Management of rheumatoid arthritis

A study carried out in a rheumatology clinic in Malta suggests that an intervention by a clinical pharmacist on patients suffering from rheumatoid arthritis (RA) may improve patients' health-related quality of life and their attitudes towards taking their medication.

The chronic debilitating nature of RA is likely to have a considerable negative impact on the patients' health, fitness, and physical and emotional functioning. The assessment of the HRQOL of patients suffering from RA provides a route for the pharmacist to better understand the impact of this chronic disease on the overall functioning and well-being of patients.

RA is a chronic systemic inflammatory disease which warrants education about the disease and its management. When information about a medication is given to patients suffering from RA, it is specific to that patient, but describes a population response to that particular medication.

However, once patients experience the medication themselves, they gain knowledge of its effects and new concerns may arise. Patients then form beliefs about the necessity of the medication and formulate concerns about the consequences of its use. These factors have been shown to influence adherence to medications. Patients often want to know whether the medication is working or not and whether it is causing any side-effects. It is at this point that patients present new queries and concerns that need to be addressed.

By carrying out interventions with the patients during their visits, a clinical pharmacist has the potential to resolve any uncertainties and concerns that the patients may have regarding their medications. The pharmacist makes the patients aware of the necessity of taking their medications, so as not to encourage inappropriate non-compliance.

A study was carried out in Malta at the Rheumatology Clinic, Mater Dei Hospital, to investigate the impact of interventions carried out by the clinical pharmacist using the Health Assessment Questionnaire (HAQ) and questionnaires regarding the desire for information, beliefs about medications and the satisfaction concerning the government pharmacy service (referred to collectively as the questionnaires for the purpose of this study). The aim was to investigate the outcome of interventions carried out by the clinical pharmacist with RA sufferers on these criteria.

**Method**

The study was carried out at the Rheumatology Clinic of Mater Dei Hospital, which is run every Friday. This clinic is made up of a multidisciplinary healthcare team, which consists of four rheumatology consultants, one senior registrar, a clinical pharmacist with a special interest in rheumatology, a rheumatology nurse, a podologist, an occupational therapist and a physiotherapist. All the healthcare professionals play a separate role in achieving the desired outcomes for the patients attending the clinic.

The clinical pharmacist provides support and advice to all patients attending the clinic. The healthcare professionals rely on the clinical pharmacist's drug expertise and the consultants also refer patients to the clinical pharmacist whenever the patients have problems or concerns regarding their drug therapy.

A patient leaflet, regarding the use of hydroxychloroquine in the management of RA, was developed and validated. The leaflet consists of the following sections presenting information on hydroxychloroquine: use, how to take medication; storing; side-effects to be expected; check-ups required; use with other medicines; consumption of alcohol; use in pregnancy and breast-feeding; action to take when a dose is missed; how to get the best value from the medication; and contacts for further information.

The participants included in this study were above 18 years of age, mentally competent, attending the Rheumatology Clinic during the study, able to communicate with the investigator and willing to take part in the study. Ethics approval was granted for the study from the University Research Ethics Committee and signed patient informed consent was obtained from all participants. Patients who met the inclusion criteria for the study were invited to participate on the day of their out-patient visit. The medical files of the participants were reviewed in order to obtain their current drug regimens and identify history of any drug therapy problems.

Eighty patients with RA were included in the study and divided into Group A (Control, n=20), Group B (n=40) and Group C (patients on hydroxychloroquine n=20). All patients were interviewed using the questionnaires while they were waiting for their consul...
tation visit (pre-intervention stage). A pharmacist’s intervention was then offered to Group B and Group C patients. During this intervention, the patients’ drug therapy was reviewed and drug therapy problems (DTPs) were identified.

The DTPs were classified according to seven criteria adopted from Currie et al. These were: additional medication needed; unnecessary medication use; ineffective drug prescribed; dosage too low; adverse drug reactions; dosage too high; and inappropriate compliance. The information leaflet on hydroxychloroquine was given to Group C patients as an additional part of the intervention.

Seventy-eight patients were re-assessed using the same questionnaires 12 weeks after the first contact (post-intervention stage). Statistical analysis was carried out using the Statistical Package for the Social Services (SPSS) software version 16.0. The one sample Kolmogorov-Smirnov test was used to test whether the questionnaire results obtained were normally distributed. When not normally distributed, the Wilcoxon signed-rank test was used to evaluate whether there was a statistically significant difference in the questionnaire results obtained at the pre- and post-intervention stages. The paired samples t-test was used to evaluate whether there was a statistically significant difference in the questionnaire results obtained between the two stages for the results that were normally distributed.

Results
A total of 80 patients suffering from RA were interviewed. At the post-intervention stage, 78 patients completed the questionnaires for a second time. Two patients could not be contacted again and therefore had to be excluded from the study. Sixty-one patients were females (76.3%) and 19 were males (23.8%). Their ages ranged from 32 to 82 years, with a mean age of 60.7 years and a median of 60 years.

With regards to the HAQ scores obtained, a statistically significant improvement in the HROQL of the patients was registered following the pharmacist’s intervention for Group B and C patients (p<0.05). An improvement in the HROQL is shown by a decrease in the mean HAQ score at the post-intervention stage.

The results of the HAQ were compared with a similar study carried out by Azzopardi® in 2005 at the Rheumatology Clinic, Malta. In fact, Azzopardi® also found that the pharmacist’s intervention resulted in a statistically significant improvement in the HROQL (see Figure 1).

A statistically significant decrease in the concern for the patients’ medications and an increase in the necessity for taking their medications (p<0.05) were also registered when compared with the pre-intervention stage for the patients in Groups B and C. However, data analysis showed no statistically significant differences for the patients’ intrinsic desire for information or satisfaction with the government pharmacy service at the different stages (p>0.05) see Table 1.

The results of the questionnaires regarding patients’ desire for information and beliefs about medications were compared to the results obtained by Azzopardi® and by Bayalat, who carried out a similar study on RA sufferers in Glasgow, Scotland, in 2003.

In the study carried out by Azzopardi®, the pharmacist’s intervention resulted in more statistically significant results. These included a lower intrinsic desire for information and extent of information desired following...
the intervention, together with resolved concerns and increased necessity of patient compliance (p<0.05). Bayraktar documented an increase in patients' concerns following the pharmacist's intervention, and no statistically significant change in the necessity scale. As in the current study, Bayraktar also did not document a statistically significant difference in the patients' desire for information when compared to baseline (p>0.05).

Discussion

The mean scores gathered from the HAQ suggest that RA was having a negative effect on the patients' HRQOL. In fact, out of a total of 80 patients interviewed at the pre-intervention stage, 43 patients (53.8%) scored a value less than 1.5, while 37 patients (46.2%) scored a value higher than 1.5. A value higher than 1.5 indicates a decreased HRQOL and a value lower than 1.5 indicates a relatively good HRQOL. Therefore, 46.3% of the patients interviewed had a negative HRQOL. The intervention carried out by the clinical pharmacist, however, then resulted in an improved patients' HRQOL, as shown in this study with Group B and Group C patients.

Group B and Group C patients also showed a statistically significant decrease in their concern for the medications they took following the advice given by the pharmacist. Therefore, the pharmacist's intervention had a positive impact on the patients' level of concern. The pre-intervention mean score for Group C was higher than that of Group B. However, there was a greater difference in the decreased mean concern score for Group C in the post-intervention stage when compared with the difference in mean scores of Group B. Therefore, the distribution of the informative leaflet to these patients had a positive effect on the patients' level of concern, compared with those patients to whom no informative leaflet was given (Group B).

Following the pharmacist's involvement with the patients' drug regimens, Group B and Group C also showed statistically significant differences in the necessity for taking their medications. These groups both scored an overall higher score at the post-intervention stage than at the pre-intervention stage. During the intervention patients were educated regarding the beneficial effects that their medications have on their quality of life. Patients were also taught the importance of complying with their drug regimens. These factors may have changed the patients' attitudes towards taking their drugs, where prior to the study the attitudes could have been more negative.

The patients in Group A, where there was no pharmacist's involvement, showed no statistically significant changes in any criterion that was evaluated. This confirms that the significant changes witnessed with Group B and Group C patients are due to the intervention by the pharmacist.

The statistically significant improvement in the HRQOL of RA sufferers following a pharmacist's intervention in the two studies carried out in Malta unearths conclusive evidence of the advantages that these patients gain when offered advice and education through pharmacist interventions. Compliance is also improved indirectly by increasing the necessity feelings attributed by the patients towards taking medications. In the local studies (current study and Azzopardi), the patients' level of concern decreased, however this finding does not confirm the reported results by Bayraktar for the study carried out in the United Kingdom.

References