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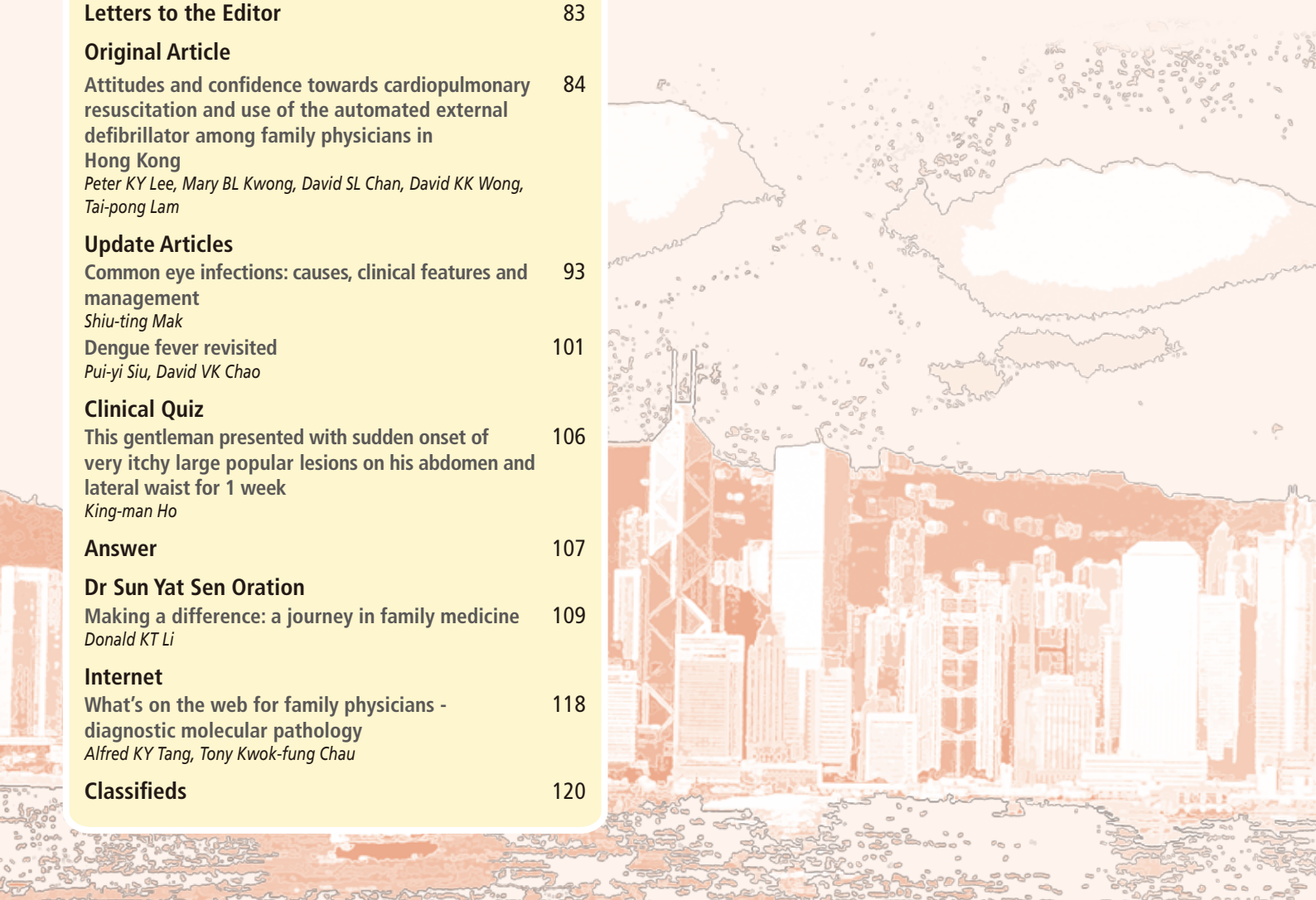

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The importance of continuing professional development in family medicine

Weng-yee Chin 陳穎怡

This issue of The Hong Kong Practitioner highlights the diverse range of problems that family doctors in Hong Kong are called to deal with, from common eye conditions and tropical infection to acute cardiac events requiring defibrillation and resuscitation. Maintaining such diverse skills and competencies is an enormous challenge, and as highlighted in Dr Donald Li's 26th Dr Sun Yat Sen Oration, *"Doctors have to work harder than ever before to stay at the forefront of their fields and to earn trust from their patients....."*.

We all want to be familiar with the latest developments in medicine and be able to offer our patients excellent and informed care. The role of Continuous Professional Development (CPD) is to keep doctors updated to help them remain competent throughout their career. This process of continuous learning also helps to improve our discipline as a whole. In many countries, such as the United States, Canada and the United Kingdom, CPD is mandatory for the revalidation of a doctor's practicing license. The United Kingdom General Medical Council (GMC) launched mandatory revalidation for all medical professionals in 2012, a process by which all licensed doctors must demonstrate regularly that they are up to date, fit to practice, and providing quality care. United Kingdom doctors are now required to maintain a portfolio of supporting information that provides evidence on how they are meeting the profession's values.[1] Within the region, Singapore implemented compulsory Continuing Medical Education (CME) programme in 2003.[2] In Hong Kong, non-specialist doctors are encouraged to join a CME programme, whilst mandatory CPD is imposed for specialists.

Whilst participating in CPD activities is generally accepted as an important component of being a medical professional, demonstrating the

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impact of complex interventions such as CPD within a real world setting remains a significant challenge. To date, most of the evidence for the impact of CPD activities has typically been based on evaluations which report the changes in doctor's perceptions or attitudes, or on their satisfaction with the learning process. Whilst many studies have found a positive correlation between reading and attending courses and subjective coping or job satisfaction, there is an ongoing debate about what types of CPD activities are more effective in enhancing quality of care and patient outcomes.[3]

Some believe that continuous medical education should not be viewed as separate from patient care. Rather, questions about patient care should provide the context for learning. It is important therefore that bodies who regulate CME and CPD accreditation understand how primary care doctors might wish to receive credit for self-directed learning and support doctors to maintain their competencies by allowing them easy access to high-quality resources, teaching them how to use it, and giving them credit for doing so.[4] Over the last decade doctors in Norway have spent less time on attending courses and more time on medical reading. This changing pattern of professional self-learning may reflect a more general individualistic trend in society.[5]

Recent research suggests that CPD tends to be more effective when it is integrated with appraisal, linked to personal development plans and aligned with organisational objectives.[3] CPD is more effective when time is provided for individuals to reflect on their learning after its completion. It is also more effective when organisational support is provided to facilitate changes to the way doctors practice following completion of such activities.[3] Audits have been shown to be an effective strategy for creating behaviour change in doctors especially if they include targeted feedback.[6] Group and peer review type interventions have also been shown to be feasible and effective.[6]

As family doctors we must always strive to improve outcomes for our patients. Well-designed CPD activities are important in helping clinicians maintain their competencies so that they can deliver high quality care. Careful consideration needs to be made about what a CPD programme entails, to ensure that the efforts made in fulfilling CPD requirements are effective in enhancing patients' health outcomes. ■

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Letters to the Editor

Dear Editor,

I read with interest the article on male urinary tract infection in primary care in your June 2015 issue. I have the follow comments to make.

The authors did not indicate whether the analysis was performed only on culture positive cases. I suspect that there might be patients having lower urinary tract symptoms with negative culture.

The authors had not addressed the possibility of sexual transmitted diseases as causes of UTI in young males. Conventional urine culture would not be able to detect Neisseria gonorrhoea or Chlamydia trachomatis infections. Making a diagnosis basing on MSU culture would miss STD as a cause of UTI.

In older males, prostatitis and LUTS should be excluded and Amoxicillin-Clavulanate combination may not be the right choice for empirical treatment.

Base on the sensitivity results, if one uses Amoxicillin-Clavulanate combination as treatment, the 70% response rate may be too low for a family physician treating male UTI.

UTI in males usually is considered complicated in contrast to UTI in females. It will warrant further investigations and follow up; besides giving the appropriate antibiotic for a sufficient duration.

Finally, the number of patients was too small to make any useful guideline for a family physician who works in a private clinic. There may be more patients having STDs who do not want to be treated in the public settings.

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Reference

Kai-lim Chow *et al*. Are we choosing the correct antibiotic to treat male urinary tract infection in primary care? - A cross-sectional study. *Hong Kong Pract* 2015;37:51-57

Authors' reply

Dear Editor,

We would like to thank Dr Ho for his letter.

We agree with Dr Ho that urinary tract infections in male are considered as a complication in urinary tract infections in general. Therefore, in our study, all male patients presenting with acute lower urinary tract symptoms were offered investigations with mid-stream urine culture and antibiotics sensitivity test. In our study, we only included those culture positive cases. For symptomatic patients with negative culture results, we offered follow up with further clinical assessment and they were excluded from our study.

We also think that sexually transmitted disease (STD) and prostatitis are the differential diagnoses for acute lower urinary tract symptoms. In fact, our doctors would ask about the history for STD and prostatitis in male patients with lower urinary tract symptoms. In this retrospective study, our patients who were suspected to have sexually transmitted disease or prostatitis by the attending physician were offered further investigations and were all excluded in our study.

In our study, 70% of the positive culture urine specimens responded to Amoxicillin-Clavulanate which was higher compared to using Nitrofurantoin. This finding supports our viewpoint that antibiogram from the hospital might not be a very accurate reference for primary care.

We addressed and pointed out that our sample size was a limitation of our study. Further studies involving more centres could be considered in order to produce more generalisable results. Moreover, collaboration with hospital microbiology departments in the future can produce a more comprehensive analysis. ■

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Attitudes and confidence towards cardiopulmonary resuscitation and use of the automated external defibrillator among family physicians in Hong Kong

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Summary

Objective: *To investigate the attitudes and confidence towards cardiopulmonary resuscitation (CPR) and using the automated external defibrillator (AED) amongst family physicians in Hong Kong.*

Design: *A questionnaire survey*

Subject: *Members of the Hong Kong College of Family Physicians*

Main outcome measures: *Self-reported attitudes, confidence, concerns and perceived educational needs towards CPR and AED.*

Results: *178 completed questionnaires were received (response rate 11.7%). The majority of respondents had positive attitudes towards CPR/AED. 79% thought that AED was an essential clinic equipment. 87% felt that clinic staff should be familiar with CPR, and 96% felt that CPR/AED skills should be kept up-to-date. The majority of respondents were also confident in performing CPR either within the clinic (88%) or in the street (79%), and in using an AED in resuscitation (79%). A significant proportion of respondents were concerned about risk of infection from victims during CPR (58%), risk of injury to victim or oneself (37%), and risk of being sued (25%). The majority of respondents also perceived the need for regular CPR/AED training (93%). Respondents working in the public sector were more confident to use AED, less concerned about injury and agreed more that AED was considered an essential clinic equipment and clinic staff should know CPR. Respondents with CPR certification were more confident to perform CPR, to use AED, and agreed more that clinic staff should know CPR.*

Conclusion: *Most respondents recognised CPR and AED skills as important and felt confident to perform resuscitation. Those with exposure to training felt more confident in performing CPR and using an AED, irrespective of their qualifications and whether or not in possession of post-graduate qualifications. Most respondents expressed the need to receive regular CPR/AED training to update the skills. A significant proportion of respondents still had concerns about risks associating with CPR/AED, but the perceived risks could be reduced through education and training.*

Keywords: *attitudes, confidence, cardiopulmonary resuscitation, automated external defibrillator, family physician, Hong Kong*

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摘要

目的：調查香港家庭醫生對心肺復蘇（CPR）和使用自動體外除顫儀（AED）的態度與信心。

設計：問卷調查

研究對象：香港家庭醫學學院成員

主要測量內容：自我報告的對於CPR和AED的態度、信心、憂慮以及接受相關學習的必要性。

結果：共收到178份完成的問卷（應答率11.7%）。大部分應答者對CPR/AED的態度積極。79%的人認為AED是診所的基本設備；87%的人覺得臨床人員應熟悉CPR；96%的人

認為應不斷更新CPR/AED的技能（96%）。大部分應答者還對在診所內（88%）或街頭（79%）進行CPR有信心，對使用AED進行復蘇有信心者佔79%。有相當比例的應答者擔心在CPR過程中有可能被傷者感染（58%）、有可能傷害到傷者或自己（37%）、有可能引起訴訟（25%）。大部分應答者認為有必要定期接受CPR/AED培訓（93%）。在公立機構工作的應答者對使用AED更有自信，對AED導致的傷害擔心更少，認為AED屬於診所的基本設備，診所臨床人員應該瞭解CPR。已獲得CPR證書的應答者對進行CPR、使用AED更自信，並認為診所人員應瞭解CPR。

結論：大多數應答者認識到CPR和AED技能的重要性，並有信心進行復蘇操作。凡受過培訓者，無論其資格如何、是否具備大學後學歷，都對進行CPR和使用AED更有自信。大多數應答者都認為有必要定期接受CPR/AED培訓，以更新自己的技能。相當比例的應答者仍對CPR/AED相關的風險感到擔心；可以通過學習和培訓減少他們的擔心。

關鍵字：態度，信心，心肺復蘇，自動體外除顫儀，家庭醫生，香港

HK Pract 2015;37:84-92

Introduction

In recent years, the local community had heightened awareness of sudden cardiac death, as highlighted in the news about athletes' sudden deaths during the annual Hong Kong Marathon. The importance of cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) is increasingly being recognised both within the healthcare profession and in the community.

Sudden Cardiac Death (SCD) is defined as "unexpected natural death from a cardiac cause within a short time period, generally < 1 hour from the onset of symptoms, in a person without any prior condition that would appear fatal".[1] It is most frequently caused by sustained ventricular tachycardia (VT) or ventricular fibrillation (VF) that can be successfully reversed or aborted through timely intervention (e.g. defibrillation).

Time to defibrillation is critical: the earlier defibrillation is performed the better the survival rate.[2,3] Among VF patients, every minute that passes from time of collapse to resuscitation and/or defibrillation reduces the chance of resuscitation and survival by 7-10%.[4] For cases that have collapsed for more than 4-5 minutes, performing CPR before defibrillation increases survival rates.[5,6] Very few victims of SCD have survived if defibrillation was performed 8 minutes or more after arrest.[7]

Despite advances in medical technology and treatment modalities, the survival rate for resuscitated outside-of-hospital Sudden Cardiac Arrest (SCA) patients is only about 33%.[2,3] Only 10% are ultimately discharged alive and well from hospital, and many suffered permanent neurological impairment.[2,3,8] The most critical element that influences the outcome of a SCA is the elapsed time prior to effective resuscitative restoration (return of spontaneous circulation).

Four main factors that can contribute to reducing the elapsed time[9]:

1. Rapid emergency medical service response
2. Bystander CPR
3. Early defibrillation
4. Automated external defibrillators

Emergency ambulance services in Hong Kong are provided by the Fire Services Department, with a target response time of 12 minutes; the target was met 93.4% of the time in 2014.[10] The recommended response time target of 8 minutes for SCD can be achieved if bystanders, frontline medical personnel like family physicians, nurses and police, who should have CPR and AED skills, are the first responders to situations where a SCD event occur. They can keep the victim's circulation going until emergency services personnel arrive with resuscitation equipment.

Family physicians in Hong Kong, either working in the public or private sectors, are amongst the frontline staff to respond to victims of accidents, collapsed or unconscious victims, or those with a SCD event. CPR skills, and the knowledge of how to operate an AED if available, are vitally important to provide early and maintain resuscitation long enough until emergency services arrives, potentially improving outcome.[9]

There is no local data on the incidence of SCD in primary care clinics, but overseas studies found that it is not uncommon for primary care doctors to handle SCD cases. Johnston *et al*.[12] showed that 20% of general practitioners (GPs) surveyed in Queensland, Australia had managed at least one SCD case in the preceding 12 months. In Denmark, 29% of GPs surveyed had a

SCD in the clinic.[13] In Ireland, Bury *et al*.[14] found 36% of practices surveyed were involved in a SCD during a 5-year period, and 13% had more than one case.

This survey was designed to explore Hong Kong family physicians' attitudes and concerns towards CPR and AED, so that providers of CPR and AED training in Hong Kong can maximise CPR and AED education, confidence amongst doctors and their willingness to act. This will benefit the community by maximising the penetration of CPR and AED skills within the medical community, and ultimately reducing the mortality and morbidity rate for those unfortunate to suffer from SCD.

The Hong Kong College of Family Physicians (HKCFP) was chosen to be the target group in this study because its members include family physicians working both in the public as well as the private sectors in Hong Kong.

Objective

The objective was to find out the attitudes and confidence of performing CPR and AED use amongst family physicians in Hong Kong, and to identify areas that require further attention to help maximise education and training of CPR and AED use.

Methods

A one page questionnaire survey containing 12 questions and demographic data (**Appendix A**) was designed. The first 3 questions were on attitudes, another 3 questions on self-perceived confidence, then 5 questions on concerns and lastly 1 question on education needs. Answers were graded on a 5-point Likert scale from "strongly disagree" to "strongly agree". The questions on demographics collected information on age group, gender, year of graduation, post-graduate qualifications, type of practice, CPR certification and whether the clinic worked in had a bag-valve-mask and staff with CPR training. Relevance and content validity of the questionnaire were reviewed by experienced family physicians in the HKCFP Board of Education, and readability and test-retest reliability were pilot-tested on 10 family doctors.

Ethical approval was obtained from The University of Hong Kong Human Research Ethics Committee for Non-Clinical Faculties (Ref. number EA251013) prior to commencement of the survey.

Data collection

1,516 questionnaires were distributed by post via the monthly mailed newsletter of HKCFP to all College members and fellows. The first round response rate was only 3.0%. Hence a second round targeted distribution of the questionnaire was made to College members during educational meetings held by the College during March and April 2014. All respondents were informed that the survey was voluntary, and if anyone had already filled in the questionnaire before should not submit another questionnaire. The earlier questionnaires returned by members via facsimile or through the post were accepted up to end of June 2014.

Data analysis

Demographic and cross-sectional data were analysed by simple frequency statistics. Chi-square test was used to compare the responses of respondents grouped into clinic types, possession of CPR certificate, and having postgraduate family medicine qualifications.

Results

180 questionnaires were collected, amongst which 2 were excluded because of incomplete data. Therefore 178 questionnaires were analysed, giving a response rate of 11.7%.

(A) Demographic data

The gender distribution of the respondents was comparable to the overall HKCFP member population, while higher proportions of respondents had obtained FHKAM or FRACGP/FHKCFP qualifications. The majority of the respondents graduated in Hong Kong (73.7%). 46.3% and 46.9% worked in the public and private sector respectively. Although 71% were CPR and/or AED certificate holders, only 21.8% had previous resuscitation experience. 44.5% of clinic staff had CPR training. The availability of a bag-valve-mask in the workplace was high (85.3%) (**Table 1**).

(B) Summary of responses

Respondents generally had a positive attitude towards CPR/AED (Q1-Q3). 96% respondents agreed

or strongly agreed that CPR and AED skills should be updated regularly. 78.5% agreed that AED was an essential clinic equipment, and 86.5% thought that clinic staff should know CPR. The majority of respondents were also confident in performing CPR either within the clinic (88.2%) or in the street (79.2%), and in using an AED in resuscitation (79.2%) (Q4-Q6). 58% of respondents were concerned about risk of infection from victims during CPR, 37.1% feared risk of injury to victim or oneself, and 24.7% feared risk of being sued (Q7-Q11). 93.2% of respondents perceived the need for regular CPR/AED training to update the skills (Q12) (**Table 2**).

(C) Inferential statistics

Chi-square test of independence was used to analyse the data by looking at three key factors:

(i) Did the type of workplace (public vs private) affect a family physician's attitudes and confidence in performing CPR and use AED?

(ii) Did having past training for CPR and/or AED affect a family physician's attitudes and confidence in performing CPR and use AED?

(iii) Did a postgraduate family medicine qualification affect a family physician's attitudes and confidence in performing CPR and use AED?

Table 1: Demographics data

	Respondents	All HKCFP members
Gender		
Male	122 (69.3%)	**985 (65.0%)**
Female	54 (30.7%)	**531 (35.0%)**
Highest qualification		
FHKAM	63 (35.4%)	**418 (27.6%)**
FRACGP/FHKCFP	37 (20.8%)	**237 (15.6%)**
DFM	16 (9.0%)	
Others	17 (9.6%)	
Nil	45 (25.3%)	
CPR/AED Cert		
Yes	125 (71.0%)	
No	51 (29.0%)	
Resuscitation experience		
Yes	38 (21.8%)	
No	136 (78.2%)	
Ambubag in clinic		
Yes	151 (85.3%)	
No	26 (14.7%)	
Clinic assistants CPR		
Yes	77 (44.5%)	
No	96 (55.5%)	

	Respondents
Age	
≤ 30	15 (8.5%)
31-40	66 (37.3%)
41-50	30 (16.9%)
51-60	31 (17.5%)
>61	35 (19.8%)
Place of graduation	
Hong Kong	126 (73.7%)
Outside HK	45 (26.3%)
Years since graduation	
≤ 5 years	11 (6.8%)
6-10 years	20 (12.4%)
11-15 years	39 (24.2%)
16-20 years	19 (11.8%)
>20 years	73 (44.7%)
Practice type	
Public	82 (46.3%)
Private	83 (46.9%)
NGO	3 (1.7%)
Retired	5 (2.8%)
Others	4 (2.3%)

Gender: Two respondents failed to specify their gender; total gender group = 176.
Age: One respondent did not specify age; total age group = 177.
Place of graduation: Seven respondents failed to specify place of graduation; total place group = 171.
CPR certificates: Two respondents failed to answer this question; total certificate group = 176.
Resuscitation experience: Four respondents failed to answer this question; total experience group = 174.
Ambubag: One respondent did not specify; Ambubag total group = 177.
Clinic assistants: Five respondents did not answer this question; total clinic assistants group = 173.
Years after graduation: Sixteen respondents failed to answer this question: total year group = 162.
Practice type: One respondent failed to answer this question; total practice type group = 177.

Table 2: Summary of responses

Question	Response (%)				
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Attitude					
1. CPR and AED skills should be updated on a regular basis to retain these skills.	1.1	0.6	2.3	39.5	56.5
2. An AED device is an essential piece of safety equipment in a medical clinic.	1.1	4.5	15.8	41.2	37.3
3. Clinic nursing staff should know CPR.	1.1	3.9	8.4	40.4	46.1
Confidence					
4. I am confident to perform CPR when confronted with a suspected Sudden Cardiac Arrest (SCA) victim in my clinic.	0.6	2.8	8.4	58.4	29.8
5. I am confident to perform CPR when confronted with a suspected (SCA) victim in the street.	0.6	6.2	14.6	56.7	21.9
6. I feel confident to use an AED device in a resuscitation setting.	0.6	5.6	14.6	57.9	21.3
Concern					
7. I am concerned about getting infection from the victim when performing CPR.	2.2	28.7	10.7	40.4	18.0
8. I am concerned that I could injure the victim or myself when performing CPR.	3.9	46.1	12.9	29.8	7.3
9. I am concerned that I could injure the victim or myself if I use an AED device during CPR.	6.7	60.7	12.4	16.9	3.4
10. I am concerned that I could be sued if I perform emergency CPR.	6.2	50.6	18.5	20.2	4.5
11. I am concerned that I could be sued if I use an AED device during CPR.	7.3	51.7	18.5	18.5	3.9
Education need					
12. I would feel more confident to perform CPR and use an AED device if I can update these skills regularly.	2.3	1.7	2.8	47.7	45.5

Table 3: Significant chi-square test results

Factors	χ^2 value	P value
Those working in public clinics:		
agree that AED is an essential clinic equipment	31.1	<0.001
agree that clinic nursing staff should know CPR	27.8	<0.001
feel confident to use AED in resuscitation	12.3	0.015
less concerned about injury caused by AED use	9.9	0.042
Those with CPR certification		
agree that clinic nursing staff should know CPR	21.7	<0.001
feel confident to perform CPR in clinic	18.8	0.001
feel confident to perform CPR in the street	15.6	0.004
feel confident to use AED in resuscitation	23.9	<0.001

The findings are shown in **Table 3**. Those working in the public sector were more confident in the use of AED (p=0.015), agreed that an AED is an essential clinic equipment (p<0.001), agreed clinic nursing staff should know CPR (p<0.001), and was less concerned about injury caused by AED use (p=0.042). Those with past CPR training felt more confident in using AED in resuscitation (p<0.001), agreed clinic nursing staff should know CPR (p<0.001), felt more confident to perform CPR in the clinic (p=0.001) or in the street (p=0.004).

For factor (iii), there were no statistically significant differences found between those respondents with postgraduate family medicine qualification and respondents' attitudes and confidence towards CPR/AED.

Discussion

While most respondents had positive attitudes and high confidence towards CPR and AED, over half were concerned about infection risk while performing CPR. This concern is understandable after the Severe Acute Respiratory Syndrome (SARS) in Hong Kong and should be addressed. Recently the effectiveness of "continuous chest compressions only" in CPR is widely studied worldwide in view of increasingly varied infectious epidemics such as Middle East Respiratory Syndrome in 2012, and Ebola in 2014. CPR training should include education on protection of rescuer, and make available personal protective equipment (PPE) (either in clinic or in public) at all time. Bhanji *et al*[11] showed that with adequate education about CPR and AED use, the willingness to perform CPR increases, and fear of infection can be overcome. Likewise, concerns about risk of injury or risk of being sued for performing CPR could be reduced through more education and training.

Respondents with CPR/AED certification were more confident to perform CPR both in clinic and in the street, were more confident to use an AED in resuscitation setting, and more likely to agree that clinic staff should know CPR. These findings supported the assumption that any person exposed to CPR/AED training and properly trained would feel more confident than those without in dealing with SCD victims.

While the majority of respondents had CPR/AED certification, the certificate of only one-third of them were currently valid. Amongst these respondents, 65.2% had higher postgraduate qualifications (DFM/ FRACGP/ FHKCFP/ FHKAM). Holding a valid CPR certificate was a pre-requisite for sitting the HKCFP diploma and fellowship examination. Understandably, after completing the examination, doctors no longer need to recertify themselves, and this is likely to be the reasons for the low rate. The importance of re-certification to maintain and update CPR/AED skills should be emphasised by the training authorities, by employers, and by the College.

Compared to family physicians working in the private sector, respondents who work in the public sector showed more confidence in using an AED, less concerned about injuring the victim or themselves when using an AED, and agreed more that clinic staff should have CPR training. This study did not explore the causes of the differences, but a few plausible reasons are suggested based on the authors' personal experiences:

(1) Higher availability of defibrillators and AED in public hospitals and clinics;

(2) Higher availability of internal CPR/AED training within the public sector (Hospital Authority and Department of Health);

(3) Organisational requirements to maintain CPR/ AED certification for healthcare staff in some units.

Conversely, family physicians in the private sector often work in solo or small group practices, and it is plausible that time and financial constraints could mean limited incentives to enrol themselves and their staff for CPR/AED training. Furthermore the availability of AED is likely to be lower among private clinics. The incidence of SCD within a private doctor's clinic are not uncommon[12-14] according the studies in other countries. Often, obtaining and maintaining CPR certification is an individual's choice. Training authorities should target the private sector to promote CPR/AED training, and both government and non-governmental organisations could provide more training opportunities or funding for training and AED installation, like what has already been done in various public access defibrillation (PAD) programs in Hong Kong.

Key messages

1. Most respondents recognised CPR and AED skills as important and felt confident to perform resuscitation.
2. Those with exposure to training felt more confident in performing CPR and using an AED, irrespective of their qualifications and presence of post-graduate qualifications.
3. Most respondents expressed the need to receive regular CPR/AED training to update the skills.
4. A significant proportion of respondents still has concerns about risks associated with CPR/AED, and these could be reduced through education and training.

It is common to find many questionnaire surveys suffer from the problem of low response rate. Our study appeared to have an unacceptable first round response rate of 3%. The final 11.7% response rate was also low. This would certainly cause a bias in the data collected. While the second round of data collection at College educational meetings had increased the overall response rate, it also made the self-selection bias to increase, because the attendees were likely to be more motivated to maintain up-to-date medical knowledge and skills. The low response rate could also reflect the lack of importance attached to CPR and AED skills amongst family physicians as a whole, because of the perceived chance of being involved with a SCD in clinic or in the street is low. But as shown from overseas studies[12-14], SCD is not uncommonly managed by doctors in primary care clinics.

Further research is indicated from this study to explore the knowledge and attitudes of CPR and AED training amongst all primary care doctors in Hong Kong. A cross-sectional study can also provide the incidence rate of SCD and CPR in primary care clinics. The results from this research should help guide the training providers for CPR and AED use in Hong Kong to modify teaching methods for health professionals, in order to improve uptake amongst the medical profession.

Conclusion

This study showed that most respondents recognised CPR and AED skills as important and felt confident to perform resuscitation. Those with exposure to training felt more confident in performing CPR and using an AED, irrespective of their qualifications and possession of post-graduate qualifications. Most respondents expressed the need to receive regular CPR/AED training to update the skills. A significant proportion of respondents still have concerns about risks associated with CPR/AED, including getting infection, injury to victim or oneself during CPR, and having medico-legal consequences. These barriers could possibly be reduced through education and training.

Acknowledgement

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Appendix A

Please answer all questions by ticking the appropriate box.

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Not applicable
1.	CPR and AED skills should be updated on a regular basis to retain these skills.	❒	❒	❒	❒	❒	❒
2.	An AED device is an essential piece of safety equipment in a medical clinic.	❒	❒	❒	❒	❒	❒
3.	Clinic nursing staff should know CPR.	❒	❒	❒	❒	❒	❒
4.	I am confident to perform CPR when confronted with a suspected Sudden Cardiac Arrest (SCA) victim in my clinic.	❒	❒	❒	❒	❒	❒
5.	I am confident to perform CPR when confronted with a suspected (SCA) victim in the street.	❒	❒	❒	❒	❒	❒
6.	I feel confident to use an AED device in a resuscitation setting.	❒	❒	❒	❒	❒	❒
7.	I am concerned about getting infection from the victim when performing CPR.	❒	❒	❒	❒	❒	❒
8.	I am concerned that I could injure the victim or myself when performing CPR.	❒	❒	❒	❒	❒	❒
9.	I am concerned that I could injure the victim or myself if I use an AED device during CPR.	❒	❒	❒	❒	❒	❒
10.	I am concerned that I could be sued if I perform emergency CPR.	❒	❒	❒	❒	❒	❒
11.	I am concerned that I could be sued if I use an AED device during CPR.	❒	❒	❒	❒	❒	❒
12.	I would feel more confident to perform CPR and use an AED device if I can update these skills regularly.	❒	❒	❒	❒	❒	❒

We wish to collect some demographic data:

Your age: ❒ ≤ 30 ❒ 31-40 ❒ 41–50 ❒ 51–60 ❒ >61

Gender: ❒ Male ❒ Female

Year of Graduation (basic medical degree): _____ Place obtained: ❒ Hong Kong ❒ Outside Hong Kong

Any higher qualifications (check all applicable): ❒ FHKAM ❒ FRACGP/FHKCFP (or equiv.)
❒ Diploma in Family Medicine ❒ Others ❒ Not Applicable

Current medical practice: ❒ Public Sector (HA/DH) ❒ Private ❒ Non-Government Organisation
❒ Retired ❒ Others _____

Do you hold a CPR and/or AED certificate? ❒ Yes ❒ No
Most Recent Year obtained? _____

Ever been involved in an Out of Hospital Resuscitation? ❒ Yes ❒ No How long ago? _____

Does your clinic have a bag-valve resuscitation mask (Ambubag)? ❒ Yes ❒ No

Are your clinic assistants CPR and/or AED certified? ❒ Yes ❒ No

Thank you for your valuable time in participating in this survey

Common eye infections: causes, clinical features and management

Shiu-ting Mak 麥兆婷

Summary

Eye infections can affect one or both eyes, and occur at any age. While some eye infections are mild and may even resolve without treatment, severe infections may result in permanent visual loss if not treated in a timely manner. Primary care physicians are often the first line of contact for patients presenting with eye infections. This article aims to review the causes, clinical features and management of eye infections commonly encountered in primary care practice.

摘要

眼部感染會影響一隻或兩隻眼睛，並可在任何年紀發生。一些輕微感染，或可不藥而癒。但嚴重的，若未能及時醫治，卻會引致永久性視力障礙。基層醫療醫生往往是眼部感染病人最早接觸的醫療人員。本文旨在評述基層醫療中常見眼部感染的成因、臨床徵狀和療法。

HK Pract 2015;37:93-100

Introduction

Eye infections are commonly bacterial or viral in nature. They may occasionally also be caused by fungi and rarely by parasites. Infections can involve the eye and/or the tissue immediately surrounding the eye, including eyelids and the lacrimal passages. Eye infections can affect one or both eyes, and may occur at any age. This article reviews the causes, clinical features and management of eye infections commonly encountered in primary care practice.

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Eyelid infections

Hordeolum and chalazion

Hordeolum is a common, painful inflammation of the eyelid margin that is usually caused by bacterial infection.[1] It may involve meibomian glands of the eyelids resulting in internal hordeolum, or hair follicles of the eyelashes resulting in external hordeolum, also known as stye. It commonly occurs following blockage of oil glands with secondary bacterial infection, most often Staphylococcus aureus.

Patients with hordeolum often present with a red, painful eyelid swelling. It has been suggested that size of the swelling is a direct indicator of the severity of infection.[2] The infection may spread to neighbouring ocular tissues and result in preseptal cellulitis. Recurrence is common, and is usually the result of failure to eliminate the existing bacteria completely rather than caused by new infections.[3] Persistent styes may lead to chronic inflammation resulting in formation of chalazion (**Figure 1a**).

Hordeolum often resolves on their own. Initial treatment is mainly conservative, involving application of warm compresses several times a day. Better eyelid hygiene is beneficial. Patients should be taught to dip a clean cleansing cotton into warm, boiled water, swiping it from the inner corner to the outer corner of the eye, gently scrubbing the eyelids especially the root of the eyelashes along the way. The cotton should be swiped along a single direction once only and must not be reused.

A topical antibiotic may be prescribed in conjunction to prevent spread of infection. The natural history of acute hordeolum generally spans one to two weeks.[1] If the condition is severe or resistant to conservative management, systemic antibiotics or surgical incision and drainage may be required (**Figure 1b**).

Figure 1a : Chalazion at right upper eyelid

Figure 1b : Incision and curettage of chalazion. The eyelid was everted and an incision was made over the chalazion with expression of pus

Blepharitis

Blepharitis, defined as inflammation of the eyelids, may be acute or chronic. Acute blepharitis is referred to as lid infection by some, and may be bacterial, viral, or parasitic in etiology.[4] It is commonly a result of Staphylococcal infection. The glands near the eyelid exhibit excessive oil production and create a favourable environment for bacterial growth.

Patients with blepharitis usually present with red eyelids, itchiness and irritation. Sometimes, crusts and scales may be found adhering to the base of the eyelashes (**Figure 2**). Staphylococcal blepharitis is characterised by erythema and edema of the eyelid margin. Telangiectasia may also be present on the anterior eyelid.[5]

The main stay of treatment involves eyelid hygiene, keeping the lids free from crusts and scales. Warm compresses and light scrubbing of the eyelids are useful. Lid scrubs consisting of saline or diluted mild shampoos can be applied to the affected area. These promote lid hygiene and clear any debris from the lid margin to initiate drainage. Furthermore, ingredients used in shampoos break down bacterial membranes, which helps to further decrease the presence of bacteria at the infection site.[6] Topical antibiotics provide symptomatic relief and are effective in clearing bacteria from eyelid margins. Studies have shown no differences between the types of topical antibiotics used.[5] In severe cases, oral antibiotics such as doxycycline may be required. Younger children should be prescribed erythromycin instead. Nevertheless, no treatment for blepharitis had been shown to be superior to others, hence patients should always be reminded of the importance of simple measures like eyelid hygiene and warm compresses.

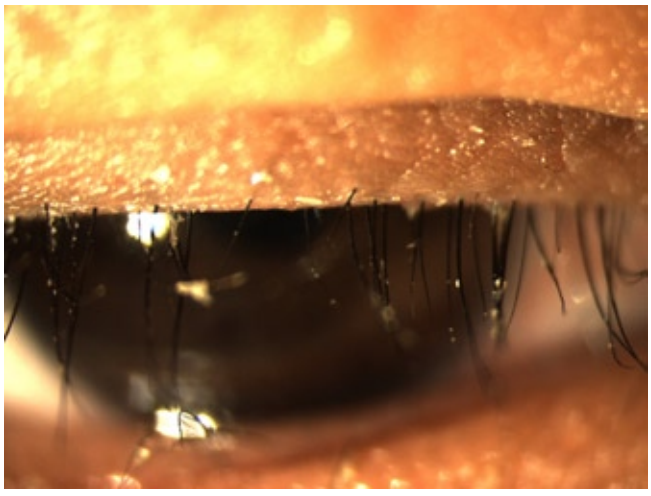
Infections of lacrimal system

Dacryocystitis

Dacryocystitis, an infection of the lacrimal sac, often occurs in patients with underlying nasolacrimal duct obstruction. It develops when bacterial overgrowth occurs in the stagnant fluid of the lacrimal sac. Studies have shown that dacryocystitis might be due to either single isolate or polymicrobial infections.[7] Staphylococcus and streptococcus are commonly involved.

Patients with dacryocystitis present with a painful swelling over the nasal aspect of the lower eyelid

Figure 2.: Blepharitis, demonstrating presence of crusts and scales adhering to the base of eyelashes



(**Figure 3**). They often have a history of chronic tearing due to underlying nasolacrimal duct obstruction. Recurrences are common. Purulent discharge may be expressed by applying pressure over the lacrimal sac.

Dacryocystitis may progress into preseptal cellulitis or even orbital cellulitis. Rupture of the abscess, either spontaneous or iatrogenic in nature, may result in fistula formation.[8]

Treatment includes topical and systemic antibiotics. Intravenous antibiotics are required in severe cases particularly when there is orbital spread, in which case surgical drainage would be the definitive treatment. Patients with underlying nasolacrimal duct obstruction are prone to have recurrences, and may benefit from dacryocystorhinostomy to recanulate the nasolacrimal duct.

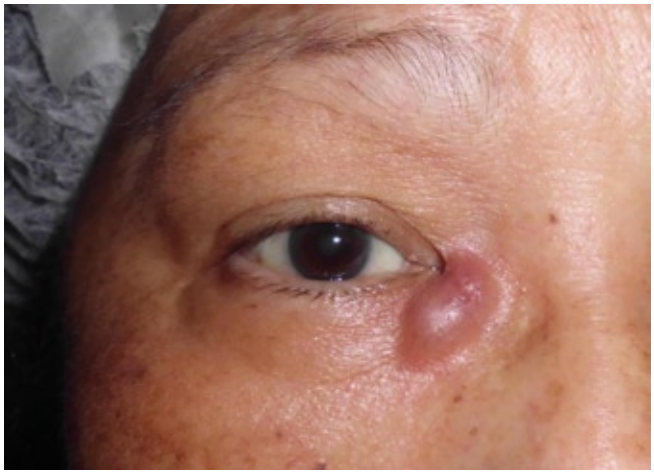
Infections of conjunctiva

Conjunctivitis

Conjunctivitis is characterised by dilatation of the conjunctival vessels, resulting in hyperaemia and oedema of the conjunctiva, typically with associated discharge.[9] Conjunctivitis can be divided into non-infectious and infectious causes (usually viral or bacterial). Most patients are initially treated by primary care physicians rather than ophthalmologists.[10,11]

Differentiation between viral and bacterial conjunctivitis may not be easy. In general, purulent or mucopurulent discharge is often due to bacterial conjunctivitis, whereas a watery discharge is more characteristic of viral conjunctivitis.[10]

Figure 3: Dacryocystitis with painful swelling over the nasal aspect of the right lower eyelid



Viral conjunctivitis

Viruses cause up to 80% of all cases of acute conjunctivitis.[10] Virus spreads through direct contact and is highly contagious especially among children. Viral conjunctivitis is most commonly caused by adenovirus[12] and is often bilateral. Patients present with itching, burning and foreign body sensation, redness, and watery discharge in one eye, involving the other within a few days. They often have a history of recent upper respiratory tract infection or contact with other people suffering from conjunctivitis. Examination may reveal palpable pre-auricular lymph nodes may be present.

Viral conjunctivitis is usually mild and self-limiting. Most uncomplicated cases resolve in around two weeks. No effective treatment exists, but artificial tears and topical antihistamines may provide symptomatic relief.[13] In the past, some clinicians would prescribe antibiotics for patients with viral conjunctivitis in view of the potential for co-infection or superinfection with bacteria. Today, experts hold the view that indiscriminate use of topical antibiotics will promulgate microbial resistance, medication toxicity or allergy.[12]

Patient education is very important in view of the contagious nature of the disease. Patients should be taught to avoid touching their eyes and sharing their towels with others. Frequent handwashing is necessary. Patients should also be advised of the possible prolonged disease course in terms of weeks to avoid them from expecting fast recovery.

Bacterial conjunctivitis

The staphylococcal species are the commonest pathogens among adult bacterial conjunctivitis, followed by Streptococcus pneumoniae and Haemophilus influenzae. In children, H influenzae, S pneumoniae, and Moraxella catarrhalis are more prevalent.[14] Typical findings include redness, presence of purulent or mucopurulent discharge and chemosis (conjunctival oedema).

Hyperacute bacterial conjunctivitis presents with severe copious purulent discharge and decreased vision, often accompanied by eyelid swelling, pain and pre-auricular adenopathy. It is often caused by Neisseria gonorrhoeae. Prognosis is worse and progression is rapid. It is associated with a high risk of corneal involvement and even perforation.

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Treatment of bacterial conjunctivitis involves use of topical antibiotics. There are no significant differences in achieving clinical cure between any of the broad-spectrum antibiotics eyedrops.[10] Factors that influence the choice of antibiotic include local availability, patient allergies, and cost. In Hong Kong, chloramphenicol or levofloxacin eyedrops are often prescribed for simple bacterial conjunctivitis.

In cases when gonococcal infection is suspected, treatment requires intramuscular or intravenous ceftriaxone. It is an ocular emergency and should be managed in a timely manner to prevent complications such as corneal perforation. The patient should also be screened for possible sexually-transmitted diseases.

Ophthalmia neonatorum

Ophthalmia neonatorum, or neonatal conjunctivitis, is defined as conjunctivitis occurring in a newborn during the first month of life. Although it can be viral in nature, sexually transmitted disease agents including Neisseria gonorrhoea and Chlamydia trachomatis are the major causes.

Gonococcal conjunctivitis typically presents as sudden, severe, purulent conjunctivitis in the first 3 to 5 days of life.[15] If left untreated, progression can be rapid resulting in ulceration, corneal perforation and hence blindness within 24 hours.[16] Patients should be hospitalised and prescribed intravenous or intramuscular ceftriaxone. The mother should also be screened and treated for gonorrhoea.

Chlamydia conjunctivitis can develop a few days to several weeks after birth, typically at 2 weeks of life. Presentation may vary from scant, mucoid discharge to copious, purulent discharge, conjunctival erythema, ocular edema, chemosis, or pseudomembrane formation.[17] There may be associated pneumonitis, otitis media and tracheitis. Treatment involves use of oral erythromycin.

Infections of cornea

Keratitis

This can be caused by bacterial, viral, fungal, parasitic or amoebic infection. In general, patients with keratitis present with a painful red eye, reduced vision and photophobia. The cornea may show a localised ulcer or abscess, and in severe cases the cornea may be diffusely oedematous and hazy (**Figure 4a**). Conjunctival involvement i.e. keratoconjunctivitis is not uncommon.

Corneal ulceration is an ophthalmic emergency and deserves immediate treatment and referral to an ophthalmologist. Nevertheless, the cause of the ulceration must be identified before commencing treatment because while some therapies are beneficial in certain situations, they may worsen the condition in others. For example, while steroid is the main stay of treatment for systemic or autoimmune diseases related keratitis, its inadvertent use may exacerbate infective keratitis particularly viral or fungal keratitis.

Viral keratitis

Viral keratitis is commonly caused by herpes simplex virus (HSV). The virus produces painful, thin, linear, branching lesions on the corneal epithelium with club-shaped terminal bulbs at the end of each branch, known as a dendritic ulcer (**Figure 4b**).[18]

Although HSV epithelial keratitis tends to be self-limiting[19], natural healing often takes longer than two weeks.[20] Acyclovir eye ointment is used as treatment, and systemic administration has not been shown to be beneficial.

Keratitis may occur in around 22-76% of patients with herpes zoster ophthalmicus (HZO).[24-27] HZO is the reactivation of varicella zoster virus (VZV) in the ophthalmic division of the trigeminal nerve. Presence of Hutchinson's sign, i.e. rash involving the tip of the nose due to involvement of the nasociliary branch of the ophthalmic division, signifies a higher risk of ocular involvement. It had been shown that its presence is a reliable prognostic sign of sight-threatening ocular complications in acute HZO.[23] Treatment requires use of systemic antiviral drugs.

Contact lens keratitis

Contact lens wear is a known predisposing factor for microbial keratitis. Pseudomonas aeruginosa is the commonest causative organism, followed by Gram-positive bacteria, fungi and acanthamoeba.[28] Patients usually present with eye pain, redness, photophobia, and tearing. They often reveal a history of poor contact lens hygiene, overnight contact lens wear, and swimming or taking a hot water bath while wearing contact lenses. A study had shown that disease load is reduced by 60-70% by avoidance

Figure 4a: Slit lamp photograph of a patient with bacterial keratitis showing presence of a corneal abscess with generalised corneal edema and haziness.

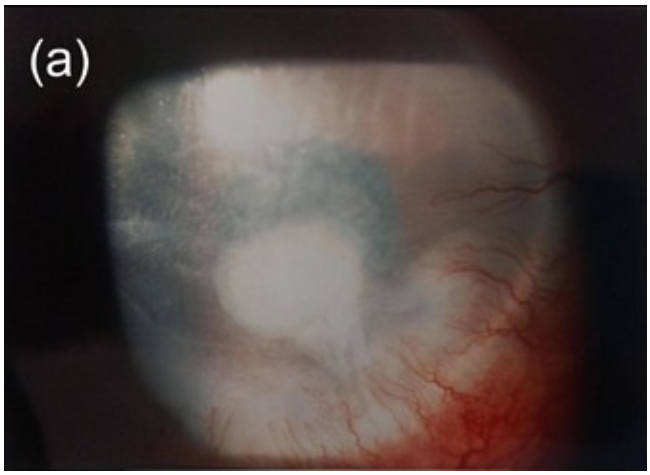
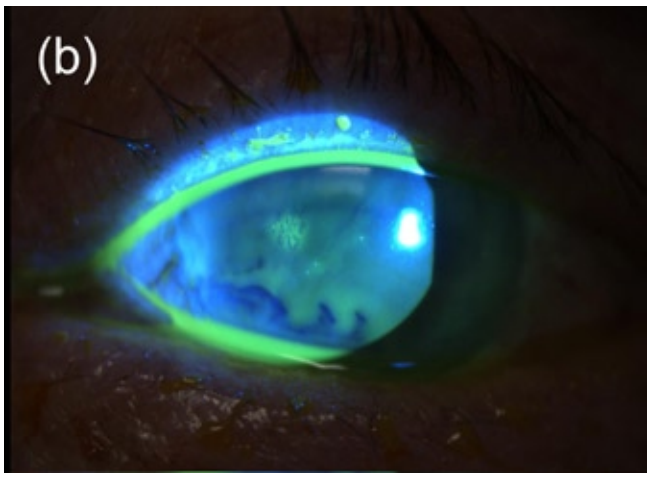


Figure 4b: Slit lamp photograph demonstrating a dendritic lesion on the cornea of a patient suffering from herpes simplex viral keratitis (with fluorescein stain)



of overnight contact lens use and attention to contact lens hygiene factors.[28]

Physicians must rule out keratitis in every contact lens wearer consulting for eye redness. Contact lens wearer should be advised to avoid overnight wear and wearing contact lenses while swimming. Good disinfection technique is also essential. Once contact lens keratitis is diagnosed, patients should refrain from contact lens use immediately. A corneal culture is often taken before starting intensive topical antibiotics. Sometimes admission is required for application of intensive fortified antibiotics and close monitoring. Treatment of acanthamoeba is unfortunately often ineffective.

Treated contact lens related keratitis may result in formation of corneal scars. In severe non-resolving cases, the cornea may perforate necessitating corneal transplantation.

Infection of eyeball

Endophthalmitis

Endophthalmitis refers to severe intraocular inflammation and the outcome is often devastating resulting in marked visual loss or even blindness. It usually occurs as a result of microbial infection. It can be due to exogenous or endogenous causes. Exogenous endophthalmitis is caused by inoculation of microorganisms from the external environment into the eyeball, most commonly as a complication of penetrating eye trauma and ocular surgery, including but not limited to cataract surgery.[29] Endogenous endophthalmitis is caused by hematogenous spread of infectious organisms from distant sites of the body, with Klebsiella urinary tract infection and liver abscess being the commonest sources among the local population.[30]

Patients with endophthalmitis present with visual blurring, eye pain, eyelid swelling, conjunctival redness, chemosis, and hypopyon (**Figure 5a**). B-scan ultrasound shows presence of hyperechogenic opacities in the posterior chamber of the eyeball indicating vitreous and posterior involvement (**Figure 5b**). Prompt diagnosis and hospitalisation is essential because the risk of blindness is very high.[30]

Cellulitis

Orbital (post-septal) cellulitis refers to infection of the tissues posterior to the orbital septum, including the fat and muscle within the bony orbit. Pre-septal cellulitis, on the contrary, refers to involvement of the tissues localised anterior to the orbital septum (including eyelid skin, muscle and superficial periorbital soft tissues). This distinction is important because orbital cellulitis, while less common, may be associated with significant visual and life-threatening sequelae.[32]

Pre-septal cellulitis may result from trauma, insect bites, underlying eyelid lesions such as chalazion, and iatrogenic causes such as eyelid surgery. Staphylococcus aureus, Streptococcus pyogenes, and Haemophilus influenzae are the common bacteria causing preseptal cellulitis.[33]

Figure 5a: Slit lamp photograph of a patient with endophthalmitis demonstrating presence of hypopyon in the lower part of the anterior chamber of the eye.

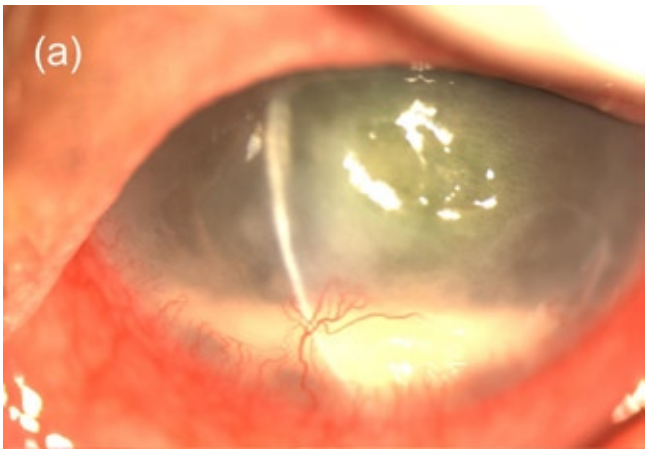
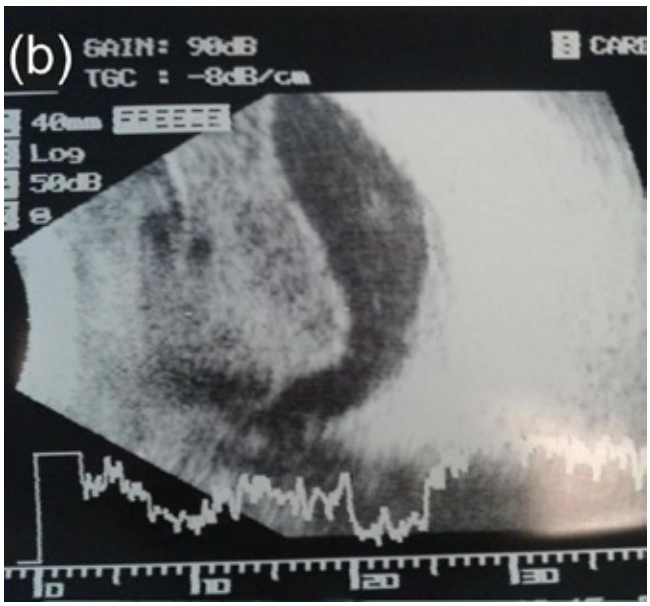


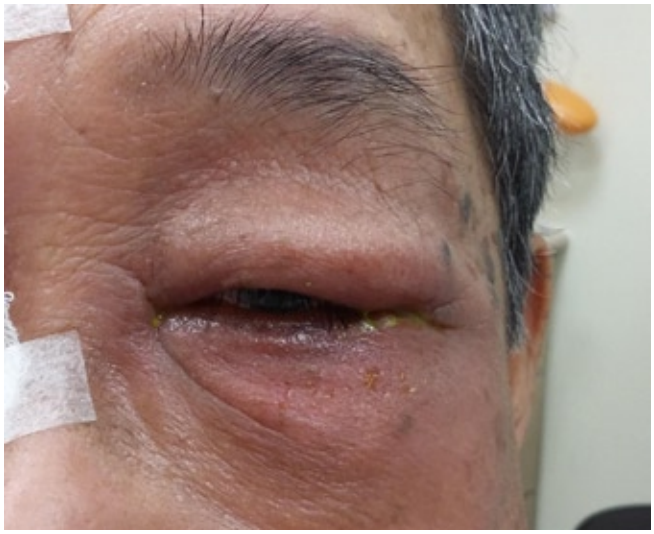
Figure 5b: B-scan ultrasound reveals presence of hyperechogenic opacities in the posterior chamber of the eyeball



It is characterised by eyelid swelling and erythema (**Figure 6**). Involvement is superficial and the orbit is not involved. Hence, patients' vision remains normal and there is no pain on eye movement. Outpatient management with oral antibiotics is the mainstay of treatment.

Pre-septal cellulitis may progress posteriorly into the orbit leading to orbital cellulitis. The infection most commonly originates from sinuses, eyelids, dental space, face, retained foreign bodies, or distant sources by hematogenous spread.[34] Patients present with eyelid swelling and erythema as in preseptal cellulitis, but since the orbit is involved, patients also suffer from chemosis, proptosis, blurring of vision, limitation in eye movement, and double vision.

Figure 6: Left eye pre-septal cellulitis. Note presence of eyelid swelling and erythema



If left untreated, orbital cellulitis may result in complications such as formation of periosteal abscess, brain abscess, cavernous sinus thrombosis, meningitis, septicaemia and even death. Hence, orbital cellulitis is an ocular emergency and patients should be referred immediately to an ophthalmologist for hospitalisation.

Conclusion

For patients with eye infections, many a time when medical care is sought, a general practitioner or a family physician is consulted before an ophthalmologist.[2,35] It is therefore important for primary care physicians to be familiar with the common eye infections encountered in daily practice. While many eye infections such as hordeolum and blepharitis are relatively mild and may even resolve spontaneously without treatment, some infections may be severe and may result in permanent visual loss if treated inappropriately. In case of doubt, timely referral to an ophthalmologist is warranted. ■

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Key messages

1. Hordeolum often resolves with application of warm compresses performing better eyelid hygiene.
2. No treatment for blepharitis had been shown to be superior to others, and the main stay of treatment involves promotion of eyelid hygiene and keeping the lids free from crusts and scales.
3. Viral conjunctivitis is usually mild and self-limiting. Treatment of bacterial conjunctivitis involves use of topical antibiotics. There were no differences among any of the broad-spectrum antibiotics eyedrops.
4. The cause of keratitis must be identified before commencing treatment. Treatment of viral keratitis requires antiviral drugs, while bacterial keratitis is treated with antibiotics eyedrops.
5. While many eye infections are relatively mild, some may result in permanent visual loss if treated inappropriately. In case of doubt, timely referral to an ophthalmologist is warranted.

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Dengue fever revisited

Pui-yi Siu 蕭珮儀，David VK Chao 周偉強

Summary

Dengue fever is a mosquito-borne viral infection prevalent in Southeast Asia. The incidence of dengue fever is increasing locally and globally. Although most of the infected people are asymptomatic or have mild symptoms, some may progress to severe infection with haemorrhage and shock. Early recognition of those with severe manifestations and timely supportive management could effectively reduce mortality to less than one percent. Since there is no effective vaccine or anti-viral agent against dengue fever, mosquito control measures are of paramount importance.

摘要

登革熱是一種由蚊子傳播的病毒性傳染病，盛行於東南亞。在全球和部份地區，它的發病率都在上升。雖然大部分受感染者都無病徵，或只有輕微症狀。但有些人卻會出現嚴重感染，出血和休克。盡早識別那些嚴重患者，並給予適時支援性治療能有效降低死亡率至少於百份之一。由於目前尚未有預防疫苗或抗登革熱病毒藥物，因此滅蚊工作至關重要。

HK Pract 2015;37:101-105

Introduction

Dengue is a mosquito-borne viral infection found in tropical and subtropical regions. Over the recent years, transmission has increased predominantly in urban and semi-urban areas. Three local cases of dengue fever (DF) in October and November 2014 have redrawn public attention to this communicable disease.

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Transmission

Dengue virus is a small single-stranded RNA Flavivirus with four distinct serotypes.[1] The various serotypes of the dengue virus are transmitted to humans through bites of infected female *Aedes* mosquitoes. The *Aedes aeqypti* mosquito, which is widely distributed around the world particularly in the tropical and subtropical regions, is the primary vector. Its peak biting periods are early mornings and before dusk. *Aedes aeqypti* is not found in Hong Kong, but the secondary dengue vector *Aedes albopictus* can also spread the disease. Incubation period varies from 3 to 14 days, commonly 4 to 7 days.[2]

Epidemiology

Dengue is the most rapidly spreading mosquito-borne viral disease globally. In the last 50 years, the incidence has increased 30-fold, with more new countries being affected. Up to 50-100 million infections are now estimated to occur annually in over 100 endemic countries, posing a threat to nearly half of the world's population.[3]

In Hong Kong, the number of DF has also increased over the past decade, with 31 to 83 cases reported per year from 2005 to 2010. Although the number dropped to 30 in 2011, the number rose to a new high of 111 in 2014.[4] Most cases were imported, but local cases had occurred in 2002, 2003, 2010 and 2014.

Clinical features

Infection with any one of the four dengue serotypes can lead to a wide spectrum of clinical presentations, ranging from a mild non-specific febrile illness to a severe syndrome of haemorrhage or shock.

DF is clinically characterised by a sudden onset of high fever, severe headache, retro-ocular pain, myalgia, arthralgia, anorexia, nausea and rash. However, up to 50%

may have no symptoms or signs. Some patients experience a benign clinical course of fever with mild non-specific symptoms, and recover fully without need for in-patient care. These patients are usually young children or those who acquired dengue for the first time. Unless dengue diagnostic serology or molecular testing is performed for these cases, the diagnosis would have remained undetected. Once recovered, immunity to that particular serotype of dengue virus will develop. However, subsequent infections with another serotype of dengue virus may lead to haemorrhage or shock.[1,2,6]

Some patients may develop severe dengue, which was previously known as Dengue Haemorrhagic Fever and Dengue Shock Syndrome. Severe dengue typically manifests after a two to seven-day febrile phase and is often heralded by clinical and laboratory warning signs. It progresses through three predictable pathophysiological phases:[1,6]

1. Febrile phase

Patient presents with viraemia-driven high fevers which can be up to 40-41°C. Mild haemorrhagic manifestations like petechiae and mucosal bleeding may be seen.

2. Critical/plasma leak phase

There would be sudden onset of varying degrees of plasma leak and haemorrhage into pleural and abdominal cavities, following the time when fever abates. Around the time of defervescence, it is important to look for evidence of plasma leak such as tachycardia, pleural effusion and ascites, since intravascular volume depletion and cardiovascular compromise may ensue if it is untreated.

3. Convalescence/reabsorption phase

In this phase, plasma leak during critical phase is reabsorbed and patient's wellbeing appears to improve and patient starts to recover.

A new WHO (World Health Organisation) classification was developed in 2009, which categorises the condition into "Dengue without Warning Signs", "Dengue with Warning Signs", and "Severe Dengue" (**Table 1**).[7]

Table 1: 2009 new WHO dengue case definitions

Clinical features

Dengue without warning signs

Fever and two of the following:

- Nausea, vomiting
- Rash
- Aches and pains
- Leukopenia
- Positive tourniquet tests

Dengue with warning signs

Dengue as defined above with any of the following:

- Abdominal pain or tenderness
- Persistent vomiting
- Clinical fluid accumulation (ascites, pleural effusion)
- Mucosal bleeding
- Lethargy, restlessness
- Liver enlargement > 2cm
- Laboratory: increase in HCT concurrent with rapid decrease in platelet count

Severe dengue

Dengue with at least one of the following criteria:

- Severe Plasma Leakage leading to :
  - Shock
  - Fluid accumulation with respiratory distress
- Severe bleeding as evaluated by clinician
- Severe organ involvement
  - Liver: AST or ALT ≥ 1000
  - Central nervous system: impaired consciousness
  - Failure of heart and other organs

Differential diagnosis

Table 2 summarises the differential diagnoses of patients presenting with suspected DF. As can be seen, because of similarity to other viral infections[1], diagnosis by clinical presentations alone may be difficult in the early febrile phase. A positive tourniquet test in this phase increases the probability of dengue.[1]

Investigations

Leukopenia is one clinical feature of dengue. Other features are an increased haematocrit with rapid decline in platelet count which are warning signs of shock and necessitate urgent hospitalisation.[7,10] Other basic laboratory tests such as liver function test can help to differentiate other diagnosis like hepatitis. However, severe dengue may also present with elevated liver enzymes.[7]

Laboratory testing for DF should be considered in the early phase for febrile patients with thrombocytopenia when there is no alternative diagnosis.[11] Diagnosis requires an acute phase serum sample (within 5 days of symptoms onset). If this sample is negative, a second convalescent serum sample (obtained from day 6 after the onset of symptoms) is necessary to confirm the case. Acute-phase samples will be tested by RT-PCR for virus detection and convalescent-phase samples will be tested for anti-dengue IgM antibodies by enzyme-linked immunosorbent assays (ELISA).[8]

Management

It is difficult to predict clinically whether a patient with DF will progress to severe form in initial febrile phase. Continuous assessments are necessary for early recognition of severe manifestations. Presumptive diagnosis of dengue

Table 2: Differential diagnosis of dengue fever

Conditions that mimic the febrile phase of dengue infection	
Flu-like syndromes	Influenza, measles, Chikungunya, infectious mononucleosis, HIV seroconversion illness
Illnesses with a rash	Rubella, measles, scarlet fever, meningococcal infection, Chikungunya, drug reactions
Diarrhoeal diseases	Rotavirus, other enteric infections
Illnesses with neurological manifestations	Meningo/encephalitis
Conditions that mimic the critical phase of dengue infection	
Infectious	Acute gastroenteritis, malaria, leptospirosis, typhoid, typhus, viral hepatitis, acute HIV seroconversion illness, bacterial sepsis, septic shock
Malignancies	Acute leukaemia and other malignancies
Other clinical pictures	Acute abdomen such as acute appendicitis, acute cholecystitis, perforated viscus; diabetic ketoacidosis, lactic acidosis, platelet disorders, renal failure, systemic lupus erythematosus

Table 3: General measures for preventing mosquito-borne diseases

Reduce mosquito breeding sites by preventing accumulation of stagnant water:

- Change water for plants at least once a week, keep saucers underneath flower pots dry.
- Cover tightly all water containers, wells and water storage tanks.
- Dispose all objects that are able to contain water such as cans and boxes.
- Ensure air conditioner drip trays are free of stagnant water.
- Keep all drains free from blockage.

Avoid mosquito bite:

- Wear loose, light-coloured, long-sleeves tops and pants.
- Apply mosquito repellent containing DEET according to label instructions.
- Avoid applying odour-producing cosmetics such as perfume/ body lotion during outdoor activities.
- Use mosquito screens or bed nets when the room is not air-conditioned.
- Place anti-mosquito devices near possible entrance such as window.

without warning signs should be made for febrile patients who have travelled to endemic areas with two or more features as listed in **Table 1**. In a primary care setting, suspected cases should have dengue serology arranged and be reported to the Centre of Health Protection's Central Notification Office. Patients fulfilling clinical and epidemiological criteria of DF should be admitted[5], since viraemic patients can be a source of DF transmission[9] and spread of the disease.

Febrile persons with non-specific symptoms but without a clear travel history or epidemiological link, should be monitored for warning signs as listed in **Table 1**. Patients should be sent to the Accident and Emergency Department (A&E) if dehydration or warning signs are present. Otherwise, investigations as stated above can be arranged for diagnostic purposes. While waiting for laboratory results, paracetamol can be prescribed to control fever. Ibuprofen, aspirin or aspirin-containing drugs should not be used. Patients and their family should be advised to prevent dehydration by encouraging adequate fluid intake. They should also be advised to seek medical attention if warning signs appear.[1,10]

There is no pharmacological therapy specific for dengue. DF is mostly self-limiting and treatment is given for symptomatic relief. Patients with severe dengue should be treated promptly with supportive treatment. Most of the complications that arise during the critical period, such as haemorrhage and metabolic abnormalities, are frequently related to prolonged shock. Therefore, the mainstay of treatment is to maintain circulating fluid volume and support vital systems until plasma leak subsides. Fortunately, the critical phase lasts no more than 24 to 48 hours. With appropriate and timely management, mortality rate is less than 1%.[2]

Prevention

There is currently no effective vaccine for dengue fever. Therefore the best preventive measure is to reduce or eradicate mosquitoes and avoid mosquito bite. **Table 3** suggests general measures on preventing mosquito-borne diseases.[2]

DEET containing insect repellent is protective against mosquito bite. However, these should be avoided in children under 6 months of age. **Table 4** provides precautions of using DEET containing insect repellents.[12,13]

Conclusion

Dengue fever activities remain high in Southeast Asia, including the various popular tourist attractions for Hong Kong people. Although most of the dengue cases in Hong Kong were imported, local cases have occurred. Dengue fever may progress to haemorrhagic shock with severe and fatal complications. Family physicians have important roles in early identification of warning signs, as well as patient education to prevent mosquito-borne infections. ■

Table 4: Precautions of using DEET containing insect repellents.

Precautions for general population

- Apply repellents only to exposed skin and/or clothing (as directed on the product label). Do not apply repellent under clothing.
- Never use repellents over cuts, wounds or irritated skin.
- Do not apply repellent spray directly on face, spray on hands first and then apply to face and avoid applying to eyes or mouth. Apply sparingly around ears.
- Wash treated skin with soap and water when returned indoors.
- Wash the clothes exposed to insect repellents.

Precautions for children

- Use lower concentration of DEET – up to 10%.
- Do not allow children to handle the product. Apply to adult's own hands and then put it on children.
- Do not apply to young children's hands.
- Roll-on preparations are preferable to sprays.
- Spray repellents in open areas and do not allow children to breathe in.

Precautions for pregnant and nursing women

- Same as general population.
- Nursing mother should wash repellents off their hands and body before breastfeeding their infants.

Key messages

1. DF is characterised by high fever, nausea and vomiting, rash, pains and leukopenia. Symptoms of dengue are similar to those of many other viral infections. A positive tourniquet test increases the probability of DF.

2. Patients should be sent to the Accident and Emergency Department if dehydration or warning signs occur.

3. Laboratory testing for DF should be considered during the early phases for febrile patients with thrombocytopenia when there is no alternative diagnosis.

4. While waiting for laboratory results, paracetamol can be prescribed to control fever. Ibuprofen, aspirin or aspirin-containing drugs should not be used.

5. Although some patients with DF only experience a benign clinical course of disease, patients with viraemia can be a source of transmission of DF. To prevent further spread of the disease, febrile patients confirmed to have DF should be hospitalised.

6. Reducing mosquitoes and avoiding mosquito bites are the best preventive measures for DF.

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This gentleman presented with sudden onset of very itchy large papular lesions on his abdomen and lateral waist for 1 week

King-man Ho 何景文

Readers are invited to participate in the Clinical Quiz. A prize draw, sponsored by Pfizer Corporation Hong Kong Limited, will be undertaken among the successful entries. For entry into the draw, simply answer the question, fill in the reply slip and return it to the College by 20 November 2015. Each reader is allowed to submit one entry only. The name of the winner and the answer will be published in the December 2015 issue.

Clinical history:

This gentleman presented with sudden onset of very itchy large papular lesions on his abdomen and lateral waist for 1 week. Apart from these skin lesions, he was otherwise well.

What was the clinical diagnosis?

A. Herpes zoster
B. Bed bug bites
C. Vasculitis
D. Urticaria

The Hong Kong Practitioner
Clinical Quiz – September / 2015

Answer :

Name : _____

Tel. No. : _____

Address : _____

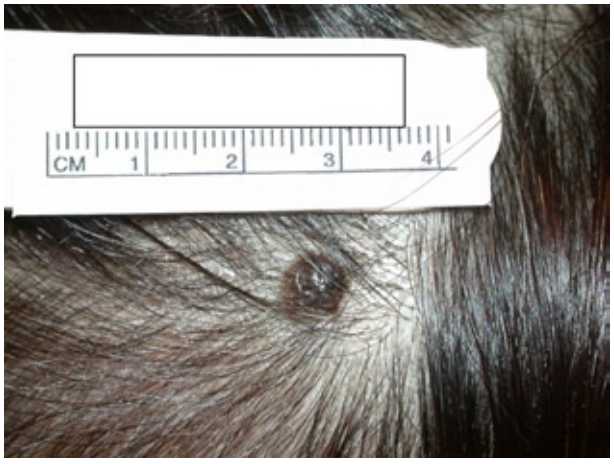
_____

Date : _____

Please send your answer to :- **HKCFP**
Room 803-4, 8/F, HKAM Jockey Club Building, 99 Wong Chuk Hang Road, Aberdeen, Hong Kong.

The slide and the question were prepared by:
Dr King-man Ho, FRCP (Glasg, Edin), MRCP (UK), FHKCP, FHKAM (Medicine)
Consultant Dermatologist-in-Charge,
Social Hygiene Service, PHSB, CHP, DH

Answer to last month's Clinical Quiz



Question:

This middle age lady presented with asymptomatic plaque on her scalp for a few years. The lesion slowly increased in size initially and remained stable.

Answer:

D. Seborrhoeic wart

The clinical photo showed a well demarcated pigmented plaque with dilated pores on the surface of the lesion.

Seborrhoeic keratosis is a common benign skin growth in the middle aged and elderly. As some of these lesions have more warty surface, the term seborrhoeic wart and senile warts are thus also coined to describe this condition. Although it is regarded as a feature of ageing skin, lesions may occur in the middle age people and occasionally in those of younger age. The body and face are the sites of predilection. It is a benign condition without malignant potential. The number can range from a few to many. Lesions may vary in their size and colour and a patient may have lesions in various stage of development at presentation. The retained cornified material renders a waxy feeling to the lesions. Some lesions may have the classic stuck on appearance and in fact for these lesions, the affected patient may report that they may sometimes remove part of the lesion by scratching or pricking and occasionally reports that the material removed has a texture like "plasticine". There may be horn cyst demonstrated in the histology in those well developed lesions as shown in this clinical photo. There are also clinical variants like irritated seborrhoeic wart that may present with symptom and sometimes an inflamed base. For the flat variants, they may just look like senile lentigo.

Basal cell carcinoma (BCC) may present with pearly papule on the face. With the exception of a few syndromic diseases such as Gorlin syndrome, the affected patient may present with a solitary or limited number of lesions on the skin. Dilated capillary may be seen in the typical pearly papule in BCC. The BCC pearly papule is slow growing and may end up with a small ulcer with rolled edge, the rodent ulcer. As the pigmented variant of BCC is common in Chinese, these pearly papules can be more vividly described as "black pearl" though the pigmentation may not be very homogenous. As excessive sunlight exposure is related to BCC, it seldom presents in a hairy scalp as in this patient.

Both the doctors and patients may worry about melanoma whenever there is a pigmented growth on their skin. Acrolentiginous melanoma is the most common subtype in Chinese. Though this subtype does not necessarily present on the hands and feet as the name implies (this is defined by histological criteria), most will present in the extremities. Though it is commonly taught that if there are certain changes observed in a mole, one need to alert of the possibility of malignant change in a mole, many acrolentiginous melanomas arise de novo. To teach the patient to observe the classic description of melanoma is not as easy as to teach the classic ABCDE (A: asymmetry, B: border irregularity, C: colour variegation, D: diameter larger than 0.6 cm, and E: evolution of lesion) to the medical students. It may be easier to tell the patient that if there is any asymmetry of lesion in terms of border, outline, colour, profile and sudden changes in symptoms or signs, they should seek the advice of a doctor.

Common warts are infection of the glabrous skin by the human papillomavirus (HPV) type 2 and 4 among other subtypes. The typical lesion is a papule with a hyperkeratotic cauliflower surface. Lesion may sometimes appear in clusters and subsequently matted together to form irregular small plaque. When the surface hyperkeratosis is pared, the underlying thrombosed capillary may be seen as black dots. A linear array of common warts may sometimes be seen and these are resulted from scratching

of a solitary mother lesion and thus results to plantation of virus in the linear excoriations. This is known as Koebner phenomenon. The scalp is not uncommonly involved, probably because scratching of the scalp is a common habitual behaviour in many people and the resulted minor trauma facilitates HPV infection of the skin on the scalp. To differentiate from seborrhoeic wart, the papule and hyperkeratosis in common warts are much more adherent and thus more difficult to be scraped away as in seborrhoeic wart.

The colour, waxy surface and "stuck-on appearance" are clues for the diagnosis of seborrhoeic wart. Further investigation is not required in an otherwise typical case. As the number of lesions can be more than a few, it is impractical to biopsy all these lesions.

The winner of the June 2015 Clinical Quiz is **Dr Hui Ka Ling Karen**

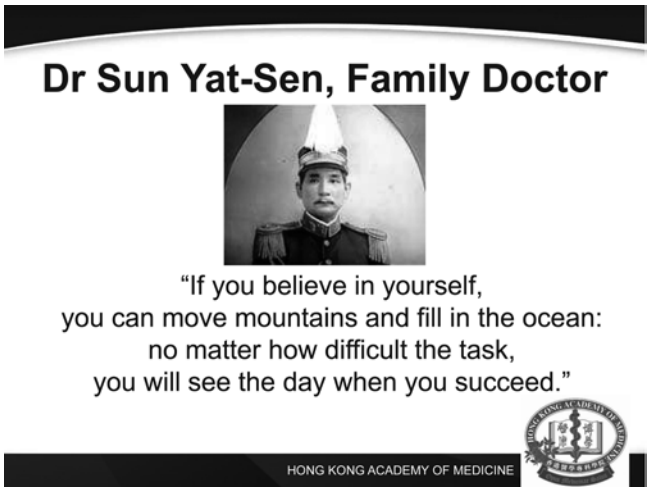
Proactive treatment is not usually required for seborrhoeic keratosis. For those who are particular concerned to cosmesis, it is important to discuss with them the expectant cosmetic outcome after ablative treatment. For smaller lesions, cryotherapy may be tried but running the risk of post treatment dyspigmentation. For larger lesions, curettage or shave excision are treatment options. Ablation by carbon dioxide laser is another option for thick lesion whereas QS 532 laser may be an option for thin lesion. A combination of these two laser modalities can be used. As seborrhoeic keratosis is an epidermal lesion and thus the more aggressive treatments involving the dermis should be adopted with caution because of the risk of scarring. The index patient who insists on treatment because of aesthetic reason may not be satisfied with the cosmetic end result especially for lesions on the face. For lesion with a clinical diagnosis of seborrhoeic keratosis however for whatever reason the clinician thinks that histology is required, shave biopsy is preferred. If the clinical diagnosis of skin cancer is contemplated, a proper incisional or excisional biopsy is preferred. ■

Making a difference: a journey in family medicine

Donald KT Li 李國棟

President and Council Members of the Hong Kong College of Family Physicians, President of the Royal Australian College of General Practitioners, Fellows, Members, New Fellows, Distinguished Guest, Ladies and Gentlemen:

It gives me great pleasure to deliver this 26th Dr Sun Yat Sen Oration, and to witness the College's 28th Fellowship Conferment Ceremony.



It is a special honour for me to speak here, myself being a Family Physician, in private medical practice, a Fellow of this College, and currently President of the Hong Kong Academy of Medicine. My journey to this point is perhaps symbolic of the increasing respect and recognition within the professional and wider community that our specialty has steadily been gaining in Hong Kong. And, in turn, it reflects the evolving status and leadership role of our unique specialty worldwide. Individually and collectively, Family Physicians can enjoy a satisfying and fulfilling career. Those reaching a milestone in their professional journey tonight as new Fellows have much to celebrate. But the future holds many challenges.

Doctors have to work harder than ever before to stay at the forefront of their fields and to earn trust from their patients, especially owing to the fast pace of changing public perceptions and evolving technology. Now, straight away, I can attest to the new graduates of the College that it is true that you never stop learning, and indeed you cannot ever stop learning. This has become increasingly important since the start of this new millennium, as many professions worldwide, including Medicine, have made Continuing Professional Development compulsory and emphasised the need to personally take regular stock of your learning goals and achieved outcomes. Doing so helps you develop personally and helps your profession gain respect and continue to address expectations from patients, society, and government.

As Academy President for more than 2 years and in my capacity before that as President for the Asia Pacific Region for the World Organisation of Family Doctors, I have been fortunate to attend conferences in all corners of the globe. In my travels to both developed and developing nations, not only have I

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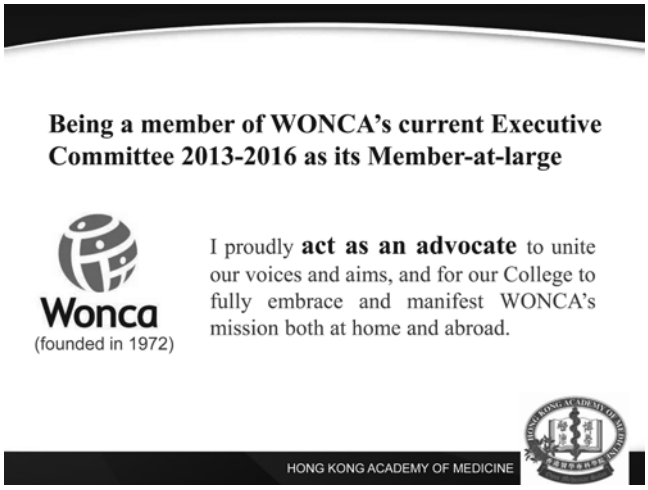
myself learnt professionally from various educational meetings, but I have also learnt from being exposed to different cultures and from seeing how things are done in different places. In particular, I have keenly observed the commonalities and differences in health care systems, as well as in the training and continuing education of medical professionals and especially Family Physicians. I have learnt about what has worked well and what has not worked so well, and it has been my duty to constantly think of ways of applying what I have learnt to the communities I serve.

Tonight, I would like to share with you some insights of my professional journey so far, and what I have noticed in the changing relationship between Family Medicine and various aspects of our complex environment. What is clear to me is that much has changed since I first started learning Medicine in the 1970s. I can indeed conclude the only constant thing is change. Once qualified, we cannot be complacent, storage vessels of knowledge and wisdom. Technological, cultural, and demographic developments are among the many factors that have a considerable influence on how we practise Family Medicine, how our value is perceived, who our patients are, why they present to us, and what they expect. We must be engaged, proactive, and adaptive in order to keep being efficient and effective in making an observable and measurable positive difference in our communities.

It was, in fact, in the 1970s that the world really started to pay attention to Family Medicine and its importance in helping to achieve equity in health care. The World Organisation of Family Doctors or WONCA was established in 1972 to represent our profession internationally and to raise its profile such as by interacting with the World Health Organisation.

As a member of WONCA's current Executive Committee as its Member-at-large, I proudly act as



an advocate to unite our voices and aims, and for our College to fully embrace and manifest WONCA's mission both at home and abroad.

The WONCA mission is:

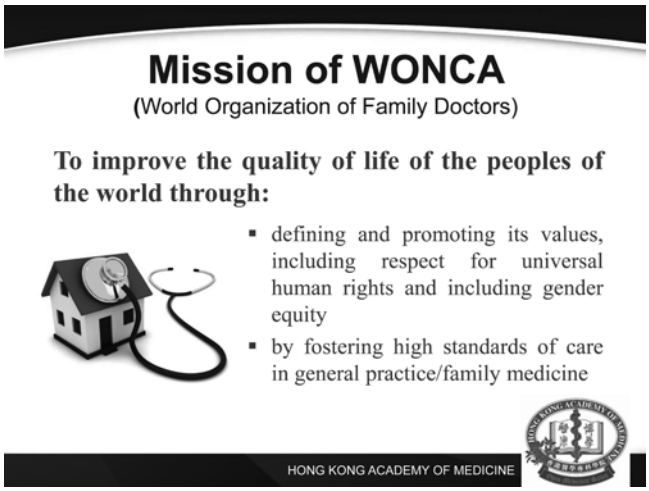
…To improve the quality of life of the peoples of the world through defining and promoting its values, including respect for universal human rights and including gender equity, and by fostering high standards of care in general practice/family medicine.

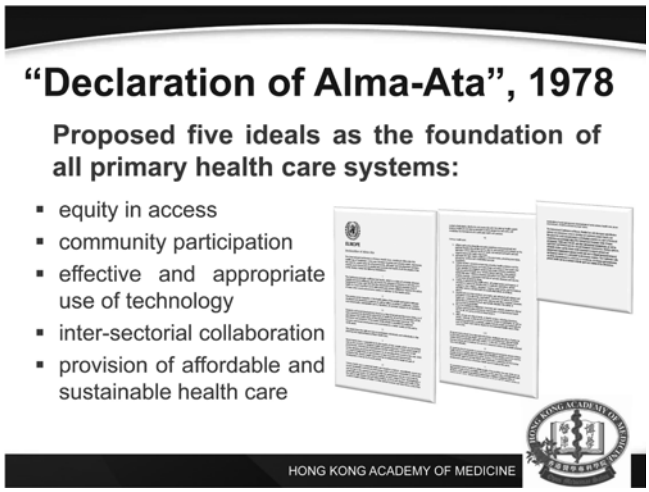
That mission can serve as a roadmap for our specialty so that we share the same goals and keep striving to improve people's quality of life in an

equitable and holistic way. It is relevant today just as it was in 1972.

The concept of health care equity was soon after echoed for the wider arena of primary health care, in the Declaration of Alma Ata of 1978, which proposed five ideals as the foundation of all primary health care systems:

1. Equity in access,
2. Community participation,
3. Effective and appropriate use of technology,
4. Inter-sectorial collaboration, and
5. Provision of affordable and sustainable health care.



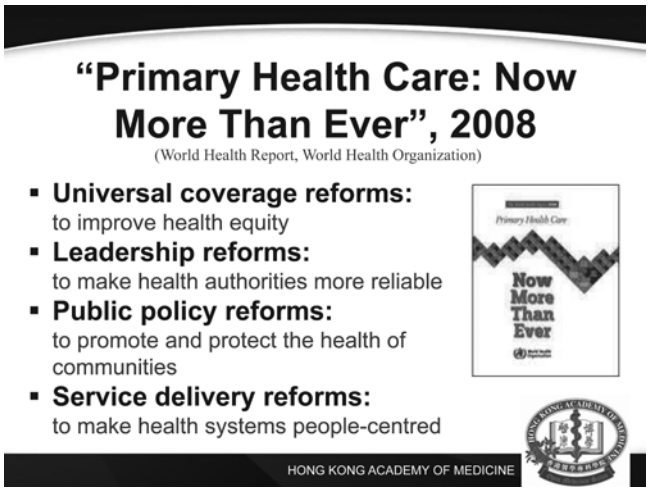


By definition as ideals, these concepts are somewhat idealistic. Moreover, they need much political motivation, capacity planning, infrastructure building, mobilisation of appropriately trained personnel, deployment of sufficient funds, and so on, in order to be realised.

Thirty years later, in 2008, yet more recommendations were issued, this time by the World Health Organisation. Its World Health Report, titled "Primary Health Care: Now More Than Ever" re-emphasised the revolutionary societal role and impact that primary health care delivery could have, and it identified four key requirements for achieving co-ordinated and equitable person-centered care:

- Universal coverage reforms,
- Leadership reforms,
- Public policy reforms, and
- Service delivery reforms.

Importantly, these broad and deep principles involve and affect everyone in the community, and they introduce the concepts that health needs to be person-centered, needs to adapt to evolving expectations, and is essentially a human right.



Nevertheless, those recommendations have been again very challenging to implement.

Fortunately, world leaders, stakeholders, educational and research institutions, and grassroots alike, have been motivated to redouble efforts and be held accountable for moving closer to sustainable health equity, through the eight United Nations Millennium Development Goals. The ambitious goals aimed for equity in health access, affordability, delivery, and outcomes. Their successful progress in 2015 have now led to 17 proposed Sustainable Development Goals, with a special focus on developing countries. Several of these goals are relevant to health, but number 3 is the most relevant to health care provision, preventive strategies, and health care resource planning in the next 10 to 15 years.

Goal 3 is to ensure healthy lives and promote well-being for all at all ages. For some of the subgoals, Family Physicians can have a direct role. These include ensuring safe and healthy pregnancies and births, so as to reduce the global maternal mortality ratio and prevent infant deaths - although this does not seem to be relevant in Hong Kong as Family Doctors are rarely involved in maternal care and deliveries. Family Doctors, however, can help end epidemics and non-communicable diseases through vigilance and patient education. We can help prevent and treat substance abuse in the community, and we can enhance sexual and reproductive care for both men and women.

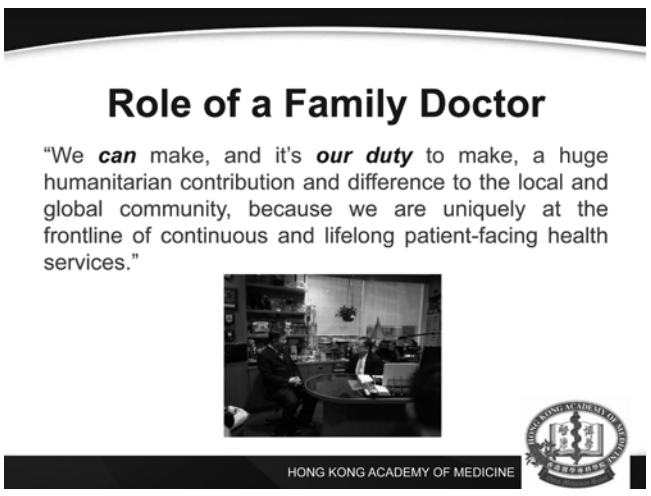
Some subgoals especially need creative thinking, political motivation and investment of human and financial capital worldwide, including in Hong Kong and mainland China, so as to achieve universal health coverage, innovation in drug development, long-term planning, and managing health risks.

Altogether, these goals encompass a wide variety of issues, including service delivery, public health, social care, health insurance, improving healthy lifestyles, training, resource planning, disaster preparedness, and policy making. This is the "bigger picture" of the global plan for solidarity and quality primary health care for the road ahead.

The Hong Kong Academy of Medicine has had a great opportunity to make a difference and demonstrate leadership to help reach these objectives, such as through the Hong Kong Jockey Club Disaster Preparedness and Response Institute, which we hosted at our premises. Such advanced training helps Academy members and health professionals in Asia keep pace with emerging global trends in patient care and medical education. The Academy can also enhance global alliances, strengthen partnerships with institutions worldwide, and provide the most up-to-date training for our own future specialist leaders.

But how can we, as Family Physicians, fit into the bigger picture, and how can we contribute to sustainable societal development? This is neither a minor issue nor a simple jigsaw-piece scenario.

Actually, we can make, and it is our duty to make, a huge humanitarian contribution and difference to the local and global community, because we are uniquely placed at the frontline of continuous and lifelong patient-facing health services. Our aim is to deliver consistent, comprehensive, and continuous care for an individual in the context of the whole family and the



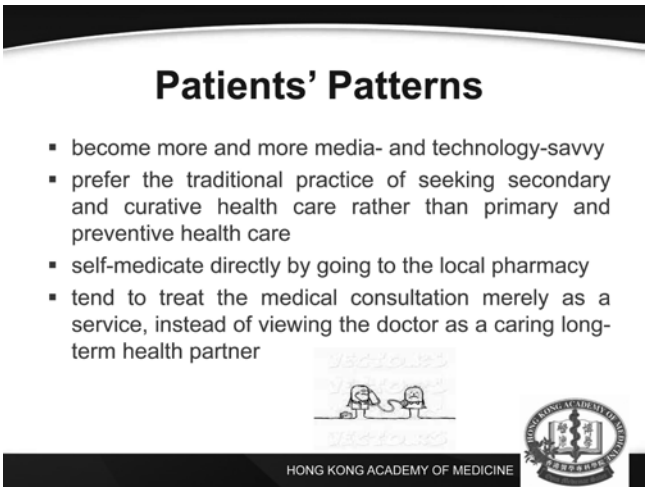
community. We have to know all about all body systems and how to provide appropriate and sensitive care from cradle to grave. Therefore, what has been emerging in the past few decades is the realisation that the forefront of primary care, in fact, needs to be largely provided by Family Physicians.

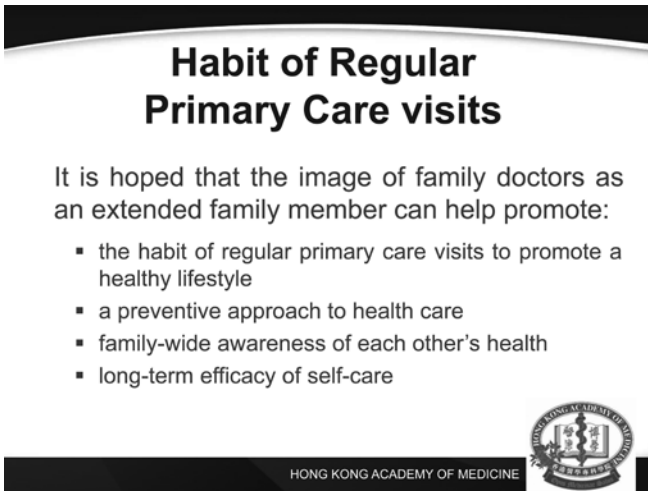
A global discussion is thus gaining momentum about the growing importance of Family Medicine in primary care and how this fits into the overall primary health care delivery. On the one hand, family doctors need to work well with other primary health care providers, including other specialists, emergency services, paramedical staff and nurses, physiotherapists, community and social workers, public health workers, and so on. On the other hand, governments are earnestly formulating the best ways of achieving health care equity and universal coverage, with the associated issue of affordable and fair health insurance and subsidy.

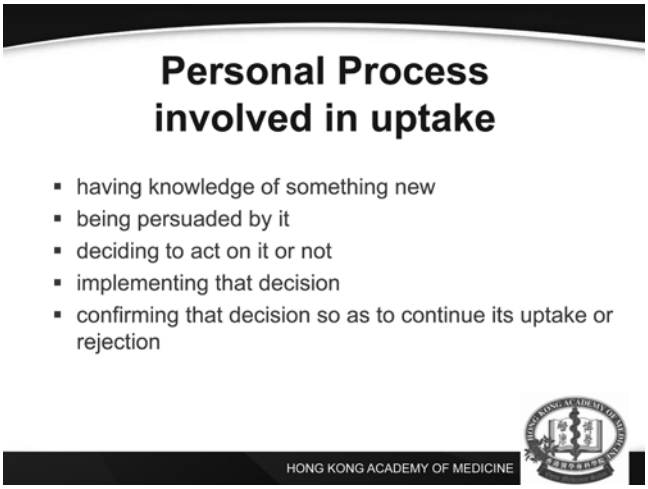
In Hong Kong, primary care development has been boosted by the founding of our College, a Department of Family Medicine and Primary Care at the University of Hong Kong, and the Primary Care Office in the Hong Kong Department of Health. Recent government media campaigns have been attempting to promote the image of the family doctor as a friendly extended member of the family who knows all family members and stays with the family as it grows, ages and develops. This image hopefully will help instill the 21st century habit of regular primary care visits to promote:

- A healthy lifestyle,
- A preventive approach to health care,
- Family-wide awareness of each other's health, and
- Long-term efficacy of self-care.

This gentle, voluntary strategy to encourage attitudinal and behavioural change is different from the tactic used in countries like Norway and the United Kingdom, where citizens register with a local family doctor or General Practition as their first point of contact with their national health service for non-emergencies. One of the aims of the Hong Kong method, hand-in-hand with innovative and equitable insurance reform, is to relieve the chronic pressure from the few low cost government primary care clinics and to discourage the use of emergency room services for non-emergencies. However, I have to say that the present Voluntary Health Insurance proposal under public consultation may actually have an opposite, knock-on effect of reinforcing inappropriate health-seeking behaviour and creating more demand for hospitalisation. This would represent a huge step backwards from

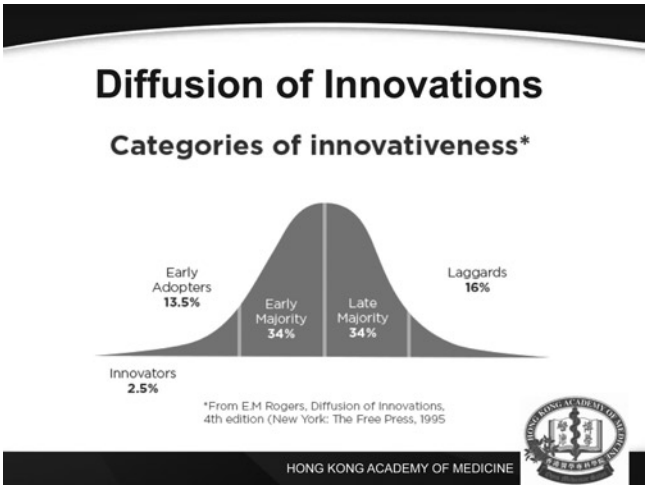






promoting care by Family Physicians at the community level. There must be appropriate amendments.

As we know, in-grained habits are hard to modify by external top-down policies. The motivation has to originate from within, after consideration of perceived benefit versus burden. Sometimes, ignorance is the reason for inaction, but today's patients are becoming more and more media and technology-savvy. Still, they may put too much stock into sometimes dubious, inaccurate, and misleading online medical information. And they often also have an initial stance of "What's in it for me?", viewing preventive medicine to be too much hassle. They may prefer the traditional practice of seeking secondary and curative health care rather than primary and preventive health care. Or they may continue resorting to emergency services after ignoring and waiting until a problem really does become an emergency. Or they may self-medicate directly by going to the local pharmacy or traditional Chinese medicine shop.



When patients do manage to visit a family doctor, instead of viewing the doctor as a caring long-term health partner, they tend to either treat the medical consultation merely as a service, demanding unnecessary drugs such as antibiotics and sometimes not even for themselves but for someone else. Or, they tend to treat the physician with complete deference, thereby deflecting responsibility for self-care to a wise know-it-all expert figure. Replacing these with the preferred scenario of a sustainable, equitable partnership to promote a preventive and life-long approach to primary care and health maintenance is, for some, a major paradigm shift. And yes, it does take a concerted effort and much energy from both sides.

Think of the progressively different population sectors when it comes to their gradual acceptance, uptake, and use of a new technology, idea, or discovery as it spreads throughout a culture. According to Everett Rogers, they consist of a few innovators, followed by the early adopters, the early majority, the late majority, and finally a few laggards. Moreover, the personal processes involved in uptake can be summarised in five steps: having knowledge of something new, being persuaded by it, deciding to act on it or not, implementing that decision, and confirming that decision, so as to continue its uptake or rejection. The last confirmation step is what may give rise to cognitive dissonance and, for example, buyer's remorse or a change of mind after a so-called cooling-off period.

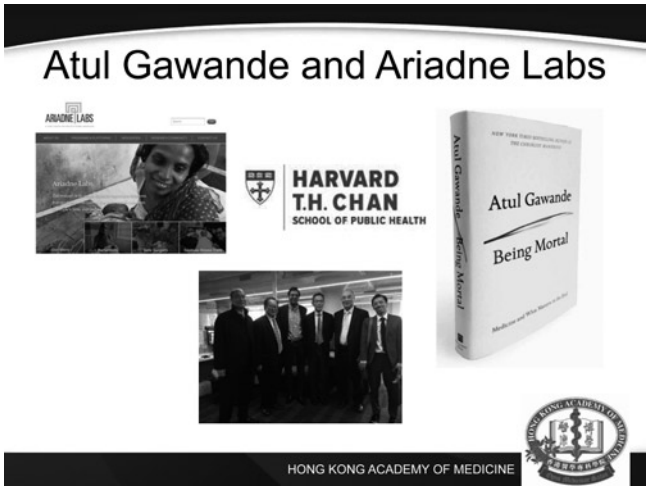
The first step of any social change is of course awareness, which is why marketing and social marketing campaigns often consider major influences such as:

- The medium of communication,
- Key opinion leaders,
- Community outreach,
- Social networks, and
- In-group leaders or champions.

These, coupled with explaining logic and research evidence, should in theory create the needed driving force for social behaviour change. Nevertheless, sometimes it takes a massive and large-scale crisis for mobilisation, action, and both horizontal and vertical coordination. Think of the Ebola disease or SARS, which took massive outbreaks to trigger governments,

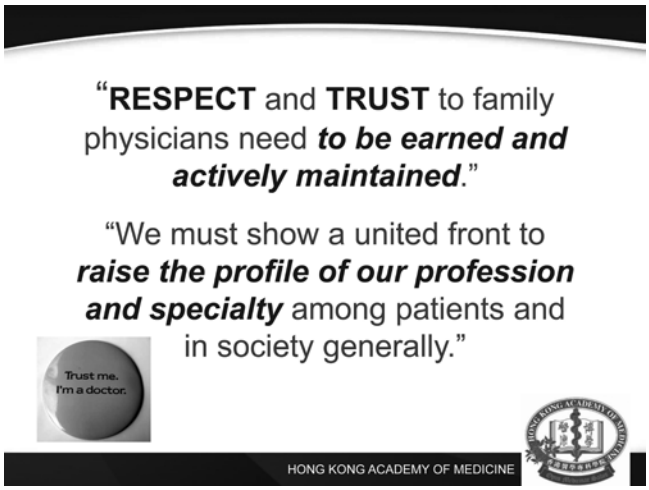
organisations, communities, health care workers, and researchers to finally get actively involved.

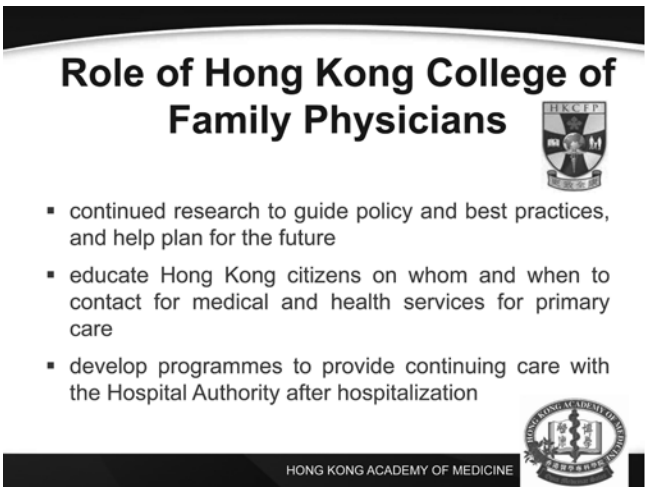
Even when the necessary research evidence is available, there still needs to be research translation and knowledge brokerage steps to push for widespread application and coordinated policy change. Think of handwashing to improve hygiene and control infection: the benefits of handwashing were demonstrated in the mid-1800s but the first national handwashing guidelines appeared only in the 1980s in the United States. Sometimes, a pioneering person or group needs to think outside the box to make the application of research findings practical and feasible.



I was recently in Boston and was privileged to meet the author of the best seller "Be Mortal" Dr Atul Gawande. He is not only a famous medical writer, a surgeon, but also the director of Ariande Labs which specialises in research in quality of care. The mission of the Lab is to create scalable healthcare solutions that produce better care at the most critical moments in people's lives, everywhere. I look forward to working with him in assessing outcomes of quality of care in a healthcare system with enhanced primary care through the practice of family medicine.

The development of research ideas into usable products is then followed by marketing and public education, while avoiding misinformation and disinformation. Think of penicillin, which took more than 10 years after discovery to be produced as a drug for clinical use. Ironically, physicians now have to re-educate the public not to misuse and over-rely on antibiotics. But Family Physicians have a duty and are well-positioned to do just that in our daily work in the community. In fact, insurance policies should place Family Physicians as the initial point of contact or gatekeeper for advice, treatments, possible referrals to other specialists, or arrangements for special procedures. It makes sense logistically and economically that way, but it does add a great sense of responsibility to our specialty owing to being committed to offering all-encompassing care for all ages.





At the same time, unfortunately, respect and trust are not automatically granted by patients or by other stakeholders. Respect and trust need to be earned and actively maintained. To that end, Family Physicians depend on branding, knowledge exchange, and mutual understanding among all our stakeholders. We must show a united front to raise the profile of our profession and specialty among patients and in society generally.

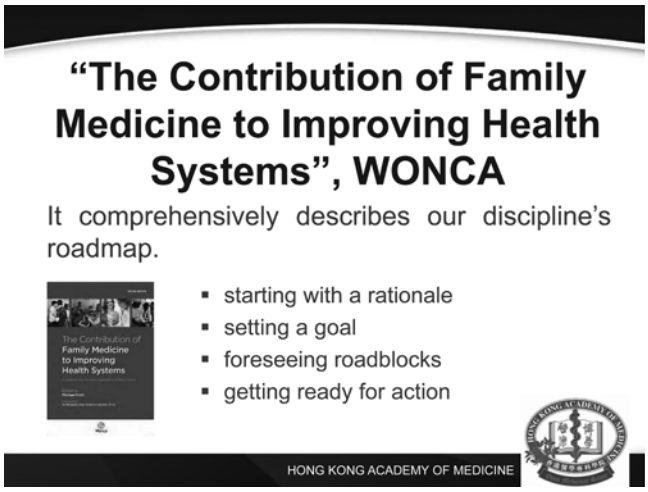
Our College, originally named the Hong Kong College of General Practitioners, was officially established in 1977 as our united voice; to define and maintain high standards of training and continuing education, competence, and conduct; and to professionally support its now 1500 members. Ours is not an easy job. So, the moral support aspect is important to prevent burnout, boost confidence, nurture leadership skills, and offer mutual encouragement and inspiration so as to keep striving for excellence in Family Medicine. Raising our public profile involves increasing public awareness of our family and community role, while also helping practising Family Physicians to engage in research and epidemiological studies in Hong Kong in order to expand our evidence base. Continued research is necessary to guide policy and best practices, and help plan for the future.

As a College, we must educate Hong Kong citizens on whom and when to contact for medical and health services for primary care, but we must also develop programmes to provide continuing care with the Hospital Authority after hospitalisation.

Furthermore, we have continuously been introducing the concept of Family Medicine education towards specialists in other disciplines as well as general practitioners who have not undergone vocational training. As for gradually educating our patients during consultations, we would do well to consider their context and overall health, and to show empathy and sensitivity. For the past decade or so, the trend has been to move away from simply aiming for patient compliance to a doctor's instructions, towards clear and comprehensible doctor-patient communication and active patient involvement. This two-way exchange should naturally lead to patient adherence to a health intervention that has been mutually agreed upon, with the view to long-term holistic health and efficacious self-care. This is the interpersonal side of personalised and patient-centred health care delivery, and, I believe, this type of consistent, continuous, and culture-conscious face-to-face interaction is critical to motivating long-term behaviour and attitudinal change in people's lives.

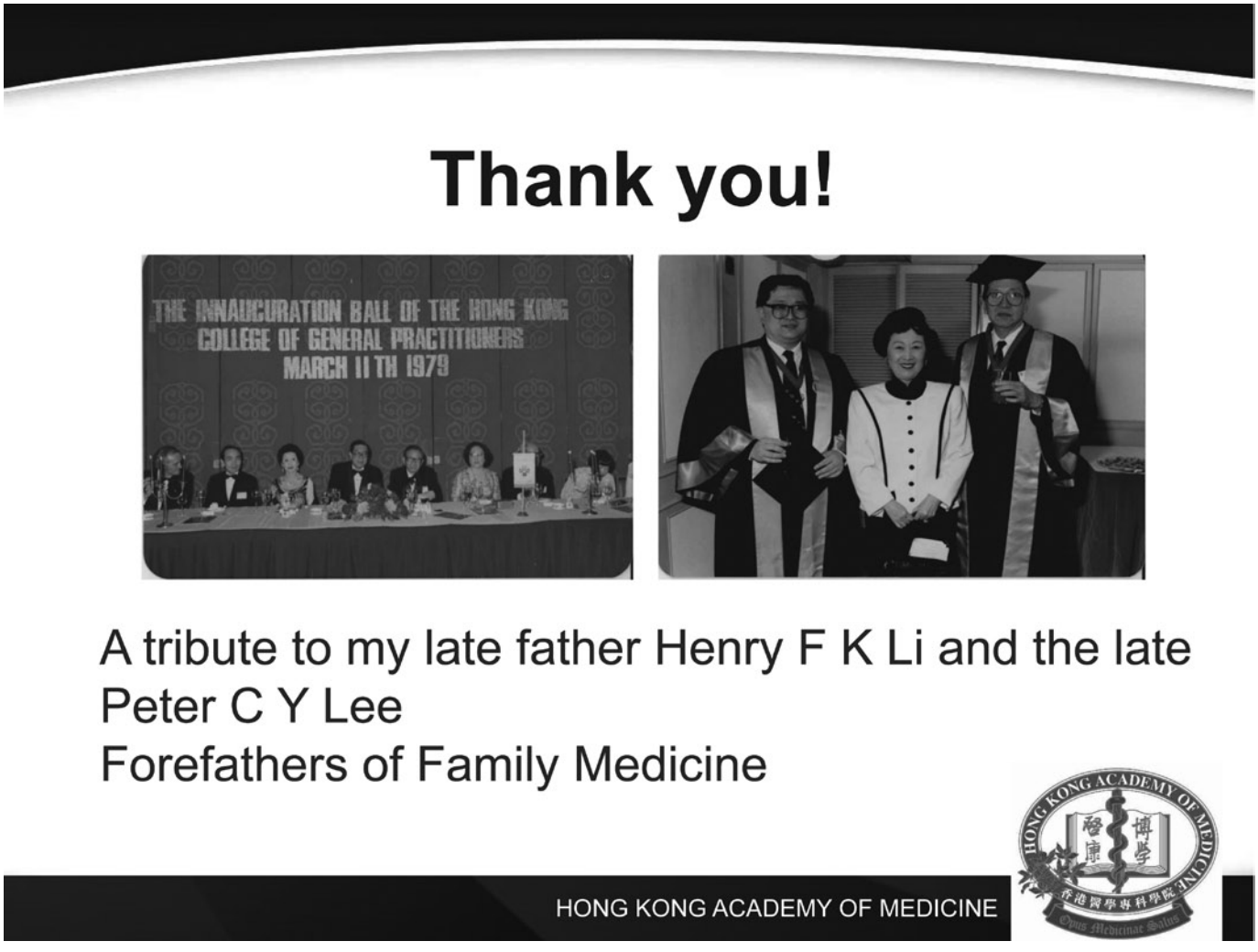
Responding to the global call for primary health care reform requires clinic-level and national-level solutions. Both are complex, even more so when we realise the interconnectedness of our global village and fast developing trends. These common trends include national and international macro-economics, climate change, sustainability in natural and human resources, social-networking, global mobility, emerging diseases, reduced antibiotic efficacy, emerging technologies in the genomics era, and demography such as population ageing. Concerning international connectedness, our advantage is that our College is associated with WONCA, which is keen to coordinate a global cost-effective response plan for primary health care that involves Family Physicians. I contributed to their guidebook titled "The Contribution of Family Medicine to Improving Health Systems", whose second edition was published in 2013. I highly recommend it, since it comprehensively describes our discipline's roadmap, starting with a rationale, setting a goal, foreseeing roadblocks, and getting ready for action.

Ultimately, the solution to responsive and equitable health care is going to take place at the integrated community and family and individual levels. So, we need to customise flexible, local responses to suit each region and community. In the clinic, our personal knowledge of each patient and his or her medical and family history, and even attitude towards western medicine, are all relevant to the consultation, intervention, and outcome.



Friends, Members, and Fellows of our College: In closing, I urge you to be ambassadors and leaders in our unique, exciting, and ever-evolving specialty. Keep learning. Stay aware of and adapt to your environment. Stay resilient. And keep making a world of difference in your journey in Family Medicine.

I wish to pay tribute to 2 forefathers of family medicine dedicating this oration to them. Dr Henry Li my late father and Dr Peter CY Lee. ■



What's on the web for family physicians – diagnostic molecular pathology

Alfred KY Tang 鄧權恩，Tony Kwok-fung Chau 周國峰

Introduction to molecular diagnostics: the essential of diagnotics series

http://advameddx.org/download/files/AdvaMedDx_DxInsights_FINAL(2).pdf

This resource serves as an overview of the various molecular diagnostic techniques that are currently used in molecular pathology. The techniques detect presence of genetic mutation or variation known to be pathogenic to help uncovering the underlying molecular mechanisms of disease conditions. This in turn allows clinicians to tailor-made treatment plan and to practice "personalised medicine". The review outlines the use of polymerase chain reaction (PCR) in diagnosis. Some of these techniques, for example, mutational analysis, are the first-line decision-making diagnostic technique in patient screening, triaging patients into different treatment arms, risk assessment, prognostication as well as and progress monitoring. Each diagnostic technique is illustrated by a specific example to give an entry-level knowledge to frontline doctors for a better understanding in different diagnostic techniques, their applications and the individual characteristics.

Genetics in Primary Care (GPC) training programme curriculum materials

http://genes-r-us.uthscsa.edu/resources/genetics/primary_care.htm

Maintained by the National Newborn Screening and Global Resource Center of USA, the website is dedicated to providing newborn screening resource information to consumers and health professionals. Affiliated to University of Texas Health Science Center, the materials in this section are designed to illustrate connections between molecular genetics and primary care. Representative cases with close resemblance to patients seen in primary care are used to illustrate the application of the principles in molecular genetics. Each module has links to websites for additional background information and articles from the medical literature, including relevant consensus and policy statements where applicable. Major topics include breast and ovarian cancer, cardiovascular disease, colorectal cancer, congenital hearing loss, dementia, developmental delay, and iron overload.

National Cancer Institute (NCI): latest development of targeted therapy

http://www.cancer.gov/about-cancer/treatment/types/targeted-therapies/targeted-therapies-fact-sheet

Maintained by National Cancer Institute of USA. The website provides basic information on targeted therapy. With knowledge in signaling pathways and advent in molecular diagnostic techniques, specific agents targeting cellular signaling pathways were developed, shifting the paradigm of treatment from using conventional chemotherapeutic agents to target-specific molecular drugs, which possess better desirable side effect profile and improved survival as well as overall morbidity. The website answers questions on targeted therapy like how targets for novel cancer therapies were identified and developed, and also what choices are available in the market. Latest update on the approved drugs is provided, and progress on drugs under trial (Phase one to three) are listed for various neoplastic conditions.

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Diagnostic molecular pathology: current techniques and clinical applications, part I

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1214554/

This is the first part of a review article dedicated to diagnostic molecular pathology. It covers different diagnostic techniques involved. There has been revolutionary progress in human genomics which is reshaping our approach to therapy and diagnosis. Nucleic acid-based testing is becoming a crucial diagnostic tool not only in the setting of inherited genetic disease, but in a wide variety of neoplastic and infectious processes. Following diagnosis of the disease condition, molecular testing can help to guide appropriate therapy by identifying specific therapeutic targets of newly tailored drugs, thus the term pharmacogenomics. Molecular diagnostics provides the necessary underpinnings for any successful application of gene therapy or biologic response modifiers. It offers a great tool for assessing disease prognosis and therapy response and detecting minimal residual disease. It is foreseeable that in the next decade from now, more and more laboratory tests will be based on DNA or RNA analysis.

Diagnostic molecular pathology, part 2: proteomics and clinical applications of molecular diagnostics in hematopathology

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1200694/

This is the second part of a review article dedicated to diagnostic molecular pathology. It has a more in-depth discussion in the advances in the field of "proteomics" and their role in diagnosis, prognostication, and clinical management of lymphoid and leukemic neoplasms. The crucial role of molecular diagnostics in monitoring engraftment status following marrow transplantation was also discussed. Proteomics holds good promise for early detection of neoplasms such as ovarian carcinoma, and its application in hemtologic neoplasms could serve as a model for detection and management of other solid tumors.

Personalised genotype-directed therapy for advanced non-small cell carcinoma of lung

http://www.uptodate.com/contents/personalized-genotype-directed-therapy-for-advanced-non-small-cell-lung-cancer#H9880656

UpToDate is an evidence-based clinical decision support resource with its topics and contents being updated regularly. This article focuses on the latest development in personalised medicine in treatment of non-small cell carcinoma. An improved understanding of the molecular pathways that drive malignancy in non-small cell lung cancer (NSCLC) has led to the development of agents that target specific molecular pathways in malignant cells. The hope is that these agents will be able to preferentially kill malignant cells, but at the same time relatively innocuous to normal cells. The improved results using targeted therapy in patients with these specific molecular abnormalities has led to the effort to identify other driver mutations and more specific therapies appropriate for each driver mutation.

Molecular pathology resource guide

http://www.cap.org/apps/docs/membership/md_resource_guide.pdf

The Molecular Pathology Resource Guide is one of four Resource Guides of the College of American Pathologists (CAP). Together they bring a collected set of resources that are focused on the specific hot-topic technology important to all clinicians. Each resource guide highlights updated educational materials such as journal articles, and CME resources relating to this technology. Also, each Resource Guide includes an "Insights From Adopters" section to gain perspective from leading pathology figures in the field. In short, each Resource Guide provides a one-stop reference that will assist busy clinicians to find valuable information about this dynamic and important emerging technology. ■

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INFORMATION FOR AUTHORS

Circulation and Content

The Hong Kong Practitioner is published quarterly by The Hong Kong College of Family Physicians.

The Journal is indexed in *EMBASE/Excerpta Medica as 'HK Pract'*. It has a circulation of 4000, distributed to all members and some non-members of the College, academic institutions as well as private subscribers in Hong Kong and overseas.

The aim of the journal is to promote the development of quality family medicine/general practice in Hong Kong and the region, by publishing editorials, original articles, update reviews, letters to the editor, and self-assessment materials.

Manuscript Criteria - General

Papers submitted for publication should fulfil the following criteria:-

a. Manuscript to be accompanied by covering letter, signed by all authors stating that it is original and no part of it has been submitted for publication elsewhere and identifying any possible conflict of interest, and the contribution of each author.
b. Typed in double line spacing with 3cm margins.
c. Submission of manuscript should be the preferred Microsoft Word (DOC) format, and sent to "priscillali@hkcfp.org.hk" with one printed copy of the manuscript to the Editor.
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Categories of Articles

Original Research Papers

Papers on original research relating to primary care in Hong Kong are particularly welcome.

They should be set out in a standard format with an Introduction giving background and objectives; Method giving details of subjects, study design and measurements, interventions, outcomes, and statistical methods; Results; Discussion; Conclusions; References; and Acknowledgements.

Papers should be between 1,500 and 3,500 words in length.

Graphs and tables should be limited to six and references to 40.

A structured summary of up to 200 words should be set out under the headings of Objective, Design, Subjects, Main Outcome Measures, Results, and Conclusions. Up to five keywords should be given to aid index cross-reference.

Educational Update Articles

They should be relevant to the Family Physician who is trying to keep up to date with recent advances in primary care.

Articles should be between 1,500 and 3,500 words, and structured with a summary, introduction, and main body of article with appropriate subheadings.

Graphs and tables should be limited to six and references to 40.

Discussion Papers

Papers on topics and issues of relevance to primary care are welcome. They should present a hypothesis or problem, and offer a way of solving it or a solution for discussion. They should be between 1,500 to 3,500 words, and structured with a summary, introduction, and main body of article with appropriate subheadings.

Case Reports

These articles should be up to 1,500 words reporting cases of particular interest, difficult management, unusual presentations or outcomes, carrying a useful message to other doctors; with no more than one table or illustration and five references.

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