KNOWLEDGE, ATTITUDE AND PRACTICE OF GUARDIANS AND ADULT PATIENTS TOWARDS UPPER RESPIRATORY TRACT INFECTION AT KLINIK PERUBATAN MASYARAKAT (KPM), HUSM.

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ABSTRACT

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Abbreviations

A score	Attitude score
ARI	Acute respiratory infection
et al	And the rest
HKB	Hospital Kota Bharu
HUSM	Hospital Universiti Sains Malaysia
KAP	Knowledge, attitude and practice
KPM	Klinik Perubatan Masyarakat
KRK	Klinik Rawatan Keluarga (out patient clinic)
K score	Knowledge score
N	No of respondents
OTC	Over-the -counter
P score	Practice score
SPSS	Statistical Package For Social Sciences
URTI	Upper respiratory tract infection
WHO	World Health Organisation
WONCA	World Organisation of Family Doctors

Abstrak:

Tujuan: Kajian ini adalah untuk mengkaji dan membandingkan pengetahuan , amalan dan sikap ibubapa atau penjaga kanak-kanak dan pesakit dewasa yang datang ke KPM untuk rawatan 'infeksi saluran pernafasan atas'.

Kaedah: Ini adalah kajian irisan rentas yang melibatkan 369 para peserta iaitu 190 ibubapa dan 179 dewasa yang datang ke KPM dalam tempuh masa 4 bulan iaitu di antara 1hb. Ogos dan 31 hb. Disember, 2000 untuk 'infeksi saluran pernafasan atas'.

Apabila doktor mengesahkan bahawa pesakit mengalami 'infeksi saluran pernafasan atas' borang kaji selidik akan diberikan untuk dijawab. Bagi pesakit yang berumur 18 tahun ke atas , borang kaji selidik itu akan dijawab oleh pesakit sendiri dan sekiranya pesakit berumur dibawah 18 tahun borang kaji selidik akan dijawab oleh ibubapa atau penjaga kanak-kanak .

Keputusan: Keputusan kajian menunjukkan, terdapat perbezaan yang bermakna antara kedua-dua kumpulan ini dari segi umur para peserta, kedudukan status berumah-tangga, tahap pelajaran dan pendapatan serta status pekerjaan. Purata umur peserta adalah 35 $\pm$ 7.53 tahun untuk para penjaga dan 29.5$\pm$10.36 tahun untuk pesakit dewasa. Enam puluh empat peratus daripada golongan kanak-kanak yang datang ke KPM untuk 'infeksi saluran pernafasan atas' berumur kurang daripada 5 tahun. Purata pendapatan untuk para penjaga adalah RM 1242 $\pm$ 732 dan RM 957.57 $\pm$ 639.26 untuk pesakit dewasa dan hampir 2/3 daripada peserta mendapat pendidikan sehingga sekolah menengah.

Secara keseluruhan, pengetahuan peserta dari kedua-dua golongan adalah lemah. Purata K score untuk para penjaga adalah 2.71 $\pm$ 1.66 dan 2.96 $\pm$ 1.41 untuk para pesakit dewasa. Dengan para peserta yang mendapat K score yang tinggi, majoriti memperolehi P score yang bagus tetapi hampir 2/3 daripada mereka tidak memperolehi A score yang memuaskan.

Majoriti daripada mereka datang dua hari terlebih awal apabila mereka sakit dan sebab utama mereka datang awal adalah untuk mendapatkan nasihat dan untuk mengelakkan komplikasi. Empat puluh dua peratus dari golongan penjaga dan 59% daripada pesakit dewasa menjawab virus sebagai penyebab 'infeksi saluran pernafasan atas' dan hampir

1/3 lagi mengatakan bakteria. Majoriti berpendapat bahawa 'infeksi saluran pernafasan atas' tidak boleh sembuh dengan sendiri. Bagi 184 peserta yang percaya virus adalah agen penyebab 'infeksi saluran pernafasan atas', lebih daripada separuh peserta meminta antibiotik.

Kesimpulan: 'Infeksi saluran pernafasan atas' jarang sekali menyebabkan komplikasi yang membawa maut tetapi ia selalu menyebabkan pesakit merasa ketidakselesaan dan ini mendorongkan mereka untuk mengunjungi unit rawatan kecemasan dan klinik pesakit luar di waktu sibuk. Pesakit biasanya mempunyai konsep yang salah terhadap 'infeksi saluran pernafasan atas'. Kajian ini menunjukkan bahawa pengetahuan para pesakit dewasa dan ibubapa masih dalam peringkat lemah. Untuk mengatasi kelemahan dari segi pengetahuan mereka, para doktor perlu meluangkan lebih masa untuk memberi nasihat kepada para pesakit. Majoriti daripada mereka mengatakan bahawa mereka akan kembali untuk mendapat rawatan susulan dengan doktor yang sama sekiranya mereka tidak sembuh daripada rawatan yang awal. Sewaktu konsultasi, adalah tersangat penting sekiranya doktor memahami apa yang menyebabkan pesakit merasa bimbang. Nasihat yang diberikan oleh doktor mestilah meyakinkan dan konsisten supaya nasihat tersebut dapat diterima oleh para pesakit. Doktor dapat menambahkan keyakinan para pesakit dengan memberi rawatan susulan dan membenarkan masa untuk para pesakit menambahkan keyakinan terhadap nasihat yang diberi.

Abstract

Aim: The study was to determine the basic knowledge, attitude and practice of adult patients and guardians who came to Klinik Perubatan Masyarakat for treatment of Upper respiratory tract infections.

Method: This was a cross sectional study involving 369 respondents with 190 guardians and 179 adults who came to KPM within the period of 4 months between 1st August and 31st, December, 2000 for treatment of URTI. Once diagnosed to have URTI the respondents were given self-administered questionnaires. The respondents will answer the questionnaires if they were 18 years old or above and for the children who were below 18 years old, their guardians or caretakers will answer the questionnaires.

Results: The results showed, significant difference between the two groups with respect to the age of the respondents, marital status, educational status and income and their state of employment. Mean age for the guardians was 35 $\pm$ 7.53 years and 29.5 $\pm$ 10.36 years for adult patients. Sixty-four percent of children who were brought to KPM for URTI were aged less than 5 years old. The average income of the guardians was RM 1242 $\pm$ 732 and RM 957.57 $\pm$ 639.26 for the adult patients. Two thirds of the respondents had completed education up to secondary level.

The overall knowledge was poor between both respondents. Mean K score for guardians was 2.78 $\pm$1.71 and 3.15 $\pm$1.43 for adults. With respondents who had good K score, majority had good P score but about 2 / 3 of the respondents had poor A score.

Majority of them came to KPM as early as second day of their illness. Reasons for their early visits were for reassurance and to avoid complications. Forty-two percent of the guardians and 59% of the adult patients claimed that virus was the causal agent for URTI and about 1/3 of them claimed bacteria were the cause. Majority did not know that URTI could resolve by its own. In 184 respondents who believed virus as the agent causing URTI, more than half of them wanted antibiotics.

Conclusions: URTI are very seldom associated with serious or life threatening complications, but they frequently cause patient discomfort and causing many unnecessary visits to emergency departments and outpatients during peak hours. Patients often harbour misconceptions about URTI. This study shows that the adult patients' and guardians' knowledge regarding URTI was still lacking. The pitfalls associated with treating URTI can be minimized if the physician can take time to educate patients and parents. Majority claimed they would like to consult the same doctor. The primary need

should be addressed during patient encounter without belittling the patients' concern. Such reassurance, or legitimisation provides the foundation for further educational message. Educations should be anticipatory, convincing and consistent. Physicians can buy time in convincing the guardians and adult patients in their primary care practice.

Chapter 1

INTRODUCTION

INTRODUCTION

1.1 General

Upper Respiratory Tract Infection is the leading cause of acute morbidity as well as absenteeism from work and school (Douglas, 1999). Children have approximately six to eight colds annually, whereas adults generally have two to four colds per year (Dowell, 1998, Rosenstein et al, 1997).

Although URTI are the most frequent reasons for visiting health care providers, most colds can be effectively self-treated at home with or without over-the-counter medications because it is self-limiting and will recover spontaneously. But yet many patients went to seek medical assistance during the course of their illness and some as early as within the first 2 days of symptom onset and this cause heavy workload to outpatient and emergency departments not only in this part of region but throughout the world (Roberts et al, 1983, Mayefsky et al, 1997).

Because of the belief that it is patients who create most of the visits, most studies of URTI care addresses patients' perceptions, attitudes and satisfaction. There were studies suggested that patient expectations is the strongest predictor of prescription (Braun et al, 2000). Braun further explained that patients' previous experience play important role in the

decision-making. Various studies were done trying to prove the potential efficacy of antibiotic therapy in the treatment of presumed respiratory viral infections and its ' use as prophylactic against respiratory infections but till now there is still lack of benefits (Arrol et al, 2000, Soyka et al,1975).

Soyka et al in 1975 reviewed the issue of misuse antibiotics for treatment of URTI in children and he observed about 60% of the physicians prescribed antibiotics. The reasons for prescribing are uncertainty of the diagnosis especially in the initial visit at early course of the illness, pressure to prescribe due to parents misconceptions that antibiotics prevent secondary infections, antibiotics shorten the durations of illness, antibiotics lessen the severity of viral illness and using antibiotics are safe. He proved that all of these were wrong. However over the past 20 years evidence shows there has not been much change regarding the rationale against presumptive antibiotic use (Mc Caig, 1995, Nyquist, 1998).

Overuse of antibiotics encourages resistance and causes unwanted side effects and some may cause serious problems (Douglas, 1999, Abramson et al, 1999, Schwartz, 1999). Unnecessary antibiotics should be avoided to spare unnecessary cost. Physicians should think before prescribing and patients should equip themselves with good knowledge about

URTI and together it may overcome the unnecessary treatment or visits. On the other hand, physicians should spend more time in educating them and correct their misconceptions.

Since in late 1970's, with WHO call for ' health for all', and the launching of WHO ARI guidelines to detect simple URTI up to detecting pneumonia in children and encouraging to prescribe lifesaving antibiotics, the mortality rates of children dying from pneumonia had declined. The WHO guidelines have been progressively refined and widely applied for the past 20 years and its program is not only to target those who benefits but also to reduce inappropriate use of antibiotics. Unfortunately since then, they were widely available in shops and have been used abusively. The extensive use and probable overuse of antibiotics for ARIs is becoming a serious issue worldwide, in both developed and developing countries for adults and children.

The Cochrane Collaboration Review Group has focused attention to improve health care and urging everyone to take a hard look at where the medical world is heading. Its systematic overviews of the world medical literature, which is subjected to statistical meta-analysis, has made evidence based medicine easily accessible and nowadays it has been an ongoing practice in the medical field throughout the world. The Cochrane ARI review group invited a change in approaching these problems. Begin from well-developed epidemiological data systems, the precise nature and magnitude of the disease burden, with

careful research what we already know and need to know in order to change the status quo. Research funding must be directed at the gaps in knowledge and the development. Patients and caregivers must be better informed about what is happening and what is to be expected. By begin implementing more elements of the public health approach everywhere; the potential financial benefits of successful approaches are enormous (Douglas, 1999).

1.2 Etiology of URTI

Viruses are considered to be responsible for 80-90% of URTI. It is caused by one of six different virus families. Rhinoviruses and corona viruses are the most common viruses that cause URTI (Ouchi, 1999, Asamura, 1999). In young children respiratory syncitial virus is a common pathogen and may lead to serious illness in the first year of life especially for those who have problems like congenital heart disease, lung disease, low birth weight or immunodeficiency (Asma, 1994, Chan, 1996).

1.3 Classification of acute respiratory infections

Although a number of classification systems have been proposed for acute respiratory infections, there are two basic systems that are commonly used; namely the case-management classification system and the traditional clinical classification system (Neil, 1990).

The case management classification is referred to the WHO protocols (WHO, 1995) to recognize the infections according to its severity. Criteria used for defining the various categories of ARI are as follows:

(a) severe ARI

cough with chest in-drawing,

cough with not able to drink

(b) moderate ARI

cough with fast breathing (> 40/min)

but no chest in-drawing,

sore throat with enlarged neck glands

(c) mild ARI

cough with no fast breathing and no chest in-drawing

sore-throat

blocked or runny nose.

The clinical classification system is divided into acute upper respiratory tract infection, middle respiratory tract infection and lower respiratory infection. Upper respiratory tract infection consists of common cold, tonsillitis, pharyngitis and acute otitis media.

Middle respiratory tract infection comprises of acute epiglottitis and laryngitis. Lower respiratory infection includes bronchitis, bronchiolitis, bronchopneumonia and segmental pneumonia (Valman, 1981). It remains the preferred system for most physicians and is compatible with the International Classification of Diseases system (Neil, 1990).

1.4 Mode of transmission

Transmission of the virus occurs through direct contact with infectious secretions on skin surfaces and brief transportation of large particles of respiratory secretions in the air and airborne droplets (Gwaltney et al, 1997). Young children from day care centers frequently introduce respiratory infections to household (Leslee et al, 2000). Psychological stress can increase the risk of infection (Cohen et al, 1991).

1.5 Course of URTI

Most episodes of viral rhino sinusitis follow predictable course. Unnecessary anti-microbial therapy can be avoided by recognizing the signs and symptoms that are part of usual course of this disease and thus are not suggestive of a secondary bacterial infection.

Viral rhino sinusitis begins with the inoculation of virus onto the nasal, oral, or conjunctivae mucous, followed by infection of the local respiratory epithelium. The initial

symptoms, which are caused both by cellular damage and by the inflammatory response, include nasal stuffiness and throat irritation. Within a few hours, sneezing and watery nasal discharge may occur, often accompanied by systemic complaints such as low-grade fever, malaise, headache, anorexia and myalgias. Cough occurs in 60% to 80% of viral rhino sinusitis and does not necessarily suggest a bacterial etiology.

One to three days after the onset of illness, nasal secretions typically become thicker and more purulent because they contain desquamated epithelial cells, polymorph nuclear cells and bacteria that normally colonize the upper respiratory tract.

The duration of illness usually ranges from 2 to 7 days. Although patients are generally improved by day 10, lingering symptoms, including cough (in up to 31% of patients) and nasal discharge (35%), can persist in children and adolescent for more than 2 weeks. With an average of six to eight respiratory tract infections per year, and more if children are in day care, many children will have sequential episodes of viral rhino sinusitis with little time for improvement between episodes (Constance et al, 1999, Harvey, 1995).

1.6 Potential complications

Potential complications include otitis media, sinusitis, pneumonia and exacerbation of chronic conditions such as asthma (Constance et al, 1999, Harvey, 1995).

1.7 Treatment

1.7.1 Antibiotics

There were various controlled trials of anti microbial treatment of the common cold and they have consistently failed to show any benefits in terms of course and outcome (Fahey et al, 1998). It is potentially harmful because it increases the risk of colonization with resistant organisms and hence increases risk of subsequent invasive infection, which is unresponsive towards standard antibiotics (Dowell, 1998).

Routine anti microbial therapy is not an effective way to prevent bacterial complications. Mucopurulent nasal discharge is not an indication to start antibiotics unless it persists without improvement for more than 10 to 14 days (Dowel, 1998, Rosenstein et al, 2000).

1.7.2 Decongestants

Decongestants are useful agents for the relief of cold symptoms and are beneficial in preventing sinus and Eustachian tube obstruction that may lead to sinusitis and otitis media (Smith et al, 1993, Bye et al, 1980).

Three single dose of 50 micrograms oxymetazole, sustained release 100mg of oral phenylpropanolamine or oral pseudoephedrine 60mg is able to reduce symptoms and it gives an overall of 13% symptoms reduction 2 hours after a single dose of decongestants (Akerlund, 1989, Taverner, 1999).

Decongestants cause vasoconstriction, reduce nasal secretions and congestion also promote drainage of nasal secretions, thereby improving nasal airway resistance. They have the potential to produce rebound congestion if used for more than 3-4 days.

Topical decongestants such as phenylephedrine and oxymetazoline nasal sprays are currently recommended due to their rapid onset but oral decongestants are preferred if therapy continues longer than 3-5 days (Constance et al, 1999).

1.7.3 Cough suppressants

Cough suppressants such as codeine or dextromethrophan are beneficial when patients are unable to sleep or rest due to hacking, nonproductive coughs. However, suppression of a productive cough may lead to serious complications such as pneumonia because the body is unable to clear the lungs and airways of unwanted material (Constance et al, 1999). Well-controlled scientific studies were not found to support the efficacy and safety of narcotics (including codeine) or dextromethorphan as antitussives in children. Indications for their use in children have not been established. Dosage guidelines for cough and cold mixtures are extrapolated from adult data and clinical experience, and not appropriate for children (Cheston, 1997).

1.7.4 Antihistamines and expectorants

Antihistamines and expectorants are available as over-the counter medications. Antihistamines are not effective because nasal congestions in colds are not mediated by histamine receptors and thus antihistamines have no role in the management of the common cold (Bluestone et al, 1988, Campbell et al, 2000). Antihistamines have anticholinergic effects that dry mucous membranes, which may be beneficial; but antihistamines can also exacerbate symptoms and increase the volume phlegm, and stimulate the flow of mucus (Naclerio et al, 1988, Gaffey et al, 1988, Doyle et al, 1988).

Maintaining adequate fluid intake through the liberal consumption of water may prove to be the best expectorant. Guaifenesin found in many over-the-counter cough and cold preparations does not reduce cough frequency and provides no benefits as expectorant (Kuhn et al, 1982, Constance et al, 1999).

1.7.5 Antipyretics & analgesics

Non-steroidal anti-inflammatory agents (NSAID) such as Indomethacin and Naproxen have been found to be effective in reducing cough and relieving headache and fever (Turner, 1997). Aspirin and Acetaminophen are effective analgesics and antipyretics but aspirin should not be used in children due to the risk of Reye's syndrome.

1.7.6 Others

New pharmacological therapies may prove beneficial in the management of common colds, such as intranasal Ipratropium bromide (Borum, 1981, Hayden, 1996) and vitamin C (Constance, 1999). The optimum dose of intranasal Ipratropium bromide used was 84 micrograms (two sprays of a 0.06% solution in buffered saline solution) in each nostril three to four times daily and the duration of relief of rhinorrhoea was not well defined but thought to be over three hours. The best dose of vitamin C for the treatment of the common cold was not determined, but the maximal benefit was not thought to be obtained with one

g/day of the vitamin. The zinc gluconate / acetate lozenges is effective in decreasing the duration and severity of cold symptoms, especially cough and nasal discharge but a safe effective dose is not yet established (Mossad et al, 1998, Jackson et al, 2000). The exact mechanism through which zinc affects the common cold remains to be determined. Evidence based suggested that Echinacea, the most widely herbal medicine used in Europe and North America may be beneficial for the early treatment of acute URTI through its 'immuno-stimulating' activity (Barrett, 1999). Breathing in steam from a bowl or jug is widely believed to ease the soreness and discomfort of a cold. Results from various studies were still inconclusive but it is a cheap and safe treatment for patients who find it helpful (Mossad ,1998, Murtagh 2000).

1.8 Prevalence of URTI

Kelantan Morbidity Survey in year 1997 showed the incidence of ARI in the urban was 36.7% and 40.3% in the rural with prevalence of Upper Respiratory Tract Infection about 95.8% and 91.2% respectively. About 35.3% of the children with URTI sought treatment in private sectors and 33% went to government facilities and 14.9% does not seek treatment (Noraini et al, 1997).

Acute respiratory tract infection is the reason for 60-70% of presentation of children under 5 years old to the health center in Malaysia. On average 3 out of 10 children below the age

of 5 years experienced symptoms of acute respiratory tract infection during a 2 week recall period and approximately 1 in 10 had symptoms which disrupted their normal sleeping, feeding and normal behavior (MOH ,1984-1985).

Lye et al conducted a cross sectional community-based survey in Malaysia to determine the prevalence of acute respiratory infection and found 32% of the cases was below 7 years old. Thirty percent of the children who had experience ARI in the 2-week period prior to the interview; 94% had mild ARI, 1% moderate and 5% had severe ARI. Twenty-four and 39% of the severe and moderate ARI respectively were reported by mothers to be mild (Lye et al, 1994).

Rozaini conducted a cross sectional study among toddlers at the maternal and child clinic in Seremban and found the prevalence of ARI is 59% with mean duration of infections of 4.6 days. The presence of cigarette smoker at home, habit of smoking inside the house, amount smoke per day at home, overcrowding, lack of practice of vitamin supplementations significantly contributed to increase incidence of ARI (Rozaini, 1994).

1.9 Literature review

Knowledge of URTI and respondents' expectations

Palmer et al conducted a study in Boston to determine parents' knowledge and understanding of antibiotics and to determine the experience of pediatricians with respect to prescribing oral antibiotics. About 32 % of the parents believed antibiotics were always or sometimes required for colds and 58% in fever and cough, 83% in throat infections, and 93% in ear infections. More parents from the community health clinic believed that was useful in treating URTI (59 %) than did parents from the private practitioner (32 %). Parents from the private practices were more likely to request specific antibiotics (34%) in comparison with 19% of patients from community health clinic (Palmer et al, 1997).

Chan et al conducted a cross-sectional study amongst patients with URTI who went to private practitioner in Hong Kong. They found that majority of the patients still have poor knowledge and misconception about URTI. About 54% of the respondents thought bacteria were the cause and only 28% knew the cause was virus. Majority thought that URTI would not resolved on its own. Out of 91% who consulted for medicines about 36% specifically wanted antibiotics. More adult patients (45%) would request for antibiotics, while only 37% of guardians requested for antibiotics (Chan, 1996).

Hong et al conducted a cross sectional study on patients who have URTI who came to two University of Virginia outpatient clinics that serve patients primarily of low socioeconomic status in a small to moderate sized city in central Virginia. Half of the interviewed patients with symptoms desired antibiotics. Majority of the patients are unable to identify medicine as antibiotic or non-antibiotic and they are unable to indicate the common disease, which can be treated with antibiotics (Hong et al, 1999).

Mainous et colleagues did a survey of 961 adults from an undifferentiated patient population in Kentucky and Louisiana about patients' belief in antibiotics and the likelihood of seeking care for normal presentations of URTIs. Seventy two percent of the samples reported that they would seek care with a condition of 5 days signs and symptoms of URTI with discolored nasal discharge. Sixty one percent believed that antibiotics are effective for patients with 5 days illness with clear nasal discharged compared with 79% when there was discolored nasal discharged. Higher education was significantly related to a decreased belief in the first scenario but to an increase belief in the effectiveness of antibiotics in discolored nasal discharge (Mainous et al, 1997).

Mayefsky did a survey on the expectations of families who used Emergency Department for common cold in pediatric emergency department of Cook County Hospital, Chicago. The majority of the patients in the inner city neighborhoods surrounding the hospital were

poor and treatment given were free. Mean age of children with colds was 3.4 -3.9 years and the median age was 1.5 years. The mean age of the mothers of children with colds was 25 years. Eighty three percent of parents reported their child had been ill for at least 3 days before seeking treatment. Half came for reassurance, 24 % wanted medication for symptomatic relief and 13% hoped for medication to cure the cold. Conclusion from this study was parents' priorities in bringing their children to the Emergency Department were to obtain advice on how to care for their children and to be reassured that their children had no illness other than cold. This reassurance was very important and parental satisfaction is correlated with the physician's communication skills (Mayefsky et al 1991).

Braun et al conducted a cross-sectional telephone survey in the spring of 1997 on patients and parents who contacted three primary care clinics for URTI. About 249 parents and 256 symptomatic adults participated. Thirty percent of the parents and 50% of symptomatic adults wanted antibiotic prescription. Most respondents (85%) believed that colds resolved on their own. Only 43.4% believed that viruses only but not bacteria cause colds. Average time from symptom onset to medical care system contact was 4.2 days. Parents wanted antibiotics because they were motivated by the severity of the current symptoms and a belief that antibiotic therapy would help their children. These parents were likely to agree with their medical provider if they suggested other treatments, which could be more effective. Parents who wanted antibiotics were more often employed full-time. The

symptomatic adults specifically wanted antibiotics because they were motivated by the severity of the current symptoms and through their previous experience of more successful management with antibiotic in treating cold symptoms. Their personal experiences were likely to conflict with provider recommendations for the over-the-counter medications (Braun et al, 2000).

Solberg et al (2000) conducted a cross- sectional survey on adults and parents who seek care for URTI symptoms at three primary care clinics in Minnesota and found that 80% of all groups believed viruses' causes colds, 50% also believed in bacteria and 80% agreed that getting tired and rundown causes colds. Eighty five percent believed that colds resolve on its own, but 97% thought that rest helps, 66% felt that steam or vitamin C helps and nearly half believed in the value of chicken soup.

Antibiotics and URTI

Meta analysis by Arrol et al on seven randomized trials involving 2056 people aged 6 months and 49 years which was to assess antibiotics therapy against placebo in treating URTI. He found that patients who received antibiotics did not do better in terms of cure or improvement than those on placebo. Only one study reported work lost in 22% of those on antibiotic treatment and 25% of those on placebo but this was not significant. He claimed patients treated with antibiotics had a significant increase in side effects (Arrol et al, 2000).

Dosh and coworkers studied antibiotic prescribing and patients expectations. The 5 independently associated with antibiotics prescribing were positive associations with sinus tenderness, purulent nasal discharge, rales or ronchi, postnasal discharge, and a negative association with clear nasal discharge. They also identified secondary factors associated with patients receiving antibiotics, which includes assessments that the patient was not improving, the patient was getting worse and the patient was sick for too long. Dosh and coworkers did not find significant difference in the antibiotics prescribing patterns among the non-physicians and physicians clinic. He further claimed that the patient expectations of an antibiotics was driven by past physician behavior. He did not identify patient expectation or clinical belief that patients expected antibiotics as an independent factor associated with an antibiotic prescription (Dosh et al, 2000).

Hui et al claimed in his study that self-prescribed use of antibiotics are higher in families who qualified for free medical service, Other variables which were significantly associated were higher age of children and longer duration of cough (Hui et al, 1997).

Self medication/ over-the counter medications /Symptomatic treatment in URTI

Over-the-counter medications may not be used correctly and two common misconceptions regarding OTC use are that acetaminophen cures or treats cold symptoms and that cough and cold medicines cure common colds (Flannery et al, 1981, Hayden et al, 1982).

A critical review of clinical trials between 1950 and 1991 evaluating over-the-counter cold remedies demonstrated lack of effectiveness in preschool children, although adolescents and adults clearly benefited from certain combinations (Smith et al, 1993).

Dr Bluestone, a moderator conducted a symposium proceedings by stating that the panel, composed of clinicians and scientists, reached to a consensus that no evidence to advocate prescription or recommendation for use of antihistamines for upper respiratory tract infections. In fact, there were specific side effects, such as drying from anticholinergic effect. He concluded that antihistamines have not been shown to have any documented effect on URTI. In addition, there was no perceived benefit either in adults or children except for the sedative and anticholinergic effects of this agent (Naclerio et al, 1988, Gaffey et al, 1988, Doyle et al, 1988).

Hutton et al conducted a randomized controlled trial on children aged of 6 months and 5 years with URTI in the pediatric walk- in clinic and pediatric primary care clinic at John Hopkins Hospital. With the parents or guardians consent, about 96 children were randomized assigned to three groups; anti-histamine-decongestant, placebo and no treatment with the parents or guardians consent. There were no differences among groups in individual or composite symptoms score changes. Two thirds of the parents believed that their children needed medication for cold symptoms. Parents who wanted medicine at the

initial visit reported greater improvement at 48 hours than those who did not want medicine, regardless of whether the child received drug, placebo, or no treatment. She further concluded that combination antihistamine-decongestant has no clinically significant improvements in symptoms of upper respiratory infections or even significant placebo effect in young children with common cold (Hutton et al, 1991).

In contrast, antihistamine/decongestant combinations were found to have significant benefit in relieving the symptoms of common cold in adults but it is uncertain whether either compounds played more prominent role or an addictive or synergistic effect of the compounds. Thirty percent of subjects taking the combination complained of anticholinergic side effects if to compare with 21% in the placebo group. But drowsiness was reported more in the placebo group (Berkowitz et al, 1988).

Kong et al claimed in his study regarding treatment of bronchiolitis in children in China that there was no significant different in symptomatic reliefs between antibiotics and traditional medications using Chinese herbs (Kong et al, 1993).

According to Gadomski, for centuries, coughs and colds have been treated with home remedies, few of which have been formally studied. These remedies include tea with lemon and honey, chicken soup, hot broths, herbal teas, and in developing countries, guava juice,

cinnamon concoctions, and fish liver oil. Remedies such as tea with lemon and honey are primarily soothing, but they are also simple, safe, inexpensive, and readily available in the home (Gadomski 1994).

Supportive measures for infants with colds include clearing the nose with a bulb syringe, positioning, increasing fluid intake, and using nasal saline drops. Acetaminophen and aspirin have been demonstrated to be effective OTC antipyretics and analgesics. Because they act to suppress prostaglandin synthesis and not interleukin 1, they do not interfere with some beneficial fever-associated immunologic functions, such as helper T-cell proliferation (Gadomski et al, 1997).

Reasons for early visits versus late visits

Solberg et ai in 2000 did a survey in Minneapolis, Minnesota on care seeking behavior for upper respiratory infections among adult patients and guardians. He surveyed by telephone 257 adult patients and 249 parents who called or visited one of the 3 primary care clinics within 10 days (adults) and 14 days (parents) of the onset of uncomplicated URI symptoms. Twenty eight percent of adults and 41% of parents contacted their clinic within first two days of symptoms onset. The illnesses of those who called earlier did not have different beliefs, histories, and approaches to medical care or needs. The only difference was that the adult patients calling in the first 2 days had a greater desire to rule out complications. In

terms of knowledge, there was no significant difference in early visits and late visits. Parent who made early contact were more significantly more likely to report a history of having recovered faster with an antibiotic prescription in the past (42% vs. 22%). Adults patients who sought care early were more likely to be worried about complications while those appeared later more likely to want antibiotics and relief.

Patients and parental satisfaction in managing URTI

Hamm et al conducted a two-way study measuring patients' expectations and physician's perception of the patient's expectations. Two patient questionnaires and one-physician questions were used. The study was conducted in Oklahoma at two community practices and family practice clinic. Sixty five percent of the 113 patients expected antibiotics. Of the patients judged by a physician to have a viral respiratory infection, 56% expected antibiotics. From the study, Hamm claimed that there were three factors significantly influence physicians to prescribe antibiotics; the physician's diagnosis, the patient's belief that antibiotics were the best treatment and the physician's belief that the patient expected antibiotics. The strongest positive associations with patient satisfaction were the time spent by the physician in explaining the illness and whether the patient understood the physician's choice of treatment but nevertheless patients who believed antibiotics kill viruses tended to be less satisfied. Eighty three percent of the patients who expected antibiotics and received them, Hamm was unable to demonstrate patients' immediate

satisfaction. Achieving patient satisfaction may be related to the interviewing skills of the physicians. There was no one model describes all physicians. Physicians were more likely to prescribe an antibiotic when they believed that the patient expected one, support the consumerist model. In the cooperation model the patients interact with the physicians and this could give a greater impact on patient satisfaction and the evidence was stronger when physicians spend more time talking with them and ensuring that they understand the basis for the selected treatment (Cowan et al, 1987). For the most part, physicians seem to be acting in accord with the consumerist assumption, which may result in over-prescribing. In the doctor – dominant model the physicians prescribe when according to what they diagnosed and they do not know what their patients expect and this may lead to dissatisfaction. Therefore achieving patient satisfaction may be related to the communication skills of the physicians, which seems to be lacking (Hamm, 1996).

In 1996, Pichichero conducted a prospective 12-month cohort study at a private clinic located in the suburbs of Rochester, New York. He aimed to provide evidence that judicious antibiotic use can be accomplished in private practice without observing an increase in return office visits or in the rate of bacterial infections that may follow. About 383 children were enrolled and 77% did not receive antibiotics at the enrolment visit and the remaining 23% of enrolled children who were diagnosed to have viral URTI with a concurrent presumed or documented bacterial infections. He found that more unscheduled return visit occurred in the group who received antibiotics rather than in the group who did

not received antibiotics. He also found that by avoiding antibiotics during an initial visit for a presumed viral RTI did not result in an increased likelihood of a return visits for the same illness or more frequent visits for bacterial infection 4 weeks later (Pichichero, 1996).

In 1999, Mangione-Smith tried to explore the relationship between fulfillment of expectations and parental visit-satisfaction. Physician anti-microbial prescribing was not associated with actual parent expectations for receiving anti-microbial. Physicians prescribed in 67% in those who wanted anti-microbial compared with 7% when did not think anti-microbial were needed. In addition, when physicians thought that the parent wanted anti-microbial, more significantly the diagnosis was bacterial infections. In conclusion, failure to meet parental expectations regarding communication is the only significant predictor to parental satisfaction but failure to provide expectant anti-microbial did not affect satisfaction (Mangione-Smith, 1999).

Justification for the study

URTI is one of the commonest cause of consultations in primary care (Zoorob et al, 2001, Mainous et al, 1997, Chan, 1996) .In view of public concern regarding surging of antibiotic resistance, the purpose of this study was to assess the basic knowledge of the adult patients and guardians who came to KPM for URTI. Besides that, I wanted to explore their beliefs and perceptions, which may influence their health seeking behavior. And therefore we are