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- The roles of men in family planning – a study of married men at the UKM primary care clinic
- An assessment of patient waiting and consultation time in a primary healthcare clinic
- Early management of head injury in adults in primary care



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- Books and other monographs: Personal Author(s) Stewart M, Brown JB, Weston WW, et al. Patient-Centered Medicine: Transforming the Clinical Method. Thousand Oaks, California: Sage Publications; 1995.
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Consultation - Not the time for shortcuts

Liew SM

Editor-in-Chief

There are patients that a doctor remembers. Some of these patients I had only met once. Others were patients that I had seen over years, decades even. Being a primary care physician offers you the opportunity, and privilege, of seeing your patients over time. This continuing relationship between doctor and patients has been rewarding in many ways. Not least of these is the slight jolt of pleasure I feel when I see a long-term patient turn up again in clinic.

Yet, even a one-time meeting can be memorable. I remember the young girl who had seen many doctors and had many investigations conducted upon her including a complete brain MRI. She turned out to have multiple sclerosis, diagnosed when her left eye could not abduct fully on a simple ocular movement test. When confronted with diagnostic challenges, experience had taught me to start from the basics – a good history and physical examination. I referred her to the neurologist and never got to see her again though I often think of her when I teach neurological examination.

Proper history taking and physical examination is often overlooked and the usual reason given for this is a lack of time. It seems much easier to just order tests. Not having enough time is used as a reason for health care practitioners to take shortcuts but these 'time-saving' methods can put patients' health and lives in jeopardy. I was involved in a study that looked at patient safety in primary care clinics in Malaysia. In this cross-sectional study¹, diagnostic and management errors were found in half of the 1753 patients' records. Almost all of the medical records had some form of documentation problem. How can we justify lack of time as a reason for poor medical documentation? Or for not doing a detailed assessment?

Upon reflection, the patients who are the most memorable were the ones who taught me a lesson. In some of these, I had stopped asking my usual checklist of questions, taken a proper look at the patient and said "why do you look so sad, tired, angry (insert the right adjective)?" And they were brave enough to open up and tell me what was really wrong with them. In others, I had taken the time to do a detailed assessment. Asking them to take off their *tudung* to reveal a large goitre; percuss a chest to find a pleural effusion; listen to the heart to detect a murmur.

In this issue of the Malaysian Family Physician, the study² conducted by Ahmad BA, Khairatul K, Farnaza A audited waiting and consultation time at a clinic. I hope that we also consider the time when the patient is in the room with us.

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The roles of men in family planning – a study of married men at the UKM primary care clinic

Ling JES, Tong SF

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Abstract

Introduction: Traditionally, family planning initiatives were concentrated on women despite it being a family matter. As family dynamics evolved over the years, fathers' involvement in family planning has become crucial in enhancing the family well-being.

Objectives: This study aimed to identify the role played by men in family planning activities and the association of socio-economic characteristics with these roles.

Methodology: This was a cross-sectional study carried out in a university primary care clinic. All married male attendees to the clinic, aged 50 years and below, were approached to answer a set of self-administered questionnaires, asking for their involvement in family planning practices. The data were analysed using descriptive and inferential statistics.

Results: There were 167 participants in the study. A high proportion of men participated in the discussions regarding previous pregnancies (60.42%), future child planning (89.76%) and desired family size (89.76%). However, the discussions on the usage of family planning methods (FPMs; 39.16%) were significantly low. Socio-economic factors associated with higher likelihood of men discussing family planning activities were older age ($p < 0.0$), higher education level ($p = 0.010$), higher monthly income ($p < 0.001$) and longer duration of marriage ($p = 0.0049$).

Conclusions: The level of participation of men varied in the discussions of four family planning activities. The roles taken by men in family planning were associated with older age and higher socio-economic class. The majority of men needs to be encouraged to play a more active role in the discussion of FPMs.

Introduction

The issue of unwanted pregnancies in the rising global population is of concern. The World Bank hypothesised that the estimated global population would be surpassed due to this issue, showing the dire need of an intervention in the form of family planning and contraception.^{1,2} As the implementation of family planning will achieve a significant decrease in the projected population size, it needs to be actively practiced to reduce the adverse effects of overpopulation.¹

The benefits of family planning are bountiful. Not only will it reduce infant morbidity and mortality, it will also enhance child growth and development. Greater effects can be seen on the parents, where their pregnancy risks and intervals could be lowered and regulated. It also enables the achievement of a desired family size (DFS) and helps parents make informed choices. Social health problems such as HIV/AIDS and teenage pregnancies could be better controlled.^{3–7}

Despite family planning being a family matter, its initiatives were usually concentrated on women^{8,9} because traditionally, fathers made little or no effort in child raising. Women were usually the ones who performed childcare duties.¹⁰ Many studies done on fertility and contraception also concentrated on women possibly due to the variety of female contraceptive methods as opposed to that of the males. In reproductive and health matters, men's effort in family planning remained invisible.¹¹

The notion that men are uninterested in taking an active role in family planning can be contested as researches done on this area are limited obsolete. The case is especially true for developing nations like Malaysia, where the most recent research on this topic dated back to decades ago. Also, as family dynamics have evolved over the years, fathers' involvement in family planning has become crucial in enhancing family well-being. Hence, this study aims to identify men's involvement in discussing family planning activities with their spouses and their association with socio-economic characteristics.

Methods

Study design

This was a cross-sectional survey describing the roles of men in family planning and determining its association with their socio-economic status. All the married male attendees at the clinic, aged 50 years and below, were approached to answer a set of self-administered questionnaires, asking about their involvement in family planning activities.

Study site

This survey was carried out from January to March 2014 at the Universiti Kebangsaan Malaysia (UKM) primary care clinic. The university primary care clinic served as a family practice clinic to a population within 10 km of its radius. Services offered in the clinic include general outpatient treatment, antenatal care, chronic disease follow-up and family planning services. Patients visiting the clinic amounted up to 200 daily, most of which were elderly patients. The UKM primary care clinic was chosen as the site of study due to its accessibility among service-users in Cheras, Kuala Lumpur. Cheras, a suburb of Kuala Lumpur, the capital city of Malaysia served as an ideal site due to its location situated between the urban city centre and the outskirts of Selangor state. Therefore, its population was an good representation of a typical middle-class Malaysian society.

Development of the questionnaires

A set of self-administered questionnaire was used in the study. The questionnaire was adapted from National Family Development Board.¹² The original questionnaire was designed for a survey to study the contraceptive methods used among Malaysian women. Therefore, modifications were made to the questionnaires so that it suited the present study objectives and could be administered to men. There were two sections to the questionnaire. The first section was on participants' demographic and socio-economic data. These included their marital span, marital status, highest education level, number of children and average monthly income. The second section was on the participants' roles in family planning decision, which was measured by their involvement in the discussion of four family planning activities: pregnancy planning (PP), future children planning (FCP), family planning method (FPM) and DFS. For both sections, the number of questions totalled up to 25, including some subquestions. For each family planning activity, participants responded on whether they had discussed the

activities and whether they made the decision jointly or unilaterally. A 'joint decision' was made when opinions of the wife and husband were considered equally, whereas a 'unilateral decision' was made when either the wife or husband had more influence on the decision made.

The content validation of the items in this questionnaire was by means of discussing with a family medicine specialist who had ample experience in working on men's health. The questionnaire was prepared in two languages: Malay and English. The original items were constructed in English and translated to Malay, then back to English. The forward- and backward-translated versions were validated by accredited translators from the university linguistic department. This was followed by face validation with a group of 10 men who fulfilled the inclusion criteria, but were not included in the actual study. Feedback was obtained and we noted no discrepancy between the wording of the questionnaire and interpretation by the participants. With the final versions of the questionnaires, a pilot study was carried out in the clinic to test for the feasibility of survey and time needed to answer the questionnaires. Participants took 15 to 20 minutes on average to complete the questionnaires.

Recruitment of participants

A sample size of 166 participants was needed in order to have 99% certainty that the proportion of decision would fall between 40 and 60, using the OpenEpi online sample size calculator (<http://www.openepi.com/SampleSize/SSPropor.htm>). The convenience sampling method was adopted with the inclusion criteria being married men below or equal the age of 50 (assumed to be in reproductive age), while men who were unfit to respond (e.g., emotionally and psychologically disturbed or mentally challenged) were excluded. Accompanying persons of patients to the clinic were also included. A total of 117 (70%) respondents were accompanying persons, 42 (25%) were patients at the clinic while 8 (5%) were staff at the clinic.

The questionnaire was distributed via direct solicitation, where the researcher approached the male attendees, explained the nature of study and obtained their consent to participate as respondents. Sampling was done during the day as the clinic only operated during these practice hours. Recruitment started from 8 am to 3 pm on weekdays as records in the clinic showed that patient consultations peaked during those hours. The time of sampling was also adjusted based on the availability of

researchers to be present to provide assistance to respondents. An information sheet that contained a statement assuring participant anonymity and confidentiality was also distributed before gaining written consent. All respondents were requested to complete the questionnaire on the spot, with the researcher available at the site in case any assistance was needed. Most of the respondents did not need help in answering the questionnaires. However, there were a few respondents who discussed with their wives while answering. The study was approved by the UKM Research Ethics Committee (FF-2014-171).

Data analysis

The data were analysed using SPSS (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY). Descriptive and inferential statistics were applied. A *t*-test was used to determine the association between a continuous variable and

a categorical outcome, while cross-tabulation and Chi-square tests were used to determine the association between a categorical variable and categorical outcomes. Simultaneous multivariate logistic regression analysis was undertaken to identify the independent association between the husband discussing the four family planning activities and socio-demographic characteristics. We excluded religion in the regression models because ethnicity and religion were closely related, and collinearity was observed when they were included. The *p*-value was set at 0.05 for statistical significance.

Results

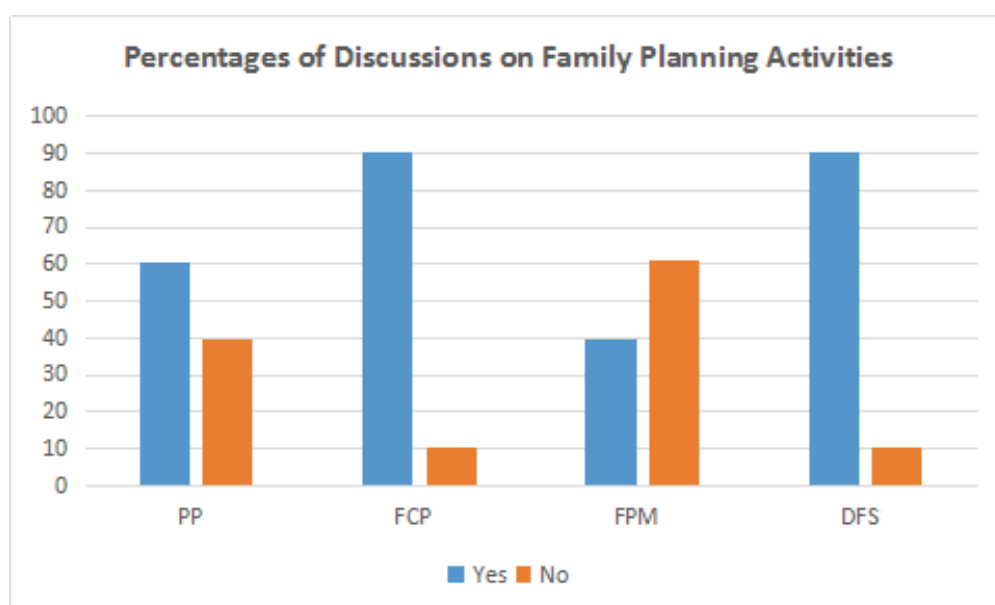
Out of the 200 men approached, 33 refused to participate, mainly due to disinterest and time constraint. This gave a total of 167 respondents in the sample and a response rate of 83.5%. **Table 1** shows the demographic profiles of the respondents.

Table 1. Demographic profiles of respondents, *n* = 167

	Mean (SD)	Frequency	Percentage (%)
Age (years)	38.3 (±7.8)	—	—
Ethnicity			
Malay		95	57.2
Chinese		44	26.5
Indian		22	13.3
Others		5	3.0
Religion			
Islam		95	57.2
Buddhism		27	16.3
Hinduism		18	10.8
Christianity		24	14.5
Others		2	1.2
Highest education level			
No formal education		1	0.6
Primary education		7	4.2
Secondary education		53	31.9
Tertiary education		105	63.3
Occupational status			
Employer		21	12.7
Employee		120	72.3
Self-employed		20	12.0
Family caretaker without pay		1	0.6
Retired		3	1.8
Unemployed		1	0.6

Table 1. Demographic profiles of respondents, $n = 167$

	Mean (SD)	Frequency	Percentage (%)
Monthly household income			
<RM 2000		15	9.0
RM 2001–3000		45	27.1
RM 3001–4000		40	24.1
RM 4001–5000		29	17.5
RM 5001–6000		18	10.8
RM 6001–7000		9	5.4
>RM 7000		10	6.0
Marital status			
Married		163	98.2
Widower		3	1.8
Total years of marriage			
0–10		81	48.8
11–20		45	27.1
21–30		39	23.5
31–40		1	0.6
Total number of children			
0		22	13.3
1		38	22.9
2		47	28.3
3		21	12.7
4		27	16.3
>4		11	6.6

**Figure 1.** Percentages of discussions in different family planning activities

Almost all respondents discussed FCP and DFS with their spouses (**Figure 1**). About two-thirds of the respondents discussed their PP

with their wives. Despite their participation in these family planning activities, it was found that men tended not to bring the issue of FPMs into discussions.

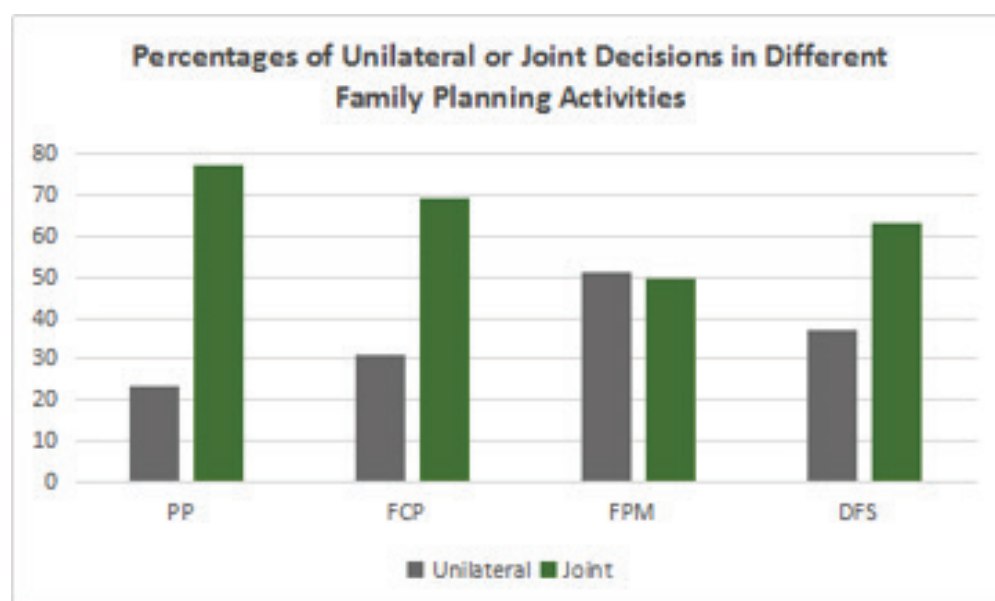


Figure 2. Percentages of discussions in different family planning activities

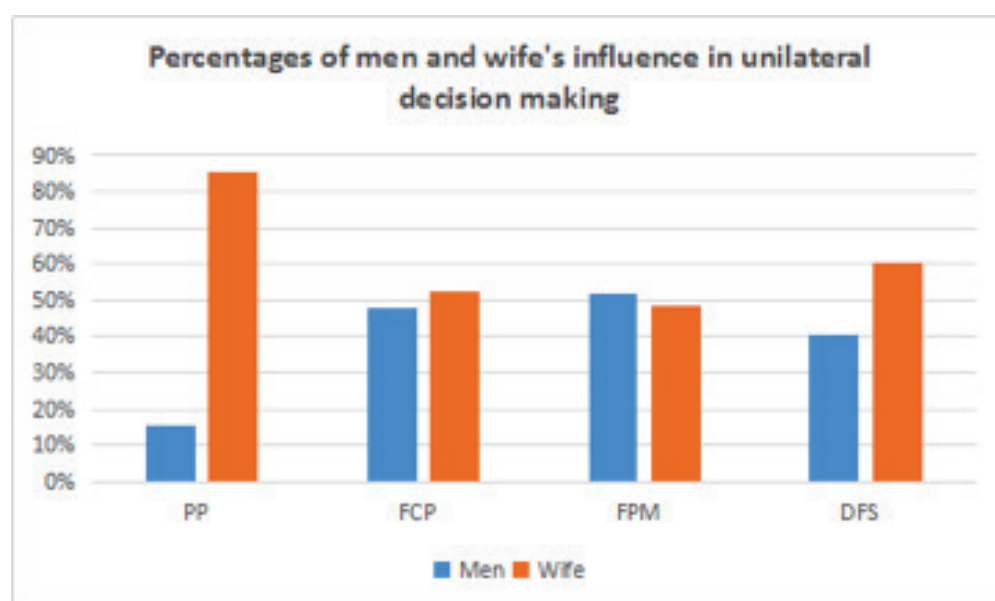


Figure 3. Percentages of men and wife's influence in unilateral decision making

Among the men who stated that they discussed family planning activities with their spouses, their involvement in the discussions were also assessed (**Figure 2**). Most decisions on PP, FCP and DFS were done jointly (shared decision by husbands and wives equally). However, among those who discussed FPM, slightly more than half of the decisions were made unilaterally, which means that the process of decision-making was more influenced by either the husbands or the wives.

Of the unilateral decisions made in different family planning activities, the wife's influence was significantly higher in the aspects of PP and DFS (**Figure 3**). In FCP and FPM discussions, cases of husband-influenced and wife-influenced decisions were distributed rather evenly (**Figure 3**).

Table 2. Associations between demographic profiles and discussing PP

Variables	Not discussed PP* (N = 57) Mean (SD)	Discussed PP* (N = 87) Mean (SD)	Test	p-Value
Mean age (years)	38.4 (±7.7)	40.9 (±6.4)	t-test = -1.98	0.050
Mean monthly income (RM)	3382.8 (±1169.6)	4864.6 (±1664.2)	t-test = -6.27	<0.001
Years of marriage (years)	13.95 (±9.5)	15.40 (±7.5)	t-test = -1.023	0.004
Ethnicity	n (%)	n (%)	$\chi^2 = 1.916$	0.384
Malay, N = 79	28 (35.4)	51 (64.6)	(df = 2)	-
Chinese, N = 42	16 (38.1)	26 (61.19)	-	-
Indian, N = 19	10 (52.6)	9 (47.4)	-	-
Religion	-	-	$\chi^2 = 5.313$	0.150
Islam, N = 78	28 (35.9)	50 (64.1)	(df = 3)	-
Buddhism, N = 27	13 (48.1)	14 (51.9)	-	-
Hinduism, N = 16	9 (56.3)	7 (43.7)	-	-
Christianity, N = 21	5 (23.8)	16 (76.2)	-	-
Highest educational level	-	-	$\chi^2 = 9.534$	0.002
No tertiary, N = 56	31 (55.4)	25 (44.6)	(df = 1)	-
Tertiary, N = 88	26 (29.5)	62 (70.5)	-	-

Table 3. Associations between demographic profiles and discussing FCP

Variables	Not discussed FCP* (N = 17) Mean (SD)	Discussed FCP (N = 149) Mean (SD)	Test	p-Value
Mean age (years)	37.12 (±7.8)	28.46 (±7.8)	t-test = -0.668	0.505
Mean monthly income (RM)	3915.9 (±1780.8)	4079.2 (±1648.5)	t-test = -1.591	0.115
Years of marriage (years)	11.24 (±7.6)	13.41 (±9.0)	t-test = -0.959	0.073
Ethnicity	n (%)	n (%)	$\chi^2 = 4.283$	0.117
Malay, N = 95	14 (14.7)	81 (85.3)	(df = 2)	-
Chinese, N = 44	2 (4.5)	42 (95.5)	-	-
Indian, N = 22	1 (4.5)	21 (95.5)	-	-
Religion	-	-	$\chi^2 = 4.906$	0.179
Islam, N = 94	14 (14.9)	81 (85.1)	(df = 3)	-
Buddhism, N = 28	1 (3.6)	27 (96.4)	-	-
Hinduism, N = 18	1 (5.6)	17 (94.4)	-	-
Christianity, N = 24	1 (4.2)	23 (95.8)	-	-
Highest educational level	-	-	$\chi^2 = 0.868$	0.352
No tertiary, N = 61	8 (13.1)	56 (86.9)	(df = 1)	-
Tertiary, N = 105	9 (8.6)	96 (91.4)	-	-

Table 4. Associations between demographic profiles and discussing FPMs

Variables	Not discussed FPM* (N = 101) Mean (SD)	Discussed FPM (N = 65) Mean (SD)	Test	p-Value
Mean age (year)	36.6 (± 7.9)	41.05 (± 6.8)	<i>t</i> -test = -3.878	<0.001
Mean monthly income (RM)	3382.8	4864.6	<i>t</i> -test = -6.27	<0.001
Years of marriage (years)	(± 1355.3) 11.35 (± 8.9)	15.40 (± 7.5) 16.05 (± 8.1)	<i>t</i> -test = -1.023	0.004
Ethnicity	n (%)	n (%)	$\chi^2 = 2.658$ (df = 2)	0.265
Malay, N = 95	61 (64.2)	34 (35.8)	-	-
Chinese, N = 44	22 (50.0)	22 (50.0)	-	-
Indian, N = 22	14 (63.6)	8 (36.4)	-	-
Religion	-	-	$\chi^2 = 4.319$ (df = 3)	0.229
Islam, N = 94	61 (64.9)	33 (35.1)	-	-
Buddhism, N = 28	17 (60.7)	11 (39.3)	-	-
Hinduism, N = 18	11 (61.1)	7 (38.9)	-	-
Christianity, N = 24	10 (41.7)	14 (58.3)	-	-
Highest educational level	-	-	$\chi^2 = 6.764$ (df = 1)	0.009
No tertiary, N = 61	45 (73.8)	16 (26.2)	-	-
Tertiary, N = 105	56 (53.3)	49 (46.7)	-	-

Table 5. Associations between demographic profiles and discussing DFS

Variables	Not discussed DFS* (N = 17) Mean (SD)	Discussed DFS (N = 149) Mean (SD)	Test	p-Value
Mean age (years)	33.2 (± 6.7)	38.91 (± 7.73)	<i>t</i> -test = -2.929	0.004
Mean monthly income (RM)	3333.5	4145.6	<i>t</i> -test = -2.940	0.006
Years of marriage (years)	(± 983.7) 6.9 (± 6.3)	(± 1700.2) 13.9 (± 8.8)	<i>t</i> -test = -4.148	0.000
Ethnicity	n (%)	n (%)	$\chi^2 = 3.014$ (df = 2)	0.222
Malay, N = 95	12 (12.6)	83 (87.4)	-	-
Chinese, N = 44	2 (4.5)	42 (95.5)	-	-
Indian, N = 22	1 (4.5)	21 (95.5)	-	-
Religion	-	-	$\chi^2 = 4.319$ (df = 3)	0.229
Islam, N = 94	12 (12.8)	82 (87.2)	-	-
Buddhism, N = 28	2 (7.1)	26 (92.9)	-	-
Hinduism, N = 18	1 (5.6)	17 (94.4)	-	-
Christianity, N = 24	1 (4.2)	23 (95.8)	-	-
Highest educational level	-	-	$\chi^2 = 6.764$ (df = 1)	0.009
No tertiary, N = 61	6 (9.8)	55 (90.2)	-	-
Tertiary, N = 105	11 (10.5)	94 (89.5)	-	-

Bivariate statistics was applied to determine the presence of any association between men's socio-economic characteristics and the decision-making in different family planning activities. Different aspects of family planning activities were associated differently with different socio-economic characteristics (Table 2–5). Men who discussed PP and FPM were

associated with older age, higher income, longer duration of marriage and higher education level (Table 2 and 4); while those who discussed DFS were only associated with older age, higher income and longer duration of marriage (Table 5). There was no association found between men who discussed FCP with any of the socio-economic characteristics studied. (Table 3).

However, from multivariate analyses, independent associations between men who discussed family planning activities and socio-demographic characteristics were demonstrated only in PP and FPM discussion (**Table 6**). Older men and higher monthly household income were independently associated with higher odds of discussing PP. After controlling for age, shorter duration of marriage was independently associated with higher odds of discussing PP. This reversed association was noted in bivariate analysis. With regards to FPM discussion, the only independent association was found with having tertiary education after controlling for age, monthly household income and duration of marriage. (**Table 6**).

Table 6. Multivariate logistic regression for independent association between men's role in the discussion of four family planning activities and their socio-demographic characteristics

Family planning activities	Nagelkerke R Square	Independent variables (Demographic factors)				
			95% Confidence Interval			
			Adjusted OR	Lower	Upper	p-value
Discussing PP	.358	Age (years)	1.170	1.000	1.370	0.050
		Monthly household Income (RM)	1.001	1.000	1.001	0.000
		Years of marriage				
		Ethnicity Malay*	.882	.779	.999	0.049
		Chinese	.583	.235	1.449	0.246
		Indian	.422	.125	1.418	0.163
		Tertiary Education No*	2.230	.857	5.803	0.100
Discussing FCP	.093	Age (years)	.957	.797	1.150	0.641
		Monthly household Income (RM)	1.000	.999	1.000	0.455
		Years of marriage				
		Ethnicity Malay*	1.094	.929	1.288	0.283
		Chinese	3.475	.736	16.414	0.116
		Indian	3.232	.393	26.553	0.275
		Tertiary Education No*	2.097	.623	7.059	0.232
Discussing FPM	.255	Age (years)	1.082	.944	1.239	0.257
		Monthly household Income (RM)	1.000	1.000	1.001	0.064
		Years of marriage				
		Ethnicity Malay*	1.002	.897	1.119	0.978
		Chinese	1.452	.650	3.240	0.363
		Indian	.998	.346	2.882	0.997
		Tertiary Education No*	3.240	1.330	7.889	0.010
Discussing DFS	.150	Age (years)	.989	.815	1.200	0.911
		Monthly household Income (RM)	1.000	.999	1.001	0.959
		Years of marriage				
		Ethnicity Malay*	1.120	.921	1.362	0.255
		Chinese	2.459	.500	12.094	0.268
		Indian	2.798	.329	23.820	0.346
		Tertiary Education No*	1.553	.403	5.992	0.523

Discussion

It was believed that Malaysian men had lower awareness towards family planning compared to their female counterparts. A 1970 study by the National Family Development Board⁹ demonstrated that the majority of men discussed with their wives on family planning activities such as PP, FCP and DFS. However, with regards to FPM, less than half of them held discussions with their wives. The same trend could be seen in this study, where decisions on PP, FCP and DFS were made jointly, but decisions on FPM were made unilaterally. Factors associated with men participating in family planning discussions were older age, higher income, higher educational level and shorter duration of marriage.

Roles of men in family planning

Decision making and responsibility towards family planning often start with successful inter-spousal communication.¹³ As seen in the results, a significantly higher proportion of men engaged in the discussions with their spouses. Furthermore, their success was reflected by the mutual decisions made. We also noted that men with higher socio-economic status discussed family planning more than men with lower socio-economic status. This was likely to be because of the urban setting of the study site where men often had higher socio-economic status compared to those in rural settings. This concurred with the high proportion of participants with tertiary education. The high proportion of men discussing family planning matters may also indicate an improvement in men's involvement compared to statistics published in 1970.⁹ This could be due to an elevated level of awareness towards family planning activities and an improvement in the socio-economic status of Malaysians.

We postulated that awareness and exposure to family planning matters and societal influence were important reasons for men's involvement in family planning matters. From the literature, men were willing to participate in reproductive health programmes but lacked the knowledge, information and access to do so.¹⁴ Our findings noted a higher proportion of men were involved in the discussion of FCP than PP. This could be because men only start to be involved in family planning discussions after they have had children. Without much discussions done on previous pregnancies, they would want to discuss about future pregnancies. With the current societal exposure on the role of men in family planning and their experience with their wife's past pregnancies, men are more prepared to discuss FCP.

On the other hand, other researchers proposed that the low level of men's participation in the discussions might probably be attributed to traditional notions about gender roles, where families have been shaped to make decisions led by men. As the lead of the house, men would have the final say in all matters other than family planning.¹⁵ Ashford⁵ further confirmed that the opposition by family members on men's involvement in family planning decisions also led to the absence of their participation. Therefore, creating an environment that facilitates men's involvement in family planning in health care settings or in the society may encourage men's involvement. On the other hand, a balance of influence between men and women in family planning is important, because men's unilateral opposition to family planning will prevent women from regulating their fertility rights.¹⁶ Nevertheless, the specific reasons behind the current higher level of men's involvement in family planning matters need to be further explored.

Regarding FPMs, the lack of its discussion might be due to the perception that operationalising family planning is the sole role of women. Since women are the ones visiting clinics for regular check-up, service providers will tend to feel that it is easier and more convenient to motivate a woman for family planning rather than a man.¹⁴ Men would be unlikely to seek family planning services in a women-specific medical centre. Furthermore, Samuel¹⁶ reported that some men view that if any FPM is used, it was seen as a sign of unfaithfulness and lack of commitment to the marriage. However, despite the low discussion rate, men tended to exert more influence in unilateral decision-making, which might imply that the interest of men in the discussions might be more than usually assumed.¹⁷ This emphasised the need of creating health care settings that facilitate men's involvement in family planning.

Socio-economic effects on family planning

Demographically, men were regarded as economically responsible, but uninvolved in fertility and family management issues.¹⁵ This was reflected by the abundance of published studies on family planning matters focusing only on women as their primary subjects in Malaysia. As a culturally diverse nation, the Malaysian society has been shaped in a way that different people hold different beliefs and practice their own respective traditions. Men were also believed to hold greater authority in the home and community in Malaysia.¹⁸ These cultural differences might account for the social recognition of masculinity and femininity, and

have a profound impact in influencing the sexual roles of men and women, especially in their health practices.¹⁴

Greene and Biddlecom¹⁵ reported that men tended to make decisions in a problem-oriented manner. This is evident in this study because a low PP discussion is associated with low men's monthly income. It can then be inferred that men tended to discuss family planning according to their economical ability. The less capable a couple is financially, the less likely a pregnancy would be planned, because a solution to encounter financial lacking is to abstain from continuous reproduction. Various studies also lent support to the fact that a higher educational level (an important determinant of income) increased the approval and acceptability of men towards family planning.^{9,19,20} These findings suggested that men's involvement in family planning could be an engagement beyond providing financial support for the family. Men would participate in family planning as long as they are well aware of it regardless of their financial status. However, the basic need of financial support is often fulfilled in men with higher educational level and income.

Another trend displayed by this study was that men of older age tended to play a more active role in family planning discussions. Bivariate analysis results showed that age and longer years of marriage were related to men discussing PP. It could be a worrying trend in Malaysia that men only realise their role in the family in the later years of life, because younger men should also realise the benefits of family planning. After adjusting for all four socio-demographic factors, older age was independently associated with the discussion, but shorter duration of marriage (instead of longer) was also independently associated with the discussion. The reversal of the direction of association between men discussing family planning and duration of marriage was an interesting finding. Longer duration of marriage showed in the bivariate analysis finding was likely due to the confounding effect of age because longer duration of marriage is logically associated with older participants. After adjusting for age, the reversal of direction of association is comprehensible because discussing family planning should occur in those with shorter duration of marriage, as younger couples are more reproductive than older couples. Another plausible explanation is that, participants with longer duration of marriage could be from an older generation where engagement in family planning discussions might not be the norm. Thus, it could indicate that younger generations are discussing family planning more than the older generation.

FPM discussion was independently associated with tertiary education level instead of older age, higher income and longer years of marriage, which were noted in the bivariate analysis. Thus, the three latter socio-demographic factors are likely confounders. Discussing FPM may necessitate technical understanding of the methods used. Thus, having tertiary education may put men in a better position to discuss the methods for family planning. However, to truly understand the reasons for our observation requires another study that looks at both men and their wives in this matter.

Although DFS discussion was associated with some demographic factors, the subsequent multivariate analysis did not demonstrate a similar association because the number of men who did not discuss about DFS was small, $n = 17$. Thus, the sample size was not powered to study this dependent variable.

Significance of study and recommendations for future improvements

The findings of this study shed light on the current roles of men in family planning discussions. It is marked how far men have achieved in various family planning activities and serves as a benchmark to identify the areas needed for further improvements. This study contributed as a reminder that it is the responsibility of a couple to practice shared family planning decision-making, and men's participation should also be emphasised as equally as that of women.

While this study focused on men's opinion on the family planning roles of men in the UKM Primary Care Clinic, it should not be seen as being representative of all Malaysian men. We acknowledge that family planning issues should involve the couple as a whole. A more detailed and complete picture on men's role in family planning could be gained by interviewing men and their spouses simultaneously, as we have observed in this study where some participants discussed the questionnaire with their spouses. However, this would involve greater resources. Nevertheless, understanding the issues from the men's perspective alone helped to add another perspective to the issue.

Another limitation of this study was the adoption of the convenience sampling method, meaning that results should be considered indicative, and not definitive. A mean age of 38.3 years indicated that men involved in this study were less likely to be new, inexperienced parents. This was because the clinic in the study served a large proportion of patients with chronic illness, which meant that

participants tended to be older. Nevertheless, younger participants were found to have less discussion in various aspects of family planning compared to older participants. Thus, younger men could be targeted as they would also be in the active reproductive age group. Replications in other populations or conditions should be done to further define the generalisability of the study findings. Alternatively, a randomised sample should be used to increase the validity of results. It was also observed that some respondents discussed the questionnaire with their wives, which might have led to biases in the data. Another source of bias would be the timing of sampling, as social theories of masculinity suggested that men avoided women's clinics and they were less likely to attend clinics during office hours.

Conclusion

Overall, this study showed that men achieved significant participation in family planning activities such as PP, FCP and DFS but less in FPM discussions. However, FPM discussions were done slightly more unilaterally rather than jointly, with men exerting more influence on the decisions made.

Data analysis showed associations between men's age, monthly income, education level

and years of marriage with their roles in family planning. Older men, men who obtained a high level of education (tertiary level at least), men who have above average monthly income and men with shorter duration of marriage participated more in family planning. As an approach to improve men's roles in active family planning, men should obtain more information on available FPMs to enable discussion of family planning, and support their wives' and own use of family planning.

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How this paper makes a difference to general practice?

- This study showed that paternal involvement in family planning activities was greater with men of older age. Hence, younger men should be the focus of intervention for family planning activities.
- This study showed that men's involvement in FPMs discussion were low. Services in family planning clinics should be more inviting to men in order to improve this situation.

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An assessment of patient waiting and consultation time in a primary healthcare clinic

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Abstract

Waiting is a common phenomenon in the doctor's waiting room. The purpose of this audit is to assess patient waiting time and doctor consultation time in a primary healthcare clinic and to formulate strategies for improvement. This audit was conducted at a primary care clinic for 4 weeks using the universal sampling method. All patients who attended the clinic during this period was included in the study except for those who required more time to be seen such as those who were critically ill, aggressive or those who came for repeat medication or procedures only without needing to see the doctor. The time of arrival was captured using the queue management system (QMS) and then the patient was given a timing chit which had to be manually filled by the staff at every station. The waiting time for registration, pre-consultation, consultation, appointment, payment and pharmacy were recorded as well as consultation time. The data were entered into the statistical software SPSS version 17 for analysis. Results showed that more than half of the patients were registered within 15 minutes (53%) and the average total waiting time from registration to seeing a doctor was 41 minutes. Ninety-nine percentage of patients waited less than 30 minutes to get their medication. The average consultation time was 18.21 minutes. The problems identified in this audit were addressed and strategies formulated to improve the waiting and consultation time were carried out including increasing the number of staff at the registration counter, enforcing the staggered appointment system for follow-up patients and improving the queuing system for walk-in patients.

Introduction

"Patience is so valuable I'm willing to wait forever to achieve it. And while I wait, I may as well get busy being short-tempered." This is a quote taken from "This Book Is Not For Sale" by Jarod Kintz,¹ an appropriate saying for patients who spend a lot of time waiting to see a doctor. Many studies have shown an inverse relationship between waiting time and patient satisfaction.^{2–4} This has become a major concern for hospital administrators and policymakers because it is a measure of organisational efficiency.⁵ Waiting time as well as consultation time are the main factors that affect patient and consumer satisfaction.^{2,6–9}

Patients are aware that they should wait to see a doctor; however, there is no known acceptable 'waiting' or 'consultation' time. Evidence shows that patients are less likely to be dissatisfied if their waiting time is within 30 minutes.⁴ Overseas studies have shown that patients are willing to wait an average of between 30 and 45 minutes to see a doctor.^{6,8} In Malaysia, the average waiting time in hospital outpatient departments is between 1 to 2 hours.¹⁰ The experience while waiting can also affect

patient satisfaction and is influenced by other factors such as the condition and attractiveness of the waiting area.^{4,11,12} The availability of entertainment such as television, health information and reading materials may improve the anticipation of waiting.^{4,11,12} The presence of helpful and friendly staff is also important to improve the waiting experience.^{4,11,12}

High number of patients, shortage of staff and aging equipment are among the factors contributing to a lengthy waiting time.^{6,12} A long and complicated registration or work process with unnecessary duplication of tests can prolong waiting time in clinics.^{6,13}

Consultation length often varies from one country to another and is determined by both patient's and doctor's characteristics. Studies from abroad have shown that the average consultation time in a primary care setting ranges between 10 to 15 minutes.^{14,15} In general, studies have shown that patients prefer longer consultations.¹⁶ Doctors with longer consultations tend to prescribe less and offer more advice on lifestyle and other health-promoting activities.¹⁷ Consultation

time increases to nearly twice as long when doctors explore psychosocial issues and this is associated with better recognition and handling of psychosocial problems.^{16–18}

There is insufficient published data to support the acceptable waiting and consultation time in primary healthcare clinics in Malaysia. The purpose of this audit is to assess patient waiting time and doctor consultation time in a primary healthcare clinic and to formulate strategies to improve the clinic waiting time and consultation time.

Methods

This audit was conducted at a primary care clinic in Gombak District from 28 July 2015 until 24 August 2015. A four-week study period was perceived as sufficient for data collection to include clinics run by family medicine specialists (FMS), medical officers (MO) and a mixed sample of follow-up for non-communicable disease (NCD) patients and acute walk-in patients.

Clinic setting

The primary care clinic is situated in a large district of Gombak covering a total population of 682,996 people. It is situated in the ground floor with disabled access and parking provided and ready access to radiology, laboratory and referral services to other specialties. The primary care clinic has an average of 60 patient attendances per day. There is a staff located at the registration and appointment counter and another staff at the payment counter together with two nursing assistants and two nurses. There are seven consultation rooms with two FMS and five MO.

Following the family doctor concept, NCD or “follow-up” patients were given a specific appointment to see a named doctor who follows them up throughout their care. The walk-in patient who attended the clinic would be seen by any of the MO available. At the time of this audit, the clinic had not enforced the staggered appointment system and follow-up patients were still seen according to their arrival instead of their appointment time.

Sampling and recruitment

The study was conducted using a universal sampling method. All patients who attended the clinic during this study period were

included in the study. The exclusion criteria included patients who were critically ill requiring referral or admission, psychiatric patients who were aggressive, those who came for repeat medications, investigations or procedures only without seeing a doctor, those who were involved in student teaching sessions and those who attended the primary care clinic as well as other specialist clinics. For example rehabilitation on the same day.

Training of staffs for the audit

A short briefing session among all staff was held prior to the audit to ensure proper time recording on the timing chit. An e-mail reminder and WhatsApp messages were sent to all MO and specialists prior and during the audit period. A reminder to use a pre-synchronised time on the Profdoc HIS system was given to staffs before and during the audit period.

Defining standards for acceptable waiting time practice

There have been various unpublished audit on waiting time done in primary care settings; however, the agreed and acceptable standards of practice were difficult to ascertain. The standard for this audit was defined according to the recommendation of the Malaysian Ministry of Health's patient charter, which stated that the waiting time for patients to be seen by the first provider in hospital outpatients and public health clinics should not exceed 30 minutes upon arrival with a standard of 80% target of achievement. It also stated that the dispensing of medication from the time the pharmacy received the patient's prescription should not exceed 30 minutes with a standard target of 95%.^{19,20}

Process of data collection to determine the waiting and consultation time and statistical analysis

The process of recorded timing as demonstrated by **Figure 1** started with the time the patient arrived and pushed the QMS button allowing the time to be captured in the QMS queuing slip. When the patient was called to the registration counter by the QMS number, he would then be given a timing chit containing his demographic details and time in and out to be filled by the dedicated staff at every station. The timing chit was stapled onto the patient's registration card and carried

along to every station he attended. The pre-consultation waiting time was recorded by the nursing staffs in the vital signs assessment room. The consultation waiting time was recorded by the doctor (FMS or MO). The waiting time for appointment and payment was recorded at the registration and payment counter respectively. The completed timing chit was then kept by the staff at the payment counter and collected for data entry.

The timing for medication collection at the pharmacy was recorded by the electronic pharmacy record of the pharmacy information system. Data on demography and relevant clinical information were accessed via the electronic medical record system, which is

Profdoc HIS. All relevant data were recorded manually in audit proforma before being entered into the SPSS version 17.0 to be analysed. Descriptive analysis was conducted with independent T-test for significance and p value set at <0.01. The results of the audit were presented at a clinical meeting and recommended changes and improvements were made.

Results

A total of 820 patients' data who attended the clinic during this study period were collected and out of this, 64 fulfilled the exclusion criteria, therefore, a total of 756 patients were included in the study.

Figure 1. Flow chart showing patient's movement in the clinic from arrival to departure

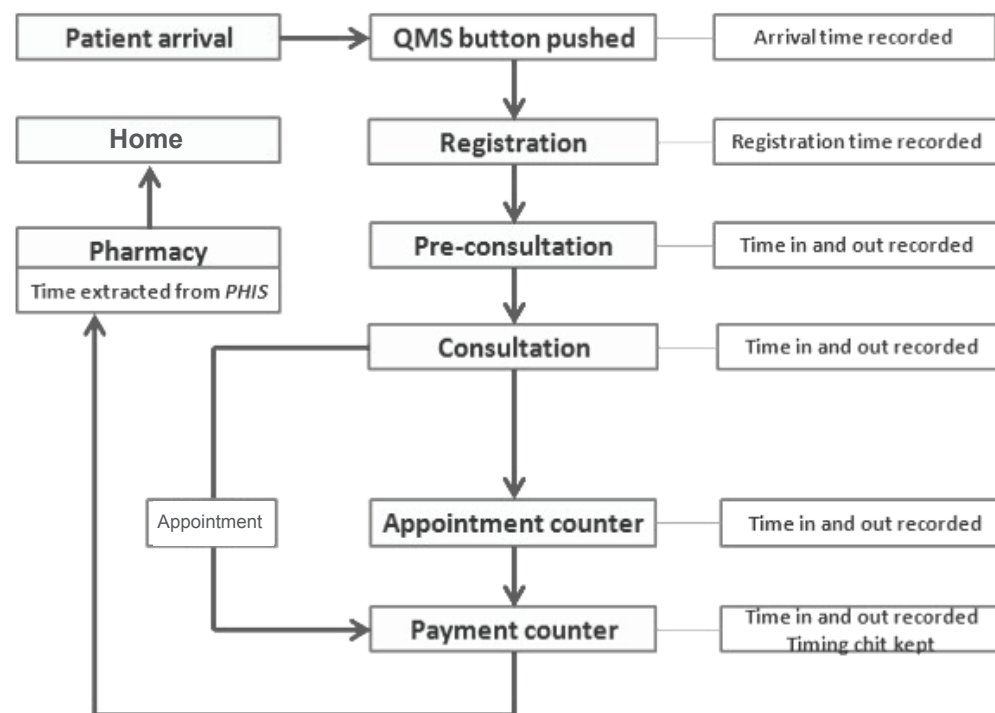


Table 1. Demographic details of the patients in this study

Variables	Frequency (n) (%)	Mean (SD)
All subjects, n (%)	756 (100)	
Age		48.8 (19.8)
0–12 years	52 (6.9)	
13–60 years	463 (61.2)	
61 years and above	241 (31.9)	
Gender		
Male	312 (41.3)	
Female	444 (58.7)	

Variables	Frequency (n) (%)	Mean (SD)
Race		
Malay	594 (78.6)	
Chinese	79 (10.4)	
Indian	72 (9.5)	
Others	11 (1.5)	
Visit type		
Walk-in	327 (43.3)	
Follow-up	429 (56.7)	
Payment		
Pay	244 (32.3)	
Guarantee letter	512 (67.7)	
Patient type		
No disability	713 (94.3)	
Disabled (walking disability)	42 (5.6)	
Disabled (blind, mute or deaf)	1 (0.1)	
Doctor-in charge		
Specialist	83 (11)	
Medical officer	673 (89)	
Stat procedures		
No stat investigation	593 (78.4)	
X-ray	25 (3.3)	
Laboratory tests	49 (6.5)	
ECG	21 (2.8)	
Other	37 (4.9)	
Multiple	31 (4.1)	

In Table 2, the mean age of patients was 48.8 years with a standard deviation ± 19.8 . The percentage of male patients were 41.3% and female patients were 58.7%. The majority were Malays followed by Chinese and Indians.

Table 2. Definition of waiting and consultation time and the average patient waiting time for each clinic process and the percentage achievement according to the set criteria

Waiting time	The definition of waiting or consultation time	Set target criteria	Average time (mins)	Percentage achievement to target criteria (%)
For registration	The time of arrival at the clinic to the time of registration at the registration counter	The documented waiting time should be <15 minutes	17.20	53.44
Pre-consultation	The time taken from registration at the registration counter to being assessed by the staff nurse at pre-consultation room	The documented waiting time should <30 minutes	13.66	90.08
Consultation	The time taken from completed assessment by the staff nurse to consultation by the MO or specialist in the consultation room	The documented waiting time should be <30 minutes	24.05	72.35

Waiting time	The definition of waiting or consultation time	Set target criteria	Average time (mins)	Percentage achievement to target criteria (%)
Pharmacy	The time taken from acknowledgement of medication prescription to dispensing medication	The documented waiting time should be <30 minutes	0.68	99.80
Total waiting time from registration to consultation	The time from registration to consultation by the MO or specialist in the consultation room	The documented total should be <90 minutes	41.06	91.93
Appointment counter	The time from completed consultation by the MO or specialist to being called at the appointment counter	The documented waiting time counter should be <15 minutes. (N = 756)	11.60	73.65
Payment counter	The time from completed consultation by the MO or specialist to acknowledgement at the payment counter	The documented waiting time should be <15 minutes. (N = 756)	9.73	83.66
Consultation time	The time taken for patient to enter the consultation room to the end of the consultation by the MO or specialist	The documented consultation time between the MO/ specialist and patient is between 10 and 20 minutes	18.21	41.80

Figure 2. Total waiting time from registration counter to consultation with doctor (N = 756)

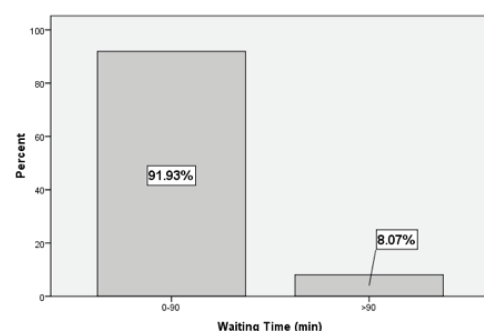


Figure 2 shows that the majority of patients (91.93%) waited for less than 90 minutes in total to see the doctor.

Figure 3. Bar chart of doctor consultation time (time patient spends with the doctor in the consulting room) (N = 756)

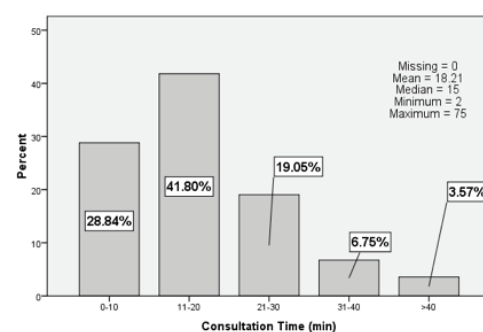


Figure 3 shows the consultation time with the doctor and that most patients (41.90%) spent between 11 and 20 minutes with the doctor and 19.05% spent between 21 and 30 minutes.

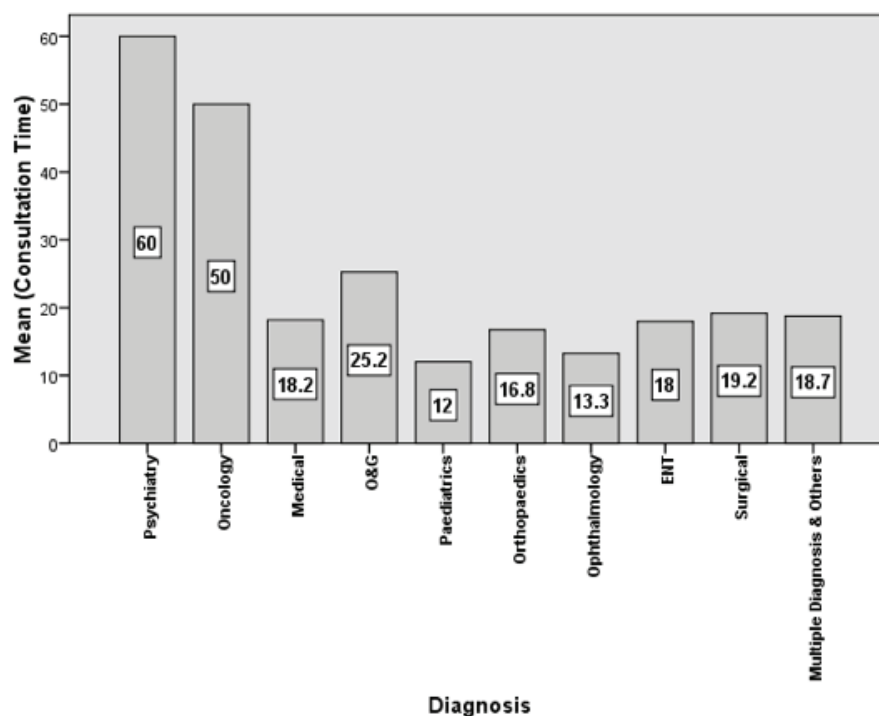
Figure 4. Bar chart of the mean consultation time according to different systemic diagnosis

Figure 4 shows the mean consultation time for diagnoses categorised by systems and it was found that the longest consultation was for patients consulting for psychiatry problems followed by oncology. Independent T-test showed significant results ($p < 0.001$) for psychiatry versus non-psychiatry and oncology versus non-oncology ($p < 0.005$). The shortest consultation time was for paediatrics and haematological cases.

Discussion

The positive outcome from this study was that the clinic achieved the target adopted from the Ministry of Health patient charter. A 2011 study of outpatient waiting time in 21 hospitals in Malaysia found that the average waiting time to see the doctor was 60 minutes.¹⁰ A study in Kedah found that patients who waited less than 2 hours were more satisfied with the outpatient service compared to those who waited for more than 2 hours.² In comparison, this clinic achieved a good average total waiting time of 41 minutes to see the doctor and 92% of patients achieved the target of waiting to see the doctor within or less than 90 minutes.

There were several problems identified from this study that needed to be rectified. A high percentage of patients were still waiting an

unnecessarily long time to be registered and to see the doctor. Registration should be a quick and simple process. We identified that the long waiting time is due to long queues caused by the registration counter being manned by one clerical staff who is also in charge of giving appointments to patients. Lack of staffing is a known contributor to lengthy waiting time in hospital outpatients and public health clinics.¹² A recommendation was made to increase the number of registration staff to two members to cope with the tasks.

Another contributing factor was the tendency for patients to arrive earlier than their given appointment, hence arriving at the same time in large numbers. A recommendation was made to enforce the staggered appointment system for follow-up patients and improve the clinic patient scheduling system. A study showed that early arrivals were common despite warnings and reminders to arrive at the scheduled time.⁶ Scheduling is important to ensure a smooth clinic process and to reduce waiting times. A study of scheduled model found that patients who were given an appointment time and arrived at the appropriate time had shorter waiting time than those who walked in without an appointment.²¹ Applying a more effective scheduling system may also improve waiting time such as scheduling appointments according to expected consultation time.²²

Scheduling should reflect the needs of the clinic and the type of patients attending the clinic to attain the best waiting time results.²³

With regards to the consultation time, the study found that the average consultation time was 18.21 minutes and 41.8% of patients saw the doctor for 10–20 minutes. In comparison, a study in Malaysia found that the average consultation time in outpatients was 15 minutes.¹⁰ There are no guidelines on the best consultation length but studies have found that patients prefer to have more time with the doctor.^{16,18} Also patients are willing to wait longer if they get to see a familiar doctor.^{24,25} Continuity of care with the same doctor is important to patients especially when it comes to conditions dealing with uncertainty or routine checks for chronic diseases.²⁴ Patients are usually willing to see any doctor for minor acute complaints.²⁴ There are benefits to slower and longer consultation. Doctors who consult less than 7 minutes were found to be more likely to miss psychosocial issues in patients.²⁶ Slower and longer consultation is associated with doctors being more likely to identify psychosocial problems, explore presenting complaints more accurately, prescribe less and offer more preventative advice.²⁶

Limitation

The use of manual recording due to incomplete recording by the electronic system might have introduced bias to data collection due to

recollection error by the person who filled in the timing sheet. This error was reduced by using the QMS system and synchronised clocks on the computer Profdoc HIS system. All staffs were briefed and reminded with regards to the audit and this may have introduced bias by staff trying to achieve targets. The data collection duration was short and a longer audit can be conducted to minimise the Hawthorne effect. Also, completion of the audit cycle, by implementing the recommended changes and re-auditing, is needed.

Conclusion

The clinic needs to improve its waiting time and to make the recommended changes to improve its services to patients. There is also a need to conduct further research to assess patient satisfaction on the clinic services including identification of patient's needs and to improve the quality of waiting by having distractions and facilities for patient comfort.

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Early management of head injury in adults in primary care

Liew BS, Zainab K, Cecilia A, Zarina Y, Clement T on behalf of Development Group Clinical Practice Guidelines Early Management of Head Injury in Adults

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Abstract

Head injury is common and preventable. Assessment of the head injury patient includes airway, cervical spine protection, breathing, circulation, haemorrhage control and the Glasgow Coma Scale. Hypotension, hypoxia, hypocarbia and hypercarbia should be avoided by continuous monitoring of vital signs and hourly head chart to prevent secondary brain injury. This paper aims to assist primary healthcare providers to select the appropriate patient for transfer and imaging for further management of head injury.

Introduction

Head injury is one of the commonest and probably the most preventable medical condition. Globally, road traffic accident is the commonest cause of head injury, besides accident at home, workplace and during a sports event. Head injury was the fifth (7.86%) commonest cause of hospitalisation in Malaysian public hospitals in 2014 with RTA being the commonest cause of injury-related hospitalisation. A high proportion of those with major trauma (86%) had injuries to the head and neck with an Abbreviated Injury Scale >3. In the World Health Organization's Global Status Report on Road Safety 2013, the road traffic fatality rate in Malaysia was higher than the global rate (25 versus 18 per 100,000 population). Many lives can be saved with good pre-hospital care and quick transportation to the hospital. Appropriate assessment, stabilisation and care of the trauma victim including referral and transportation are important to avoid secondary brain injury.

* The external forces may include any of the following events:

- The head being struck by an object
- The head striking an object
- The brain undergoing an acceleration/ deceleration movement without direct external trauma to the head
- A foreign body penetrating the brain
- Forces generated from events such as blast or explosion, or other forces yet to be defined

** The anatomical or mechanical changes in the brain such as axonal injury, which may not be visualised in the computed tomography (CT) scan does not rule out such injury.

Classification of Head Injury

The severity of head injury can be classified according the presenting Glasgow Coma Scale (GCS) is the cumulative sum of the scale in each component score:

- Mild head injury (MHI): GCS 13 to 15
- Moderate head injury: GCS 9 to 12
- Severe head injury: GCS 3 to 8

The MHI group can be subdivided into two types as shown in **Table 1**.

Definition

- To define head injury, criteria i and ii must be present with/without criteria iii:
 - i. Mechanism—presence of external force*
 - ii. Physiological—alteration in physiology of the brain
 - iii. Anatomical—scalp and/or face and/or skull and/or brain injury (internal and external)**

Table 1. Types of MHI

Cerebral concussion	MHI		
GCS 15	GCS 13 – 15		
Should only be used if there is no imaging evidence of brain injury	With or without imaging evidence of brain injury		
With or without history of loss of consciousness (LOC)	Requires a LOC (≤30 minutes) or post-Traumatic amnesia (≤24 hours)		
History of confusion and/or concussion symptoms			
Concussion symptoms are divided into four categories:	Can be further subdivided according to the risk of deterioration and expected outcome:		
1. Physical	Low Risk	Medium Risk	High Risk
- Headache, fuzzy or blurry vision, sensitivity to noise and/or light, dizziness, feeling tired and lacking energy, and problems with balance	GCS 15	GCS 14–15	GCS 13
2. Cognition/memory	With one or more of the clinical findings	With neurological deficits or skull fracture or risk factors with/without clinical findings	
- Difficulty in thinking clearly, feeling slowed down, trouble in concentrating and difficulty in remembering new information			
3. Emotional/mood	* Clinical findings in MHI include LOC, amnesia, diffuse headache and vomiting.		
- Irritability, inexplicable sadness, nervousness and/or anxiety	** Risk factors for MHI include coagulopathy, alcohol consumption and/or drug misuse, age ≥65 years old, previous cranial surgery and history of pre-trauma epilepsy		
4. Sleep disturbances			
- Interruptions in normal sleep patterns			

Table 2. GCS and score

Component	Response	Score
Eye opening response	Spontaneous	4
	To voice/sound	3
	To pressure/pain	2
	None	1
Verbal response	Orientated	5
	Confused	4
	Words	3
	Sounds	2
	None	1
Motor response	Obeys commands	6
	Localising	5
	Flexion withdrawal	4
	Abnormal flexion	3
	Extension	2
	None	1

Assessment

Assessment of the head injury patient should include airway, cervical spine protection, breathing, circulation, and haemorrhage control followed by the GCS.

The GCS score should be used in the assessment of all patients with head injury by trained healthcare providers. The patient's best eye, motor and verbal responses are assessed and categorised into mild, moderate and severe head injury. It is a reliable tool to monitor and

detect deterioration in such patients. Alcohol intoxication, sedative medications, hypoxia and hypotension can influence the consciousness level. Therefore, any assessment of the GCS should be repeated after resuscitation from cardiopulmonary insult or recovery from intoxication and sedation.

The GCS is based on a 15-point scale used for estimating and categorising the severity of brain injury following a traumatic brain injury. The scale measures the best motor, verbal and eye opening response. Refer to **Table 2**.

General Management

- Oxygen supplementation should be given to prevent hypoxaemia [oxygen saturation (SpO₂) < 90%].
- An airway should be established in the following conditions:
 - Severe head injury (GCS ≤ 8)
 - Inability to maintain an adequate airway
 - Hypoxaemia not corrected by supplemental oxygen
- Manual in-line immobilisation should be performed during intubation.
- All patients with head injury are presumed to have cervical spine injury until proven otherwise, thus a cervical collar should be applied.
- Isotonic crystalloid is the preferred choice of intravenous fluid.

Referral Criteria

Referral of patients with head injury to the nearest hospital should be considered if they have any of the following factors:

- GCS of 15 but symptomatic such as LOC, amnesia, headache, vomiting or restlessness
- Age ≥ 65 years old
- Treated with antiplatelets or anticoagulants
- GCS < 15 and/or declining GCS score
- Alcohol intoxication and substance misuse
- Focal temporal blow
- Social issues such as transport, communication problem or no supervision by a responsible adult
- An indication for head CT

Transfer

Hypotension, hypoxia, hypocarbia and hypercarbia and inadvertent cervical injury should be avoided before and during transfer to prevent secondary brain injury. Continuous monitoring of vital signs should be conducted during transfer. Effective communication should be established between the transfer team and receiving hospital.

Triaging

Triaging should follow a four-step algorithm based on physiologic abnormalities, anatomic injuries, mechanism of injuries, comorbidities and age.

Specific Management

- Primary survey includes:
 - Airway patency and cervical spine protection
 - Breathing (to detect any intrathoracic injury)
 - Circulation and haemorrhage control
 - Disability including GCS, pupil size and reaction to light
 - Exposure including log roll
- Secondary survey (head to toe examinations) includes signs of base of skull fracture such as periorbital ecchymosis ("Raccoon eyes"), retroauricular ecchymosis ("Battle's sign"), cerebrospinal fluid rhinorrhoea or otorrhea or seventh and eighth cranial nerves deficits.
- Head chart that includes serial GCS, blood pressure, pulse rate and pupil size should be done at least hourly including while awaiting CT or transfer to another ward/hospital.
- Monitor for signs of intracranial hypertension such as decreased pupillary response to light, hypertension with bradycardia, posturing or respiratory abnormalities.

Imaging

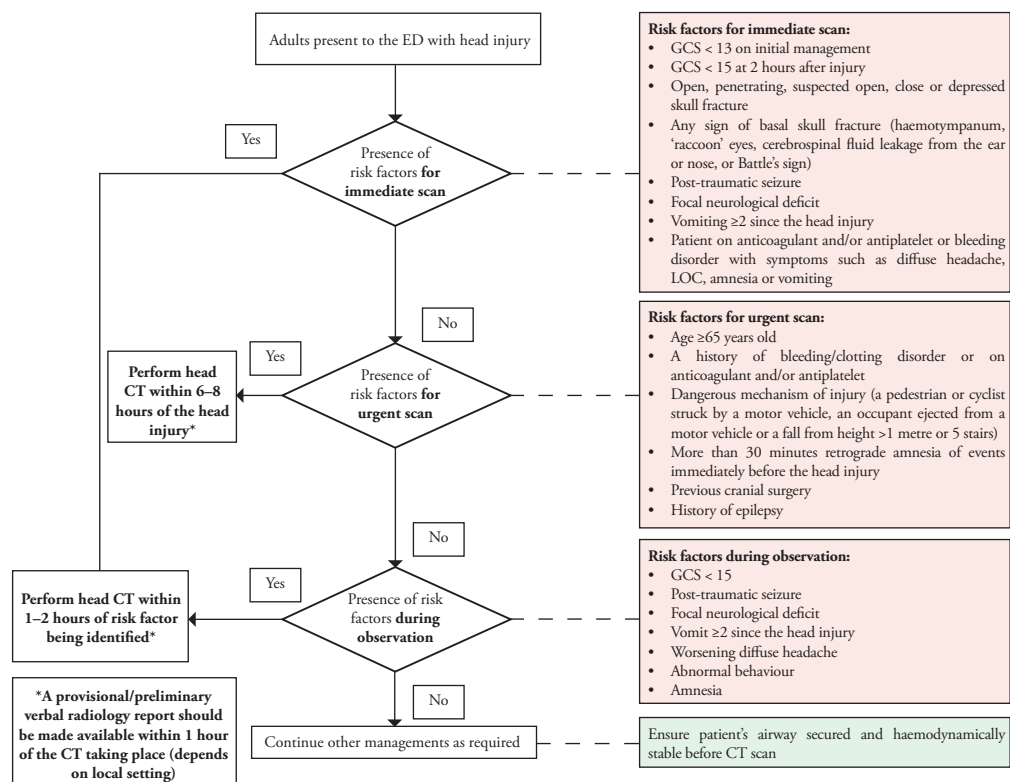
Timely imaging expedites appropriate surgical and medical interventions. The following algorithm shows the criteria and timeliness of head CT.

A normal skull x-ray does not exclude intracranial haemorrhage and may miss a fracture.

Discharge Advice

- All patients or their care givers should be given verbal and written discharge advice in the language that they understand. This must be documented. They should be asked to repeat the advice to ensure that they understand the content upon discharge.

Algorithm. Selection of adults with head injury for head CT



Discharge advice for the patient

DO	DON'T (until advised by your doctor)
✓ Take paracetamol for headache	x Take sleeping pills and anticoagulants/antiplatelets
✓ Take your usual medications	x Take alcohol
✓ Mild exercise when you feel better	x Play contact sport
✓ Take rest or a few days off from work	x Drive

If any of the following alarming symptoms are present, the patient or the care giver should immediately contact the clinic or hospital for advice:

- Fainting or sleepiness
- Increasing confusion, inability to recognise people or place
- Change in behaviour
- Constant headache that is worsening
- Vomiting
- Inability to remember new events
- Jerking or seizures, abnormal speech
- Bleeding or fluids coming out of the ear
- Inability to move any part of the body

Summary

In head injury, appropriate management of airway, breathing and circulation is important to prevent secondary brain injury. Knowledge and skill in the early management of head

injury in adults and its proper implementation are vital to improve the quality of care. All healthcare providers have an important role to play in such management to ensure the best outcome for the patients.

Acknowledgement

Details of the evidence supporting the above statements can be found in Clinical Practice Guidelines on the Early Management of Head Injury in Adults 2015, available on the following website: Ministry of Health Malaysia: <http://www.moh.gov.my> and Academy of Medicine: <http://www.acadmed.org.my>. Corresponding organisation: CPG Secretariat, Health Technology Assessment Section, Medical Development Division, Ministry of Health Malaysia and contactable at htamalaysia@moh.gov.my.

Pulled/nursemaid's elbow

Mohd Miswan MF, Othman MS, Muhamad Effendi F, Ibrahim MI, Rozali KN

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Abstract

Nursemaid's elbow is a radial head subluxation caused by axial traction on the extended arm while the forearm is pronated, allowing for slippage of the radial head. A 2-year-old boy presented with pain, swelling and reduced range of movement of the right elbow for 4 days. The mother noted that the child was moving the right upper limb less often and there was tenderness over the right elbow. X-ray of the right elbow showed subluxation of the elbow joint with no obvious fracture. A trial of conservative management was decided upon and the patient was placed on a right elbow backslab with the right forearm in a supine position. On follow-up, there was no swelling, tenderness or neurological deficit noted. A repeat x-ray revealed normal findings.

Introduction

Nursemaid's elbow is a radial head subluxation caused by axial traction on the extended arm while the forearm is pronated, allowing for slippage of the radial head under the annular ligament^{1,2} such as when a child is pulled at the wrist to prevent a fall or picked up from the floor by their hand.³ It is also known as pulled elbow. This type of injury typically occurs in children between 1 and 4 years of age with a slight predominance in females.³ Local clinical symptoms with correlating history and no obvious radiological findings should alert the health professional to the diagnosis of pulled elbow. The mainstay of treatment is conservative with reduction by flexion and supination or hyperpronation. If left neglected, this may cause permanent functional disability of the elbow.

Aim

To highlight the importance of recognising the diagnosis of pulled elbow in the paediatric population by clinical means with and treatment by simple manipulation to avoid unnecessary future complications.

Case

S, a 2-year-old boy, presented to the emergency department with a 4 day history of pain, swelling and reduced range of movement of the right elbow and wrist. The patient's mother denied any history of possible trauma to the upper limb, apart from the child having an intermittent unsupervised period during a busy family gathering 4 days prior to the presentation. Initially, the child was treated in

a private clinic; but after 2 days, the mother noticed the child was not using the right upper limb much and there was tenderness over the right elbow. This prompted her to bring the child to the hospital. X-ray of the right elbow showed subluxation of the elbow joint with no obvious fracture (**Figure 1**). An attempt to reduce the subluxation was unsuccessful due to poor cooperation from the patient. A right arm backslab was applied and the patient was admitted for observation. Examination on the next day showed tenderness on the lateral aspect of the right elbow and minimal swelling with normal skin and intact circulation. The patient also had a normal range of motion of the elbow and wrist except for limited elbow extension due to pain. A trial of conservative management was decided upon and the patient was placed on a right elbow backslab with the right forearm in a supine position (**Figure 2**). On follow-up 2 weeks later, there was no swelling, tenderness or neurological deficit noted. A repeat x-ray revealed normal findings allowing the patient to be discharged from the orthopaedic clinic.



Figure 1. No obvious bony deformities on x-ray



Figure 2. Supination–flexion manoeuvre technique

Discussion

The child with a pulled elbow commonly experiences sudden acute pain and loss of function in the affected arm. On presentation, it is not unusual for the child to be calm and sometimes even be able to play. However, the child will refuse to use the affected arm and cry when it is supinated.

Pulled elbow results from a sudden pulling force applied to the extended arm of the child. Owing to the relative strength of the adult in comparison to the weakness of the child's supportive annular ligament, the applied force may not seem strong to the parents but resulting in subluxation of the radial head.

The young child is prone to this type of injury largely because of the anatomical features of their bones and ligaments. These include the shallow, concave radial head, relative plasticity of the cartilage and the immature annular ligament.

The history and clinical findings are sufficient to make the diagnosis, and radiography imaging is usually not necessary apart from excluding fractures.^{4,5} Scapinelli and Borgo⁴ in their study suggested that increased radio-coronoid distance on the affected side is the most frequent and visible sign, which can confirm the diagnosis of pulled elbow. Nevertheless, they agreed with common consensus that imaging procedures are not necessary to diagnose pulled elbow and are recommended only when the history is not typical, in the presence of deformity or traumatic skin lesions and in children over 6 years of age.⁴

The treatment consists of manipulating the child's arm so that the annular ligament and

radial head return to their normal anatomic positions. Various manoeuvres have been described worldwide with two techniques being most commonly used – hyperpronation and supination–flexion manoeuvres – in the reduction of the pulled elbow. Bek et al.⁶ in their randomised controlled trial of 66 patients concluded that the rates of final reduction for both were similar, but the hyperpronation manoeuvre was more efficient at the first attempt, easier for physicians and less painful for the children. A Cochrane Database Systematic Review to compare the effectiveness and painfulness of the different methods used to manipulate a pulled elbow in young children concluded that there was limited evidence at that time and recommended that a high-quality randomised trial be performed to strengthen the evidence.⁷ Children with pulled elbow usually respond dramatically to the reduction, but Taha⁸ in his study showed that immobilising the elbow for 2 days after the reduction improves the success of treatment for a pulled elbow and reduces the risk of recurrence. In rare cases, subluxation may lead to osteochondritis dissecans of the radial head.⁹

Summary

In conclusion, pulled elbows are usually caused by a sudden pull or jerk to the arm. They are usually easy to diagnose and reduced by flexion and supination or hyperpronation. If left neglected, nursemaid elbow may cause functional disability of the elbow. An important part of the management is educating parents about the risk of recurrence.

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Von Hippel–Lindau disease

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Abstract

Von Hippel–Lindau (VHL) disease is a rare autosomal dominantly inherited multisystem disorder characterised by the development of a variety of benign and malignant tumours. We report a case of VHL disease that was inherited by a daughter from her father, who both presented at a young age with progressive headache and were found to have a posterior fossa haemangioblastoma (HB) on magnetic resonance imaging (MRI). Multiple benign pancreatic and renal cysts were also noted in both patients.

Introduction

Von Hippel–Lindau (VHL) disease has a broad spectrum of clinical manifestation, in which about 40 different lesions in 14 different organs have been described.¹ These include retinal and central nervous system (CNS) HB, endolymphatic sac tumours, renal cysts and tumours, pancreatic cysts and tumours, pheochromocytomas and epididymal cystadenomas. It is a rare disease and the prevalence of VHL has been estimated to be between 1:35,000 and 1:40,000² with an autosomal dominant inheritance with high penetrance and variable expression. Males and females are equally affected.

Case report

A 22-year-old Malay girl presented with a history of worsening headache, which was associated with blurred double vision, nausea and vomiting for 1 year. She denied any history of seizure,

prolonged fever, loss of weight or loss of appetite. There was no history of trauma. On examination, she was alert and conscious. Her blood pressure was normotensive. Eye examination showed diplopia in all directions with nystagmus but no papilloedema. Cerebellar signs were positive. The rest of the CNS examination revealed normal findings. Magnetic resonance imaging (MRI) of the brain revealed a well-defined extra-axial mass arising from the cisterna magna and extending superiorly until the floor of the 4th ventricle (**Figure 1**), suggestive of HB. Abdominal ultrasound was performed and showed multiple simple cortical cysts at the body of the pancreas and both kidneys (**Figure 2**). The liver, spleen and both adrenal glands were normal.

The patient later underwent a suboccipital craniectomy and excision of the tumour. The histopathology result (HPE) showed features of HB (WHO grade I). The diagnosis of VHL disease was made based on these findings.

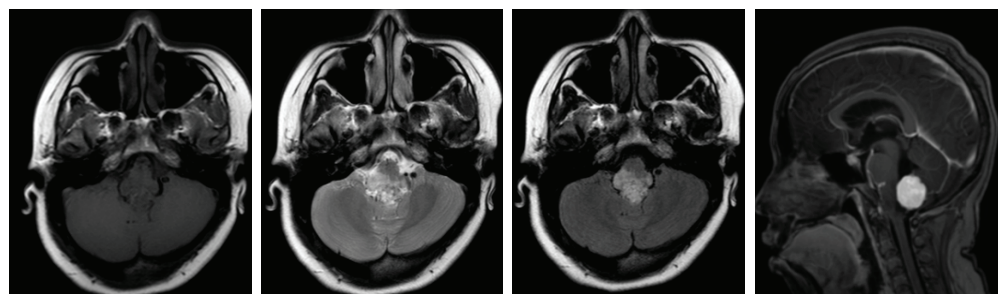


Figure 1A

Figure 1B

Figure 1C

Figure 1D

Figure 1. Serial images of MRI brain in axial (A) T1, (B) T2, (C) FLAIR and (D) sagittal post-gadolinium showed a well-defined extra-axial mass, which appeared to be heterogeneously hypointense on T1WI, hyperintense on T2WI, not suppressed on FLAIR and avidly enhanced post-gadolinium, arising from the cisterna magna and extending superiorly until the floor of 4th ventricle

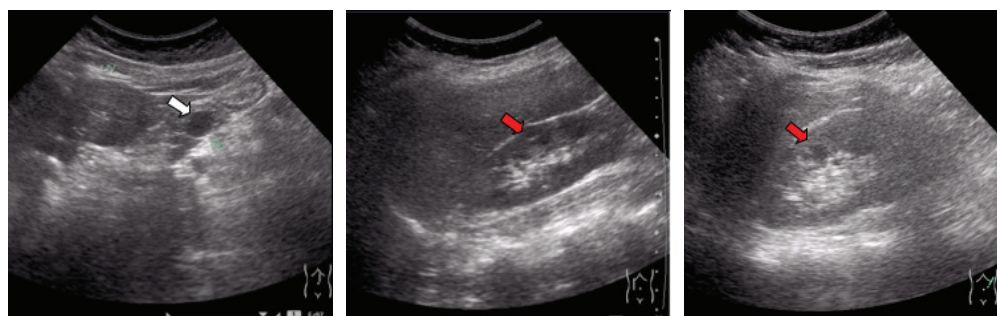


Figure 2A

Figure 2B

Figure 2C

Figure 2. Ultrasound examination showed multiple simple cysts at the body of pancreas (white arrow) and both kidneys (red arrow)

Our patient had a strong family history of brain tumour. Her father presented at the age of 29 years old with a history of progressive headache for 2 months. MRI of the brain showed multiple cerebellar masses. Occipital craniectomy with excision of tumour was performed and HPE showed features of HB. Computed tomography (CT) scan of the abdomen revealed multiple cystic lesions at the head, body and tail of the pancreas. However, there were no similar lesions within the liver, spleen, kidneys and adrenal glands. He had tumour recurrence and underwent another tumour removal.

Discussion

The clinical diagnostic criteria for VHL disease were proposed by Melmon and Rosen.³ If a family history of retinal or CNS HB exists, only one HB or visceral lesion is required to make the diagnosis of VHL disease. For isolated cases without a clear family history, two or more HB or one HB and a visceral manifestation are required. The unique gene responsible for VHL disease has been located and identified on the short arm of chromosome 3 (3p25).⁴ Our patient had a family history of VHL disease (father), which supports the evidence of inheritance. No history was available regarding the presence of this disease among her grandparents and ancestors. Approximately 20% of cases of VHL disease are found in individuals without a family history, known as *de novo mutations*.⁵

CNS HB is one of the most common manifestations of VHL disease. Typical sites are the cerebellum (44–72%), spinal cord (13–59%) and medulla (5%).⁶ When associated with VHL disease, they occur at a younger age and have a worse prognosis.⁷ In this case, both patient and her father presented at a young age

– 22 and 29 years, respectively. HBs are highly vascular lesions and they may be solid, cystic, haemorrhagic or mixed. Primary treatment is surgical removal of symptomatic lesions.⁷

Renal involvement in VHL disease is multicentric and bilateral in at least 75% of patients, ranging from simple cysts to renal tumours. Renal cysts occur in 59% to 63% and renal cell carcinoma in 24% to 45% of VHL patients.⁷ In our patient, multiple simple cortical cysts were seen in both kidneys. Early identification of renal cancers is critical because they account for 50% of deaths in patients with VHL disease.⁸ Therefore, careful follow-up of cysts is essential.

The frequency of pancreatic involvement in VHL disease is 15% to 77%, with a spectrum of simple pancreatic cysts (91%), serous cystadenomas (12%), neuroendocrine tumours (7–12%) and combined lesions (11%).⁹ Pancreatic cysts are extremely rare in the general population.¹⁰ Therefore, the presence of a single cyst in an individual undergoing family screening for VHL disease would increase the likelihood of the diagnosis. Cystic pancreatic lesions in VHL disease are asymptomatic or associated with only mild symptoms.

Understanding the variable presentation of VHL disease is important when extracting the history. Therefore, in a primary care setting, when a patient presents with a history of chronic headache, a proper clinical history and thorough physical examination are crucial. Presence of associated symptoms such as blurred vision and vomiting warrants further evaluation. The patient should be referred for further imaging, such as a CT scan, if a space-occupying lesion is suspected. A proper family history should also be obtained to exclude hereditary disease.

When VHL disease is suspected, the family should be referred to genetic professionals for evaluation and testing. Patients with germline mutations can be identified and offered clinical and radiographic screening that can identify the major manifestations of VHL disease at a presymptomatic phase, thus allowing early monitoring and intervention to be undertaken.

Conclusion

A diagnosis of VHL disease could pose major implications for daily life due to its chronicity and unpredictable course. Therefore, early screening and identification are essential to prevent avoidable morbidity and mortality related to the disease. A multidisciplinary team approach is important in screening for VHL disease.

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Bilateral optic neuritis with maculopathy: A rare manifestation of dengue fever

Boo YL, Lim SY, Chin PW, Hoo FK

Boo YL, Lim SY, Chin PW, et al. Bilateral optic neuritis with maculopathy: A rare manifestation of dengue fever. *Malays Fam Physician*. 2017;12(1):32–34.

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Abstract

Dengue fever is a common mosquito-borne disease, which is endemic in tropical and subtropical countries. Bilateral optic neuropathy is a relatively unusual dengue-related ocular complication. Here, we present a case of bilateral optic neuritis with maculopathy complicating dengue infection.

Introduction

Dengue fever is a mosquito-borne disease caused by *Flaviviridae* virus and transmitted by *Aedes* mosquitoes. There are four antigenically related serotypes of dengue viruses (DEN-1 to DEN-4) with a broad range of clinical manifestations. It is endemic in Malaysia with reported cases increasing every year.¹ The prevalence of dengue-related ocular complications is relatively uncommon despite the increasing number of reports describing a myriad of dengue-related ocular signs and symptoms.^{2–5} These manifestations included subconjunctival haemorrhage, uveitis, maculopathy, foveolitis and optic neuropathy.⁶ Here, we report a case of bilateral optic neuritis with maculopathy complicating dengue infection.

Case description

A 38-year-old woman presented with fever associated with headaches, retro-orbital pain, myalgia and arthralgia for 3 days duration. She also felt nauseated and oral intake was inadequate but there was no vomiting. She had no significant past medical history and no recent history of travel.

Upon arrival, her clinical parameters were stable. She was well perfused with a capillary filling time of less than 2 seconds and a good pulse volume. Examination of the abdomen, cardiovascular, neurological and respiratory systems were unremarkable.

Initial laboratory investigations showed a normal haemoglobin level with a haematocrit of 44%, leucopenia ($3.2 \times 10^9/L$) and platelet

count of $170 \times 10^9/L$. Dengue non-structural protein-1 (NS-1) antigen was positive. Otherwise, her renal profile and liver function were within the normal range. She was treated for dengue fever in a critical phase and managed accordingly.

On her 4th day of hospitalisation, she complained of sudden onset of blurring of vision of the right eye. Examination of the eyes revealed regular pupilsizes with reduced visual acuity of the right eye (6/60) while her left eye visual acuity was 6/6. Her relative afferent pupillary defect was positive over the right eye. Anterior segment examination was unremarkable in both eyes. Fundusoscopic examination revealed hyperaemic optic disc with splinter haemorrhage of both eyes and blurring of the disc margins, which was more marked over the right eye. (Figure 1A, B). Macular oedema was noted over the right eye (Figure 1A).

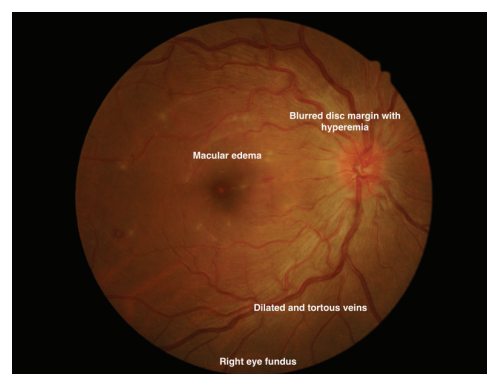


Figure 1A. Right eye fundus examination showed the presence of blurred disc margin with hyperaemia and macular oedema

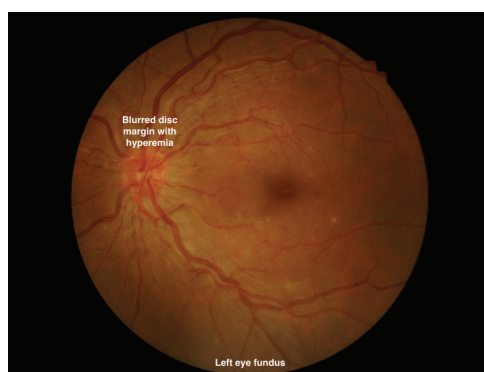


Figure 1B. Left eye fundus examination showed the presence of blurred disc margin with hyperaemia

She was diagnosed with bilateral optic neuritis with right eye macular oedema and foveolitis. Her nadir platelet count was $81,000 \times 10^9/L$, and this coincided with her ocular symptoms. She was started on intravenous methylprednisolone 1 g daily for 3 days and continued with oral prednisolone in a tapering dose upon discharge. Her visual acuity improved to 6/9 over the right eye, and fundoscopic examination revealed that the macular oedema had resolved with marked improvement over the optic disc region bilaterally. At 1 month follow-up, there was no deterioration in the visual acuity of both eyes and we managed to taper off the steroid therapy. (Figure 2).



Figure 2. Fundi of both eyes after steroid therapy

Discussion

Dengue infection is a global public health problem with increasing prevalence.¹ Dengue-related ophthalmic manifestation is uncommon and ranges from subconjunctival haemorrhages to optic neuropathy. The mechanism leading to ocular involvement in dengue infection is unknown, but may be attributed to an immune-mediated process and possibly its infectious aetiology.⁷ The presence of haemorrhages such as subconjunctival haemorrhage, vitreous haemorrhages and retinal haemorrhages may be attributed to thrombocytopenia with coagulation defects, capillary fragility, consumptive coagulopathy and platelet dysfunction.⁸ Fortunately, most of these dengue-related ocular manifestations eventually resolve with the recovery of platelet counts.⁹

The onsets of visual symptoms were closely correlated with the nadir of platelet level during the dengue infection.⁷ Most cases presented with visual symptoms within a day of their lowest platelet count while a minority presented a day after the nadir thrombocytopenia.⁷ In our case, the visual symptoms developed during the nadir, and this was consistent with previously reported cases. Of all the visual symptoms, blurring of vision is the most common presenting complaint in dengue-associated ophthalmic manifestation and this is closely related to the presence of maculopathy.⁶ Other possible symptoms include scotoma and ocular pain.⁶ Our patient presented with sudden onset of blurring of vision over the right eye that was painless and progressively worsening. The presence of macular oedema explained the visual disturbance as the visual acuity of her left eye, which had no maculopathy, was spared.

Optic neuropathy is relatively uncommon compared to other dengue-related ocular manifestations. Hyperaemia, optic disc swelling and disc haemorrhages are common presentations of dengue-related optical neuropathy.⁶ As the development of optic neuropathy is likely to be immune-mediated, treatment with steroid was justified.⁶ Steroid therapy is recommended only for those with persistent symptoms or poor vision. Most dengue-related ocular disease are self-limiting and resolve spontaneously. The medical literature has reported on the use of steroid therapy and its favourable outcome.^{6,7,10} Our patient was started on steroid therapy due to worsening visual acuity and the presence of optic neuropathy. There was marked improvement of symptoms after initiation of treatment.

The overall prognosis for dengue-related ocular complications is good. Despite that, a significant number of patients may experience residual visual disturbance including persistent central scotoma and poor vision.⁶ Rarely, visual recovery is poor despite steroid therapy.

Conclusion

Dengue fever can result in a broad spectrum of ocular complications. Bilateral optic neuritis, although rare, can occur in association with dengue infection. Early treatment with steroid is beneficial and may improve the visual outcome.

A take-home message for primary care physician

- Dengue fever may lead to a variety of ocular complications.

- Timely referral of dengue patients with ocular complications (e.g., optic neuritis) to secondary and tertiary centres may prevent long-term disability and improve the visual outcome.

Acknowledgement

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Funding and conflicts of interest

None declared.

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TEST YOUR KNOWLEDGE

Is it as dangerous as it looks?

Che Ibrahim NH, Md Shukri N

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Torus palatinus, hard palate, hard palate tumour

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Abstract

A common bony protrusion that occurs over the hard palate is sometimes mistaken for a malignancy especially when it is large. This bony growth is a torus palatinus (TP), which is a benign bony prominence over the hard palate. It occurs most commonly in bilateral multiple form, and is often located at the canine to premolar area. A basic knowledge of the assessment and management of TP is important, particularly for the first-line family physician to ensure that the correct information is given to the patient.

Case Summary

A 58-year-old Malay man came for follow-up for allergic rhinitis. His rhinitis was well controlled with regular nasal spray. There was no dysphagia or intra-oral bleeding. A clinical oral examination was performed as seen in (Figure 1).



Figure 1. Large irregular growth over the hard palate

Questions

1. State the diagnosis.
2. What problems can this cause to the patient?
3. What are the management options?

Answers

- 1: A large torus palatinus (TP) occupying most of the central part of the hard palate.
- 2: Difficulty in forming a food bolus during the first phase of swallowing with risk of food stuck at the edge of growth.
- 3: Conservative management can be done if the lesion does not cause problems for the

patient. . Surgical excision may be needed if symptoms are causing discomfort or for prosthodontic purposes.

Discussion

TP is a benign anatomical bony prominence that occurs in the hard palate and the lingual aspect of the mandible. Although they are generally asymptomatic, surgical intervention may be required in some cases for prosthodontic purposes.¹ In the Malay population, the prevalence of TP was found to range from 38% to 63% with a female-to-male ratio of 10:1.² It has been of considerable interest to anthropologists as well as to dentists and oral surgeons, judging by the numerous publications in these fields. Although TP was recognised from the early part of the nineteenth century, it was first named only in 1880 by Kupffer.

Fox (1814) first mentioned the torus as an exostosis in the mid-palate region.³ Larger growths were associated with older age. TP can vary considerably in form and size. It is usually spindle-shaped or in a mound form. Sometimes, it is narrow and highly arched. In rare cases, it may consist of masses of irregular shape. In general, the small size is the most frequent and the large size is the least.³ On intra-oral examination of this patient, the torus was hard in consistency, fully covered by mucosa without any ulcer, had an irregular surface and equally sized lobular shape bilaterally. The mass measured about 3.5 cm long and 1.5 cm wide on each side of the torus, and extended from the premolar to the second molar area. The lobular form of TP is usually bigger in size (medium or large) and located from the premolar to molar area as in this patient (63.7%).^{2,4}

Most patients with TP have no problems except for discomfort, as in this patient. Denture fit is not affected if the TP is located from the molar or premolar area to the posterior part of the hard palate. However, if the TP extends from the canine area, it will interfere with denture fitting and modification of the dentures is required. Sometimes, the overlying mucosa may become sore by the constant trauma during mastication and this is an indication

for excision.⁵ In the case of a large TP that interferes with speech, mastication or causing severe anxiety to the patient who is worried about cancer, surgical intervention is justified. This is carried out under general anaesthesia where the exostosis is removed by sagittal and coronal osteotomies via an anteroposterior midline palatal incision.⁶ The management of large TP must be tailor-made to the individual and differs from patient to patient.

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An elderly man with an air-fluid level in the middle ear

Mohamad S, Mohamad I

Mohamad S, Mohamad I. An elderly man with an air-fluid level in the middle ear. *Malays Fam Physician*. 2017;12(1);37–39.

Keywords:

Otitis media, middle ear effusion, Eustachian tube, nasopharyngeal cancer

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Abstract

A 68-year-old Malay man who is a rubber tapper, presented with a large painful right-sided neck swelling for 6 months, which was gradually increasing in size and associated with odynophagia, dysphagia, hoarseness and significant weight loss. He did not complain of any ear symptoms, but on further questioning, he admitted having a 3-week history of occasional tinnitus and reduced hearing on the right ear. Other ear symptoms were negative.

On examination, there was a mildly inflamed, hard and tender 5 × 5 cm mass, which was fixed at level II, III and IV on the right side of the neck. Oral examination showed a unilateral tonsillar enlargement. An otoscopy was performed (**Figure 1**). Rinne test was negative for the right ear and positive for the left ear, and Weber test was lateralised to the right ear.



Figure 1. Otoscopic finding of the right ear

Questions

1. Describe the otoscopic finding (**Figure 1**).
2. What additional symptoms should you be looking for?
3. What is the most likely diagnosis?
4. What are the treatment options for this patient?

Answer

1. Otoscopic finding of the right ear shows an air-fluid (serous) level behind the tympanic membrane. The tympanic membrane is intact and mildly retracted with hyperaemia and the handle of malleus prominent at the periphery. The cone of light is, however, still present.
2. It is important to enquire about nasal symptoms such as epistaxis, nasal blockage, change in smell perception and

rhinorrhoea. Nasopharyngeal carcinoma (NPC) should be strongly suspected if the patient presented with neck mass, epistaxis or cranial nerve involvement accompanied by otitis media with effusion (OME).¹ OME is well-recognised as a common presentation of NPC (41%) and neck mass (49-70%). Our patient complained of right nasal blockage and occasional epistaxis.

3. Right OME secondary to Eustachian tube dysfunction caused by a nasopharyngeal tumour (**Figure 2**). The possible pathogenesis of NPC-related OME can be due to obstruction or erosion of the Eustachian tube by the tumour, destruction of the tensor veli palatini and as an effect of radiation (for example, reduced mucociliary function of Eustachian tube, scarring of the tensor veli palatini or Eustachian tube opening and influx of nasopharyngeal bacteria).⁵⁻⁶ Other differential diagnoses include parapharyngeal malignancy, tonsillar malignancy and parotid carcinoma.

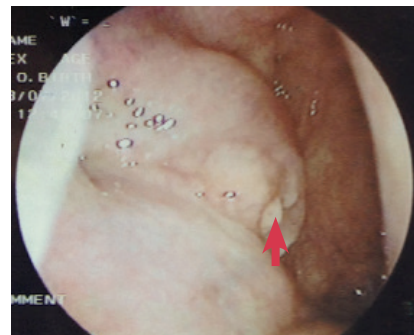


Figure 2. Nasoendoscopic finding of the right fossa of Rosenmüller

4. The treatment option for OME in NPC patients remains controversial. A stepwise approach is recommended based on the patient's symptoms: 1) observation or a hearing aid, 2) tympanostomy and aspiration, 3) repeated tympanostomy for at least 3 months and 4) myringotomy and grommet insertion if repeated tympanostomy fails.⁵ Even though grommet insertion gives immediate relief, it should not be routinely recommended especially for patients with unilateral disease and minimal ear symptoms

as complications such as chronic otorrhoea (49%) and persistent tympanic membrane perforation (29%) are difficult to manage.⁷

Conflict of interests

The authors have no potential conflicts of interest.

Funding

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How this paper makes a difference to general practice?

- This paper highlights that although OME is common, the family physician should be aware that it may be a presentation of NPC to prevent a delay in diagnosis.

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Do statins adversely affect the HbA_{1c} of diabetic patients?

Son WD, Teng CL

Son WD, Teng CL. Do statins adversely affect the HbA_{1c} of diabetic patients? *Malays Fam Physician*. 2017;12(1):40.

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Type 2 diabetes mellitus, hydroxymethylglutaryl-CoA reductase inhibitors, haemoglobin A_{1c}

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Abstract

This paper discusses the adverse effect of statins on the HbA_{1c} levels of diabetic patients. Studies have shown that statins may slightly worsen the HbA_{1c} level. The effects vary depending on the type of statins, the dosage and the duration of therapy. However, it has been confirmed that statin use has benefits that outweigh its harms. Therefore, a diabetic patient should be given advice on the need for appropriate lifestyle changes and the importance of continuing the statins.

Assess

Mdm P is a 38-year-old Malay woman who has been diabetic for the past 2 years. She is taking metformin 500 mg BD and simvastatin 40 mg ON. Metformin was started 1 year ago, whilst simvastatin was started 6 months ago. Her previous HbA_{1c} values were all below 6.5%. However, her latest HbA_{1c} is 6.9% and fasting blood glucose is 6.5 mmol/L. She has not changed her dietary habit in the past 3 months.

Ask

Do statins adversely affect the HbA_{1c} level of diabetes patients?

In PICO format

Population	Adult with well-controlled diabetes and dyslipidaemia
Intervention	Statins
Control	No treatment
Outcome	Increased HbA _{1c}

Acquire

To answer the above clinical question, we searched PubMed using a combination of the following Medical Subject Headings terms: diabetes mellitus, type 2; hydroxymethylglutaryl-CoA reductase inhibitors; haemoglobin A, glycosylated and meta-analysis. We also supplemented the above search by replacing 'meta-analysis' with 'randomised controlled trials' to look for clinical trials published between 2011 and 2015.

Discussion

Statins use is associated with a small but statistically significant increase risk in new-onset diabetes.¹ This observation has raised concerns whether this adverse effect of statins extends to the worsening of glycaemic control among patients with pre-existing diabetes mellitus.

We found two meta-analyses that address our evidence-based medicine question:

1. Erqou et al² conducted a meta-analysis of nine randomised controlled trials (number of study participants = 9696, statins = 4980, control = 4716). With an average follow-up of 3.6 years, the mean HbA_{1c} was statistically significantly higher in study participants randomised to statins vs control groups: 0.12% (95% confidence interval [CI]: 0.04–0.20) or 1.3 mmol/mol (95% CI: 0.4–2.2).
2. Zhou et al³ conducted a meta-analysis of 26 randomised controlled trials (number of study participants = 3232). They found that statins did not have statistically significant effect on HbA_{1c} (weight mean difference 0.04%, 95% CI: –0.08–0.16). Notably, a detrimental effect was significant in atorvastatin therapy whereas the ameliorative effect was seen in simvastatin therapy.

The above two meta-analyses came to differing conclusions primarily because they included different sets of randomised controlled trials. Of note, Zhou et al³ failed to include the American Society for Parenteral and Enteral Nutrition (ASPEN) study (n = 2410) in which the atorvastatin group had worse HbA_{1c} at follow-up (0.1 mmol/L).

Further, we found two randomised controlled trials published between 2012 and 2015:

1. Ogawa et al⁴ randomised 1049 diabetes patients to receive rosuvastatin 5 mg or atorvastatin 10 mg. There were no significant differences between the two groups in the effect on HbA_{1c} at 12 months, but both groups showed an increase of HbA_{1c} of between 0.11% and 0.12% as compared to the HbA_{1c} recorded prior to the research. However, this was not statistically significant.
2. Simsek et al⁵ randomised 263 diabetes patients to rosuvastatin 40 mg or atorvastatin 80 mg. At 24 weeks, both groups showed a statistically significant increase in HbA_{1c} (average of 0.3% or 4 mmol/mol).

Answer

The above-cited studies showed that statins most likely lead to a slight worsening of HbA_{1c}, although the magnitude of effect

may vary depending on the type of statins, the dosage as well as duration of therapy. There is no prospective data showing that this detrimental effect of statins would result in an increase in diabetes-related end-organ damage or cardiovascular events. However, it has been confirmed that statins use can reduce the the number of major cardiovascular and cerebrovascular events in diabetes patients without pre-existing cardiovascular diseases (0.79, 95% CI: 0.66–0.95).⁶ It is our view that statins use has benefits that outweigh its harms.

Apply

In the case of Mdm P, repeated HbA_{1c} testing is needed to verify the adverse change. Thereafter, appropriate lifestyle changes need to be re-emphasised. She will be counselled regarding the importance of continuing the statins to prevent cardiovascular and cerebrovascular events.

Conflict of interest: None

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