n=2), medical tests and imaging (n=1), and angina (n=1) (Table 1). Information on CHD was offered in a variety of formats, which included written text, graphics and images, and audio-visual. Of the 5 audio-visual resources, 4 were in both Cantonese and Mandarin, and the remaining resource was only available in Mandarin. Most resources on CHD were in pamphlet-type printable format (n=15), and contained written and/or visual information. There were significant variations between length and comprehensiveness of the resources, for instance, the audio files were <5 minutes, whereas the video files were between 18-22:22 minutes.

The quality of the information on CHD was satisfactory, with a mean EQIP score of 68% (Table 1). The highest EQIP score (85%) was received by a lifestyle intervention resource related to heart attack.[40]

All resources met the minimal score for cultural sensitivity in each domain: mean scores for format, written message and visual message domains were 3.33, 3.10 and 3.20 respectively and the overall mean was 3.19. Only one resource, on CHD tests and imaging, scored <2.5 for cultural sensitivity in the visual message domain.[39] Audio resources (n=3)[43-45] could not be assessed for cultural sensitivity because CSAT is not applicable to audio format. Resources containing only written text (n=11),[46-56] could not be reviewed for visual message.

The written message was the least culturally sensitive component of CHD resources (mean 3.10). The resource on lifestyle intervention for heart attack was the only exception that made multiple culturally specific references and had the highest CSAT score (3.71).[40]

Arrhythmias

There were 7 resources on arrhythmias with topics ranging from definitions of atrial fibrillation (n=2), devices (n=2), arrhythmia (n=2), to medication (n=1) (Table 2). Information on arrhythmias was offered in text, graphics and images, and video formats. The video resources were in both Cantonese and Mandarin but accompanying written content was only available in traditional text. Most of the resources on arrhythmias were pamphlet-type printable format (n=6), using written text and graphic/images. Printable resources had consistent word lengths (718-1000 words). Information quality was also satisfactory, with a mean EQIP score of 68% (Table 2). The highest EQIP score (81%) was for a video resource on arrhythmia among Chinese patients.[41]

All resources were assessed as culturally sensitive for format (mean 3.37), written message (mean 3.06) visual message (mean 3.05) and overall score (mean 3.18). Purely text-based resources (n=5) could not be assessed for cultural sensitivity of visual message.[57-61] For arrhythmia resources, the visual message was the least culturally sensitive component.[41]

The resource titled “arrhythmia among Chinese patients” was the only arrhythmia resource to make specific cultural reference to Chinese communities.[41] The most culturally sensitive resource with the highest CSAT score (3.51) was on atrial fibrillation.[62]

Heart Failure

There were 6 resources on heart failure addressing living with heart failure (n=3), heart failure definition (n=2), and interventions (n=1) (Table 3). Information on heart failure interventions covered both primary and secondary preventions.[63] Resources were offered in

text, graphics and images, and video formats. The video resource on heart failure intervention was presented in both Cantonese and Mandarin, but the accompanying written content was simplified text.[63] Most resources on heart failure were pamphlet-type and printable (n=5) and presented in written and/or graphics formats. Length and comprehensiveness varied from short infograms (~708 words) to longer pamphlets (~2,500 words).

Quality of information was satisfactory, with a mean EQIP score of 70% (Table 3). The highest EQIP score (84%) was received by the heart failure intervention video.[63]

Mean CSAT scores all achieved culturally sensitivity for format (3.72), written message (3.29), visual message (2.77) and overall score (3.26). Visual message was the least culturally sensitive component of heart failure resources. Text-based resources without any graphs/images (n = 2) could not be assessed for cultural sensitivity in the visual message domain.[64,65]

There were no specific cultural references to Chinese communities in any resource. The most culturally sensitive resource (CSAT score of 3.61) was on heart failure action plan.[66]

DISCUSSION

Heart Foundations are among the key sources of tailored education resources for diverse patient populations.[27] We found multiple Chinese-language web-based resources on CHD, arrhythmias and heart failure for Chinese immigrants who live in predominantly English-speaking countries. The quality of these resources is adequate and they are largely culturally sensitive. However, resources are not available for certain key topics including CVD complications, and valvular heart disease even though it is disproportionately higher in Chinese immigrants (17.6%)[8] than those living in China (2.05%).[9] Also, for arrhythmia and

heart failure there are significantly fewer resources, and a notable lack of information related to risk factors, medical investigations, lifestyle interventions, and recovery/rehabilitation.

Information gaps are one of the most commonly reported pitfalls of online health information[26,33,67], and contribute to persistent knowledge deficits in immigrants/ethnic minorities.[58] For instance, similar quality assessment study by Bastos et al. on Portuguese-language online myocardial infarction (MI) and stroke information, found large variations in the coverage of disease definition, pathophysiology, and complications specific knowledge areas.[26] Our study also found CVD complications to be absent from current resources, which is particularly disadvantageous for Chinese immigrants given their low baseline CVD knowledge.[13] Our study adds to existing quality assessment research by focusing on minority-language resources in a predominantly English-speaking environment. Similar study was conducted by Liu et al. on online cardiopulmonary resuscitation information for US-based Spanish-speakers.[68] Importantly, Liu et al. and our study both assessed resources from leading providers such as the AHA and identified information gaps.[68] As both Bastos et al. and Liu et al. pointed out, information gaps can undermine information quality and leads to differences in health outcomes.[26,68]

Literature that reviewed quality such as studies on Spanish-language health resources did not assess cultural sensitivity.[68] Cultural assessment studies have not been done in Chinese immigrants, therefore our study is the first one to examine evidence-based CVD resources for both quality and cultural sensitivity in relations to Chinese immigrants. Few of the resources featured surface-level Chinese cultural references, and deep-level cultural references were rarely used. Surface-level references are important for helping a population to identify with the health information and deep-level references are important for engaging the users and more likely to lead to behaviour changes.[20] Resources without cultural references are essentially direct translations of Western medical norms, that Chinese immigrants tend to disassociate from because of cultural misalignment.[19,69] In contrast,

resources with familiar visual, linguistic, and conceptual references are more acceptable and more likely to influence health behaviors and health perceptions in the targeted population[22]. Providing Chinese-language CVD information is important for those with low English proficiency, but not enough to support learning. Thus, knowledge deficits and misconceptions will continue to exist, despite the availability of translated CVD information.[69,70]

Study limitation

Online health information is frequently amended; there may have been changes made to these resources since the final review that would result in different EQIP and CSAT scores. Also, our study did not use professional translators to examine the resources in full linguistic detail. The strength of EQIP in this regard is that it provides recommendations on the appropriate timeframe for content update/replacement based on the quality scores. The pitfall is that EQIP does not actually prescribe a cut-off or "failing grade" index. Thus, it is difficult to judge available resources for quality given the lack of a standardised cut-off point.

Implications

Diversity in patient population contributes to complexity in healthcare communications and affects, in particular, healthcare providers' ability to provide appropriate patient education.[71] Due to the gaps in resources, healthcare providers may have difficulty finding comprehensive, evidence-based and culturally appropriate CVD information even if they seek well-trusted sources such as Heart Foundations. Depending on country setting, they may need to use a range of methods and sources such as professional translators for knowledge transference. Future research is needed for a systematic and collaborative approach to designing tailored education resources for Chinese immigrants to break down communication barriers and improve CVD knowledge.[72] In addition, to our knowledge there is yet to be systematic analysis of the cultural sensitivity of CVD resources even though

health beliefs and practices are strongly culturally mediated. Researchers also struggle to assess cultural sensitivity in health information as there are no validated numeric assessment tools and no agreed tools considered ideal for this purpose.[36]

CONCLUSION

Although Chinese-language CVD patient resources are available, there is no information on valvular heart disease. And there is inconsistent supply in key knowledge areas including information on risk factors, medical investigations, lifestyle interventions and recovery/rehabilitation of arrhythmias and heart failure. The British and New Zealand Heart Foundations do not have Chinese-language resources although they are popular destinations for Chinese migration. Quality and level of cultural sensitivity are adequate, but few resources used surface-level culturally references and deep-level references are rarely used. Comprehensive, high-quality CVD resources tailored for Chinese immigrants, and their cultural needs, are urgently needed across the spectrum of CVD.

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Figure1: Chinese language information from national heart foundations search flowchart

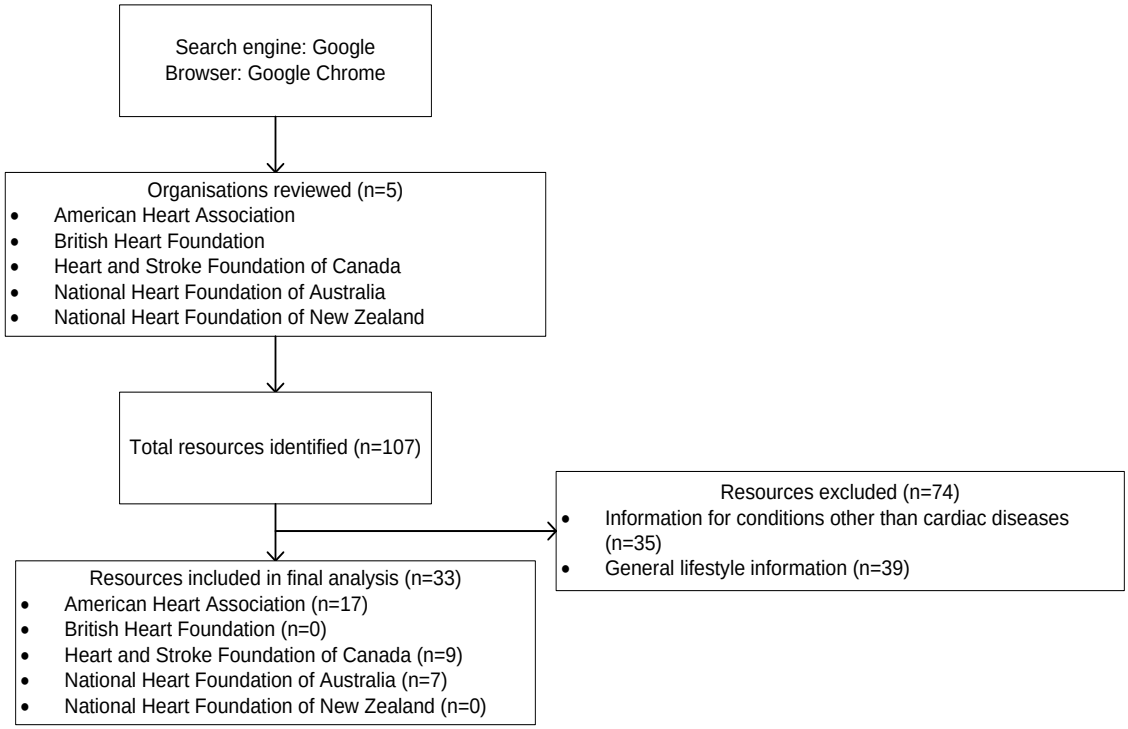

Table 1: Quality and cultural sensitivity of Chinese-language resources for coronary heart disease

Topics and Title	Language				Format				Length*	EQIP scores	CSAT scores**			
	Cantonese	Mandarin	Traditional	Simplified	Written	Graphs and images	Audio	Video		%	Format	Written message	Visual Message	Overall
Angina														
What is angina?[46]			✓	✓	✓				906 words	60	3.22	2.95	N/A	3.09
Women and Heart Disease														
Women and heart disease[37]			✓	✓	✓	✓			800 words	66	3.39	2.87	3.12	3.13
CVD and women[43]	✓	✓					✓		1:55-2:44 mins	67	N/A	N/A	N/A	N/A
Heart Attack Definition														
What is heart attack and stroke?[47]			✓	✓	✓				1,066 words	64	3.22	2.95	N/A	3.09
Heart Attack Action plan														
Heart attack and action plan[44]	✓	✓					✓		1:52-2:28 mins	67	N/A	N/A	N/A	N/A
Heart attack action plan[48]			✓	✓	✓				70 words	72	3.56	3.50	3.42	3.49
Intervention prevention and risk factors[45]	✓	✓					✓		2:22-2:45 mins	70	N/A	N/A	N/A	N/A
Heart Attack Signs and symptoms														
Will you recognise your heart attack?[73]			✓	✓	✓	✓			1,600 words	68	3.67	3.37	3.33	3.46
Signs of heart attack[74]			✓	✓	✓	✓			70 words	65	3.56	3.19	3.10	3.28
What are the signs and symptoms of heart attack[49]			✓	✓	✓				835 Words	67	3.11	3.17	N/A	3.14
Heart Attack and Lifestyle interventions														
Taking control (video)[40]	✓	✓	✓					✓	18 mins	85	3.66	3.68	3.80	3.71
Taking control (text)[38]			✓		✓	✓			9,000 words	74	3.61	3.06	3.18	3.28
Tests and imaging														
Common tests and imaging for heart disease and stroke[39]		✓		✓				✓	22:22mins	68	3.00	3.14	(2.46)	2.87
Intervention														

What is coronary artery bypass surgery?[50]	✓	✓	✓	705 words	60	3.22	2.91	N/A	3.07
What is coronary angioplasty?[51]	✓	✓	✓	1,035 words	66	3.22	2.98	N/A	3.1
What is stenting?[52]	✓	✓	✓	1,048 words	66	3.22	2.98	N/A	3.1
Medication									
What is cholesterol-lowering medication?[53]	✓	✓	✓	1,008 words	69	3.22	2.92	N/A	3.07
What is blood pressure lowering medication?[54]	✓	✓	✓	692 words	67	3.22	2.90	N/A	3.06
Recovery									
How to recover from heart attack[55]	✓	✓	✓	678 Words	73	3.22	3.09	N/A	3.16
How to recover from heart surgery?[56]	✓	✓	✓	1,080 words	69	3.22	3.04	N/A	3.13
EQIP Overall mean: 68%									

Table 2: Quality and cultural sensitivity of Chinese-language resources for arrhythmias

Topics and Title	Language				Format				Length*	EQIP scores	CSAT scores**			
	Cantonese	Mandarin	Traditional	Simplified	Written	Graphs and images	Audio	Video		%	Format	Written message	Visual Message	Overall
Atrial Fibrillation Definition														
What is atrial fibrillation?[57]			✓	✓	✓				724 words	66	3.39	2.92	N/A	3.16
Afib[62]			✓		✓	✓			1,000 words	69	4.00	3.25	3.28	3.51
Medication														
What is anti-coagulant and anti-platelets medication?[60]			✓	✓	✓				917 words	71	3.22	3.02	N/A	3.12
Arrhythmia Definition														
What is arrhythmia?[59]			✓	✓	✓				846 words	65	3.22	2.99	N/A	3.11
Implanted Devices														
What is implantable cardioverter defibrillator (ICD)?[64]			✓	✓	✓				718 words	66	3.22	3.08	N/A	3.15
What is pacemaker?[61]			✓	✓	✓				966 words	65	3.22	3.08	N/A	3.15
Chinese arrhythmia patients-overview????														
Arrhythmia among Chinese patients[41]	✓	✓	✓					✓	17:19-27:54 mins	81	3.32	3.10	2.81	3.08
EQIP Overall mean: 68%														

Table 3: Quality and cultural sensitivity of Chinese-language resources for heart failure

Topics and Title	Language				Format				Length*	EQIP scores	CSAT scores**			
	Cantonese	Mandarin	Traditional	Simplified	Written	Graphs and images	Audio	Video		%	Format	Written message	Visual Message	Overall
Definition														
What is heart failure[64]			✓	✓	✓				955 words	70	3.22	3.31	N/A	3.27
Understanding heart failure[75]			✓		✓	✓			2,500 words	65	4.00	3.29	(2.33)	3.21
Living with Heart Failure														
Signs and symptoms														
Living with heart failure[65]			✓	✓	✓				708 words	70	3.22	3.31	N/A	3.27
Action plan														
Living well with chronic heart failure[66]				✓	✓	✓			1,557 words	79	3.89	3.32	N/A	3.61
Heart failure zones[38]			✓		✓	✓			800 words	77	4.00	3.46	3.25	3.57
Intervention														
Primary & secondary prevention														
Medication														
Surgery														
Ground breaking paradigm on heart failure[38]	✓	✓	✓					✓	26:33-36:28 mins	84	4.00	3.04	2.73	3.26
EQIP Overall mean: 70%														

*word counts of written resources are approximations

EQIP: Ensuring Quality Information for Patient questionnaire [0-25%=immediate removal from circulation; 26-50%=review immediately and replace in 12 months; 51-75%= review in 12 to 24 months; ≥76%=high quality, keep and review in 24 to 72 months]; CSAT: Cultural Sensitivity Assessment questionnaire [minimum index score=2.5; <2.5=culturally insensitive; >2.5=culturally acceptable]

**CSAT tool is not applicable to audio-based information