Clinical Audit on Osteoporosis Service Provided by Joint Osteoporosis Clinic

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Introduction
Similar to many developed countries, Hong Kong is facing the problem of an ageing population and an anticipated high incidence of vertebral and non-vertebral fractures from osteoporosis. In our cluster, there is a Joint Osteoporosis Clinic to provide service to clients referred from all sources for osteoporosis management. The Joint Osteoporosis Clinic was established by specialists from different specialties including endocrine, geriatrics and rehabilitation team. The clinic was established in TMH in 2010. Baseline blood checking and X-ray spine was usually arranged before first visit.

Objectives
-To evaluate whether comprehensive assessment was done for all clients
-To have a detailed figure of the anti-osteoporotic agents being used
-To have a picture of concurrent calcium and vitamin D supplement for clients taking anti-osteoporotic agents
-To assess any side effects/ adverse effects experienced by clients taking anti-osteoporotic agents
-To evaluate the drug compliance of clients on oral bisphosphonate

Methodology
An audit was done in June 2014. The samples were all the clients attended the Joint Osteoporosis Clinic in April and May 2014. There were total 55 clients. All their records were audited retrospectively. The following items were included for auditing:
-Baseline blood tests: Complete blood count Renal function test Liver function test, Thyroid function test, Calcium & Phosphate Glomerular Filtration Rate Serum Protein Electrophoresis Testosterone level (for male clients only)
-Baseline radiological
studies: X-ray thoracolumbar spine, DEXA (Dual Energy X-ray Aborptiometry) -Risk assessment: FRAX (WHO Fracture Risk Assessment Tool) score Previous history of fragility fracture -Medication Anti-osteoporotic agents taking -Oral supplements: Concurrent Calcium supplement Concurrent Vitamin D supplement Nursing intervention: Nurse education & counselling about anti-osteoporotic agents Drug compliance of clients on oral bisphosphonate

Result
There were total 55 clients. Majority of them were female (n=43, 78%). Male constituted for the remaining 22% (n=12). 96% of clients (n=53) had taken baseline blood tests before the first visit. 88% (n=44) of clients had X-ray Thoracolumbar spine before or on the 1st visit.48 (87%) of clients had history of fragility fracture. Baseline DEXA scan were performed for 91% (n=50) clients. The mean DEXA T-score was -3.8 (range: -0.4 to -6.3). There were 38 (69%) of clients receiving anti-osteoporotic agents. 51 (92%) patients are taking Calcium supplement. At the same time, 52 (95%) patients are taking Vitamin D supplement. 52 (94%) clients were on Vitamin D supplement, including clients taking anti-osteoporotic agents. All these 38 clients received education and counselling by nurses before the commencement of anti-osteoporotic agents. No adverse effects experienced by the clients on oral bisphosphonates. There were 8 clients (21%, n=38) on intravenous Zolendronic acid. The other clients on parental anti-osteoporotic agents included 1 client on Denosumab due to marginal renal function and 2 clients on Teriperitide as SFI.