Original Article

Factors Affecting the Prescribing Pattern of Non-steroidal Anti-Inflammatory Drugs at Outpatient Departments in Government and Private Polyclinics in Kota Kinabalu, Sabah

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(Received: 18 September 2017; Accepted: 29 September 2017)

ABSTRACT

The main objective of this study was to obtain information regarding the effects of educational and socio-economic status of the patients on the prescribing pattern of non-steroidal anti-inflammatory drugs (NSAIDs) by the qualified medical personnel in the outpatient departments (OPDs) of two selected polyclinics in Kota Kinabalu, Sabah, Malaysia. A total of 200 selected patients (100 from each polyclinic) attending the OPDs were interviewed using a questionnaire. Again data were collected, photocopied and later analyzed. Educated and higher income group of patients mostly attended in a Private Polyclinic (PPC) whereas less educated and lower income group of patients generally attended UMS Polyclinic (UPC). This was reported as a probable reason for the wide variations in the prescribing pattern with respect to pharmacological sub-classes of NSAIDs in the OPDs of two polyclinics. The present results strongly support that probable reason. The number of patients taking NSAIDs before coming to hospital was more in PPC compared to UPC. They were influenced by pharmacists, friends and doctor's advice given previously. In conclusion, it may be mentioned that overall prescribing pattern of NSAIDs among two polyclinics is rational.

Keywords: NSAIDs, prescribing pattern, socio-economic status

INTRODUCTION

Patients have been using drugs for a long time to cure or control diseases and symptoms. Drugs can either do good or harm to the users. 'The desire to take medicines is perhaps the greatest feature that distinguishes humans from animals'.[1] Indiscriminate use of drugs also can endanger patients' lives. Drug therapy therefore requires knowledge, judgment, skill and wisdom, but above all a sense of responsibility.[1]

Irrational prescribing has further complicated the drug use problem. Numerous studies done at developed and developing countries, describe it as a pattern consisting of polypharmacy, use of drugs that are not related to the diagnosis, irrational use of antibiotics and self-medication, with many drugs taken in insufficient quantities.[2] Rational prescribing is therefore one important aspect of rational use of drugs.

One of the most widely used and abused drugs all over the world are painkillers. Fever and pain are usually the early symptoms of most of the inflammatory diseases. From the very beginning of human civilization, man has been trying to find the way of controlling these symptoms and maintaining good health. The introduction of non-steroidal anti-inflammatory drugs (NSAIDs) was a landmark event and soon these drugs became the most widely-used medication not only for the relief of pain and fever but also for their anti-inflammatory effect.[3]

Like most drugs, they are double-edged swords. So, sporadic consumption of NSAIDs may subside the symptoms for time being but the actual pathology may sometimes not only be hindered but also be aggravated, complicated and even turn to fatality in some cases.[4, 5]

It was shown that analgesics with no or minimal anti-inflammatory effects became the most commonly prescribed NSAIDs in the OPD of UPC. On the contrary, analgesics with potent anti-inflammatory effects became the most commonly prescribed NSAIDs in PPC.[6]

The main aim of this study was to obtain information and clarify the effect of educational and socio-economic status of the patients on the prescribing pattern with respect to pharmacological subclasses of NSAIDs by the medical prescribers in the OPDs of some selected polyclinics in Kota Kinabalu, Sabah.

METHODOLOGY

Materials and Methods

This is a prospective cross-sectional (descriptive) study. The study was carried out in outpatient departments of two selected polyclinics in Kota Kinabalu, Sabah, namely: UMS Polyclinic (UPC) and a private polyclinic (PPC). Duration of study period was one year (August 2015 to July 2016).

Study Design

A total of 200 patients (100 from each polyclinic) attending OPDs were selected for an in-depth interview. After obtaining their consent, they were interviewed using a questionnaire containing educational and socio-economic condition of the patient. The patients having prescriptions that did not contain NSAIDs were excluded. The information were obtained and analyzed in order to find out their educational and socio-economic status (occupation as socio-economic status) and whether any NSAIDs was taken for the illness before coming to polyclinic and if yes, under whose advice.

Sample Size and Data Analysis

Sample size was determined as per guideline of WHO/DAP.[7] Sample size for patients was 100 from OPD of each polyclinic in this study. They were interviewed using a questionnaire. Data were analyzed by using percentage. As it was a descriptive study statistical analysis was not done.

RESULTS

Educational Status

The educational status of study population attending in UPC was below SPM level (60%) followed by SPM (17%), STPM (14%), graduate (9%) and postgraduate (0%). On the other hand, the educational status of patients in PPC was graduate level (40%) followed by STPM (22%), SPM (20%), postgraduate (12%) and below SPM level (6%) (see Figure 1).

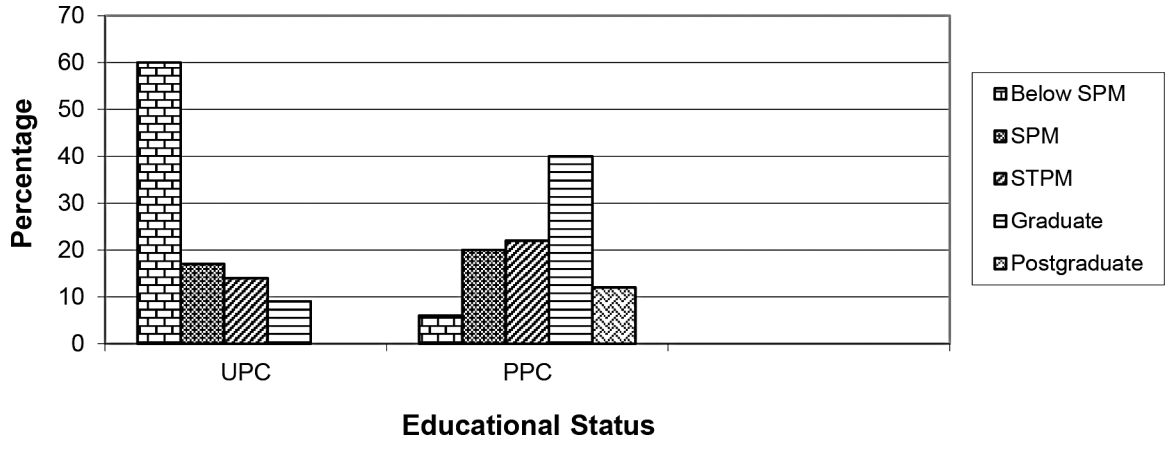

Figure 1 Educational status of the patients attending UPC and PPC

Socio-economic Status

The socio-economic status (occupation as socio-economic status) of patients included in the study in UPC was labourer (40%), followed by unemployed (22%), service (16%), housewife (9%), business (8%) and others (5%). The predominant occupation of patients in PPC was service (64%) followed by labourer (8%), housewife (2%), unemployed (0%), business (23%) and others (3%) (see Figure 2).

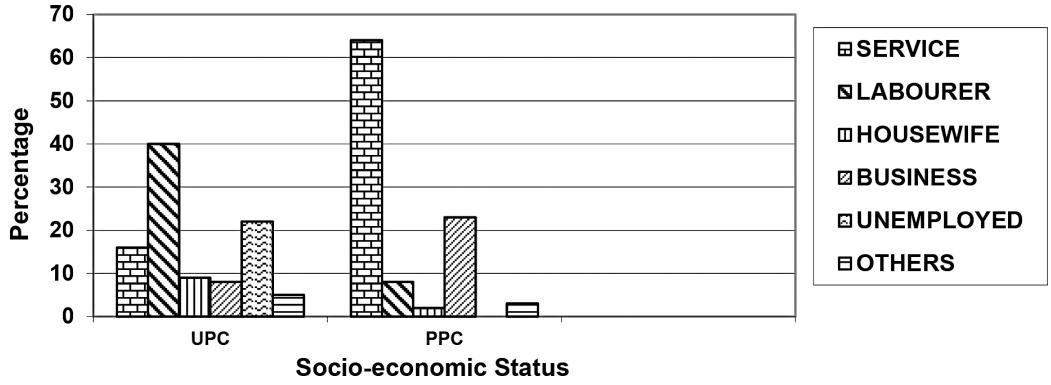

Figure 2 Socio-economic status of the patients attending UPC and PPC

Number of Patients

The number of patients taking NSAIDs before coming to OPD were 20% in UPC and 50% in PPC.

Source of Advice

The source of advice for taking NSAIDs before coming to UPC was pharmacist (60%) followed by friends or relative (14%), previously advised by the doctor to purchase the NSAIDs for the same complaint (20%) and others (6%). On the other hand, the source of advice for patients in PPC was doctor's advice given previously (70%) followed by friends or relative (19%), pharmacist (6%) and others (5%) (see Figure 3).

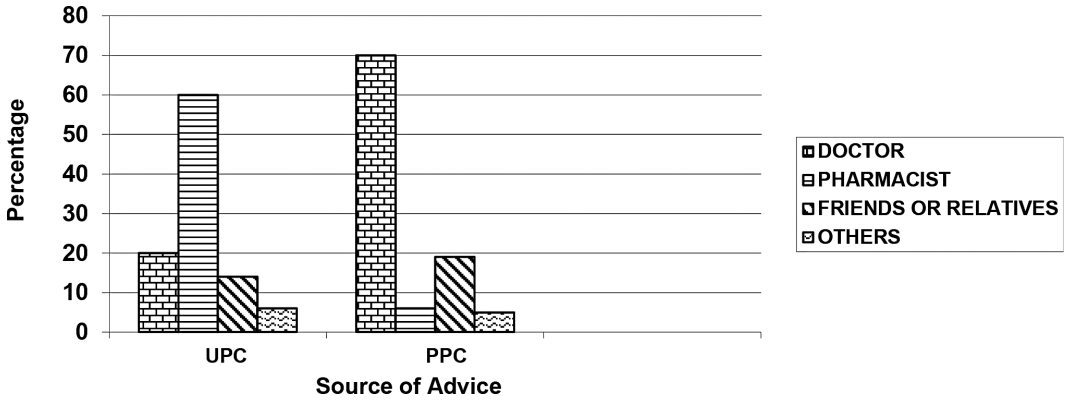

Figure 3 Source of advice given to patients taking NSAIDs before coming to OPDs

DISCUSSION

The main objective of this study was to elucidate the effect of educational and socio-economic status of the patients on the prescribing pattern of NSAIDs by the qualified medical personnels in the outpatient departments of two selected polyclinics in Kota Kinabalu, Sabah.

It was observed that educated and higher income group of patients mostly attended OPDs in PPC whereas less educated and lower income group of patients generally attended UPC. This was probably responsible for the substantial variations in the prescribing pattern with respect to pharmacological sub-classes of NSAIDs in the medical OPDs of two polyclinics. Analgesics with no or minimal anti-inflammatory effects were the most commonly prescribed NSAIDs in the medical OPDs of UPC, whereas analgesics with potent anti-inflammatory effects were the most commonly prescribed NSAIDs in the same OPD of PPC.[6] Possibly, the reason behind it was that educated with higher income group of patients were familiar with the name of analgesics having no or minimal anti-inflammatory effects like paracetamol, ibuprofen, etc. So, the medical prescribers of PPC might have prescribed costly analgesics with potent anti-inflammatory effects to satisfy those patients and cure the patients more quickly. On the other hand, comparatively less educated and less income group of patients those who generally attended in the medical OPDs of UPC received prescriptions containing analgesics with no or minimal anti-inflammatory effects as they were very cheap and mostly available in this polyclinic. The present results strongly suggest that educational and socio-economic status of the patient may have some effects on the prescribing pattern particularly with respect to pharmacological sub-classes of NSAIDs in the medical OPDs of two polyclinics. Analgesics with no or minimal anti-inflammatory effects have lower incidence of adverse effects particularly in the gastrointestinal tract, especially with paracetamol and ibuprofen at low dose.[8, 9]

Moreover, the prescribers in the medical OPD of PPC had to prescribe additional drugs than those of the prescribers of UPC to counter the adverse effects of NSAIDs. Consequently, the cost of prescribed NSAIDs per prescription and ultimately the cost of total drugs per prescription became more expensive in the medical OPD of PPC compared to UPC although the clinical indications for prescribing NSAIDs were almost identical in those polyclinics.[6] In South Africa, investigators observed that analgesic agents represented 12.3% of total number and 14.2% of total cost of products prescribed.[10]

The number of patients taking NSAIDs before coming to hospital were more in PPC compared to UPC. They were influenced by pharmacists, friends or relatives and doctor's advice given previously on the basis of their educational and socio-economic status.

In conclusion, it may be said that the overall prescribing pattern of NSAIDs among two polyclinics is rational. However, appropriate educational intervention can be designed for rational prescribing to improve the quality of healthcare.

ACKNOWLEDGEMENTS

The authors are grateful to Universiti Malaysia Sabah for providing the grant to do this research (Project code: SBK0217-SKK-2015). We would also like to acknowledge the help of staff of Polyclinics for their assistance and cooperation.

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