Journal of Surgery

Samakeh A and Conway R. J Surg 6: 1450 www.doi.org/10.29011/2575-9760.001450 www.gavinpublishers.com

Research Article





GP Health Summary Versus Patient Health Questionnaire in Elucidating Patient Past Medical History in a Maxillofacial Surgery Private Practice in Western Sydney

Alan Samakeh* (MBBS, BDent), Richard Conway (MBBS, BDS, FRACDS (OMS), PhD)

Department of Oral and Maxillofacial Surgery, Westmead Hospital, Hawkesbury Road, Westmead, NSW, Australia, 2145

*Corresponding author: Alan Samakeh, Department of Oral and Maxillofacial Surgery, Westmead Hospital, Darcy Road, Westmead, NSW, 2145, Australia.

Citation: Samakeh A, Conway R (2021) GP Health Summary Versus Patient Health Questionnaire in Elucidating Patient Past Medical History in a Maxillofacial Surgery Private Practice in Western Sydney. J Surg 6: 1450. DOI: 10.29011/2575-9760.001450

Received Date: 25 November, 2021; Accepted Date: 09 December, 2021; Published Date: 13 December, 2021

Abstract

Introduction: As in all surgical disciplines, an accurate and comprehensive patient past medical history is crucial in formulating a safe and appropriate surgical management plan. In Oral and Maxillofacial Surgery private practices, the majority of referrals are from Dental health professionals, so a patient's medical history is usually limited and incomplete. There are multiple sources a medical history can be obtained, including but not limited to, a GP health care summary and a patient-completed health questionnaire. The aim of this study was to identify which source of a patient's medical history was more accurate and comprehensive; between the GP health care summary versus the patient health questionnaire.

Methods: Health questionnaires of 100 patients attending Dr Conway's private practice in Western Sydney were compared to the corresponding GP health summary. All patients were over 50-years of age, and the documents within 6-months old.

Results: The GP summary documented 2.0x (p<0.001) more medical co-morbidities, 2.5x (p<0.001) more medications and 1.7x (p=0.002) more allergies than the patient questionnaire. However, the patient questionnaire was more comprehensive than the GP summary in determining a patient's smoking, alcohol consumption and illicit drug use.

Conclusion: GP health summary is recommended for all patients over the age of 50-years during consultation and consent prior to committing to a maxillofacial surgery management plan.

Keywords: Oral and Maxillofacial Surgery; Private practice; GP health care summary; Patient health questionnaire

Introduction

As in all surgical disciplines, an accurate, comprehensive and contemporary patient past medical history is crucial in formulating a safe and appropriate surgical management plan, and to avoid unnecessary and preventable complications. In Oral and Maxillofacial surgery private practices in Australia, the majority of referrals are from Dental Health Professionals, so a patient's medical history is usually limited and incomplete. There are multiple sources a medical history can be obtained [1-5], including

but not limited to, a Medical General Practitioner (GP) health care summary and a patient-completed health questionnaire. As the general population continues to age, more elderly patients are presenting for surgical management in Oral and Maxillofacial Surgery practices⁶. With age these patients present with more comorbidities [6], that need management and optimisation prior to committing to a surgical plan, especially treatment under a general anaesthetic. However, in the elderly population with multiple co-morbidities, the validity of the patient-completed health questionnaire is questionable as it is documented cognitive decline is associated with age and multiple co-morbidities [7].

J Surg, an open access journal

ISSN: 2575-9760

Unfortunately, there are no studies documenting the accuracy of elderly patients' patient health questionnaires, particularly when compared to another source of patient medical history such as the GP health care summary. Since the majority of specialist medical and dental correspondence regarding a patient's chronic disease management is forwarded to a patient's medical GP, it is expected a patient's GP health summary to be comprehensive. The aim of this study was to identify which source of a patient's medical history was more accurate and comprehensive in patients aged over 50-years; GP health care summary versus the patient health questionnaire. We hypothesised the GP health summary to be more accurate and comprehensive than the patient questionnaire in documenting a new patient's medical history over the age of 50-years.

Materials and Methods

A hundred self-administered patient health questionnaires (Figure 1) and corresponding GP health care summaries were collected of new patients attending Dr Richard Conway's private Oral and Maxillofacial Surgery practice (34 Castlereagh Street, Penrith, NSW, 2750). Inclusion criteria included all patients 50-years and over in age, and both documents completed within 6-months. De-identified data underwent binomial comparison analysis. Paired t-test statistical analysis was performed to determine statistical significance of any difference between the two data groups for medical conditions, medications and allergies. Sincere thanks to Dr Karen Byth (Senior Biostatistician, Westmead Hospital, Westmead, NSW, Australia) for her support with statistical analysis. Ethics was approved by the Nepean Blue Mountains Local Health District Research Ethics Committee (NBMLHD HREC approval number 2020/ETH03176).

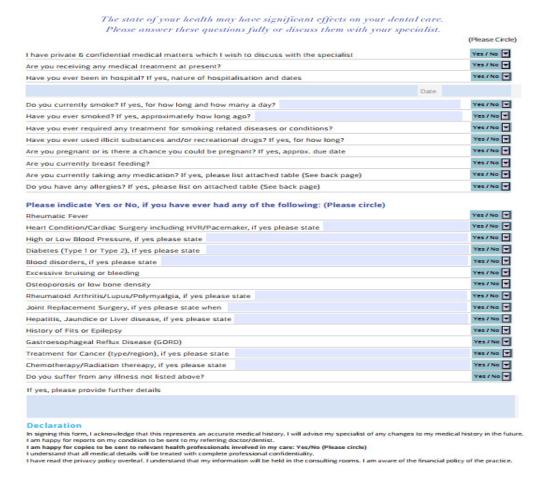


Figure 1. Self-administered patient health questionnaire form completed by all new patients attending private Oral and Maxillofacial Surgery practice.

Patient Signature			Date
(Parent or Guardian if under 1	8 years old)		
Specialist Signature			Date
precisely what medication (if any) that	t your are taking. Please list	with the medicaments used by your specialic any medication you are currently taking, or hi lls, pain relievers, injections, implants, so we d	ave been taking recently including herbal
Drug Name	Dosage	Duration of Treatment	Purpose/Condition
Please list any known ALLEGIES of thetics, preservatives that we sho		to drugs (Especially antibiotic eg. Penic	illin), medication, antiseptics, local anaes-
Drug Name		Nature of Reaction	How Long Ago
Maria and la seri de la characteria	anadiantian stress total	a Haalib San Suranna faran S	and Breakliness as the best are sent as the
to the practice to show your spec-		g a nealth Care Summary from your Ge	neral Practitioner or the bottle or pockets (S)

Figure 1 (continue): Self-administered patient health questionnaire form completed by all new patients attending private Oral and Maxillofacial Surgery practice.

Results and Discussion

Data for 100 patients (n=100) was collected. The mean age of patients was 71 years with a range of 50-91 years. 39 patients were male, 61 were female. All the GP health-summaries were signed and dated by the GPs. Only 91% of the patient health questionnaires were signed and 87% dated. This is important with medico-legal implications suggesting the GP health summaries are more credible to base surgical management plans compared to the un-signed patient-completed questionnaires (Table 1).

	GP rep		Patient re	•	Difference in reported number (GP-P)				
Variable	Mean	SD	Mean	SD	Mean difference	SD		CI of rence Upper	Paired t-test (p-value)
All Medical co-morbidities	6.84	4.34	3.46	1.12	3.38	2.61	1.92	4.82	< 0.001
GIT	0.87	0.92	0.27	0.51	0.60	0.93	0.42	0.78	< 0.001
Surgery	1.33	1.55	0.77	1.08	0.56	1.47	0.27	0.85	< 0.001
MSK/Rheumatology	0.92	1.05	0.54	0.67	0.38	1.03	0.18	0.58	< 0.001
Cardiology	1.18	1.05	0.81	0.66	0.37	0.98	0.18	0.56	< 0.001
Endocrine	0.66	0.64	0.37	0.54	0.29	0.57	0.18	0.40	< 0.001
ENT/Ophthalmology	0.35	0.70	0.06	0.31	0.29	0.73	0.15	0.43	< 0.001
Neurology	0.45	0.76	0.24	0.47	0.21	0.57	0.10	0.32	< 0.001
Renal	0.20	0.45	0.02	0.14	0.18	0.46	0.09	0.27	< 0.001
Oncology	0.28	0.68	0.12	0.36	0.16	0.73	0.01	0.31	0.032
Chemotherapy	0.03	0.17	0.00	0.00	0.03	0.17	0.00	0.06	0.083
Radiotherapy	0.05	0.22	0.00	0.00	0.05	0.22	0.01	0.09	0.025
Psychiatry	0.18	0.46	0.03	0.22	0.15	0.41	0.07	0.23	< 0.001
Respiratory	0.33	0.73	0.20	0.51	0.13	0.61	0.01	0.25	0.037
Haematology	0.09	0.29	0.03	0.17	0.06	0.28	0.00	0.12	0.033
All Medications	4.22	2.96	1.71	1.98	2.51	2.97	1.92	3.10	< 0.001
Anti-platelets	0.39	0.63	0.19	0.46	0.20	0.57	0.09	0.31	0.001
Anti-resorptives	0.24	0.45	0.07	0.26	0.17	0.40	0.09	0.25	< 0.001
Immunesuppressants	0.12	0.41	0.06	0.31	0.06	0.31	0.00	0.12	0.057
Anti-coagulants	0.12	0.33	0.10	0.30	0.02	0.14	-0.01	0.05	0.158
All Allergies	0.83	1.34	0.49	0.83	0.34	1.08	0.12	0.56	0.002

Table 1: Mean and Standard Deviation (SD) of the number of medical conditions, medications and allergies reported by a patient (P) and their GP together with the mean difference between these and its 95% confidence interval (CI) (n=100 in all variables). Variables in the Table are sorted in descending order of the size of the mean difference within each category. P-values less than 0.05 suggest statistical significance. Abbreviations: GIT-gastro-intestinal tract; MSK-musculo-skeletal; ENT-Ear, nose, throat Surgery.

Table 1 above shows that the GP health summary consistently reported significantly more total medical co-morbidities (2 times more, p<0.001), medications (2.5 times more, p<0.001) and allergies (over 1.5 times more, p=0.002) than did the patient-completed health questionnaires. These differences are alarming in highlighting those patients over 50-years of age routinely under-report their medical

health issues when attending private Oral and Maxillofacial Surgery practices, and that full medical history is only uncovered with GP health-care summaries. This has significant implications in appropriately managing these patients surgically, in both a general anaesthetic setting as well as in the clinics when operating under local anaesthetic settings.

With regards to various medical co-morbidities, Table 1 also highlights that patient questionnaires significantly under-reported in all conditions including Gastroenterological (GIT) conditions, surgery, rheumatological conditions, cardiological conditions, endocrine, ENT and ophthalmological issues, neurology, renal, oncological issues, psychiatry, respiratory and haematological issues. With regards to the treatment of oncological diseases, radiotherapy was significantly under-reported by patients (p=0.025), however not so with regards to chemotherapy (p=0.083). In both oncological treatment modalities, the patients did not report chemotherapy or radiotherapy, however the GP health summaries identified it in three and five patients respectively. The statistical in-significance in the chemotherapy group is attributed to the low number of patients who received it in this study group, but still would have had significant surgical implications if not screened for blood dyscrasias. The systematic patient underreporting of medical conditions documented in Table 1 is reflected in the percentage showing complete agreement between GP health summary and patient questionnaire highlighted in Table 2 below. Of the medical co-morbidities, GIT (43%), cardiological (47%), surgery (49%) and MSK/rheumatological (50%) conditions have the worst percentage agreement between GP health summary and patient questionnaire.

Table 3 breaks-down every medical co-morbidity reported by GPs and patients. The most common reported condition by patients was hypertension. Otherwise, cardiac conditions were under-reported by patients, picked up only with the GP-health summary, such as ischemic heart disease, atrial fibrillation, valvular disease and pacemaker presence. All of which have significant implications in managing patients surgically. Also of note is the amount of under-reporting of obstructive sleep apnoea and COPD. Neurological conditions were generally well reported by patients, however GORD and hepatic conditions seem to be under-reported, which have general anaesthetic and coagulopathy implications in surgical management. Interestingly osteoporosis was significantly under-reported by patients, having implications in assessing for anti-resorptive therapy during consultations and discussing/consenting for issues involving Medication Related Osteonecrosis Of The Jaws (MRONJ). Benign Prostate Hypertrophy (BPH) was also under-reported by patients, having implications in managing urine retention in patients undergoing elective surgery. Further, despite significant difference in reported surgeries by GPs and patients, these seem to be mainly related to orthopaedic and gynaecological procedures. Surgeries related to thyroidectomies, nephrectomies and head and neck cancer were equally reported by GPs and their patients. Psychiatric conditions were also significantly under-reported by patients which can have implications in deciding on managing surgery under a general or local anaesthetic. Again, all these results present significant implications in surgically managing the over-50-year-old patient and avoiding unnecessary and avoidable complications.

Table 1 also shows the significant under-reporting of medications by patients compared to the GP health-summary. This is also reflected in the poor complete agreement shown in Table 2, of 23% between the GP health summary versus the patient questionnaire for all medications. Specific to surgical management, patients significantly under-reported anti-platelet (by 2 times, p=0.001) but not anti-coagulant (mean difference 0.02) per patient, p=0.158) therapies. Interestingly, as shown in Table 3, all three types of anti-platelets were under-reported by patients (aspirin, clopidogrel and Asasantin). Anti-resorptive therapy was also significantly under-reported by patients, only identified by GP health summary (Table 1, p<0.001). As Table 4 highlights, the anti-resorptive therapies patients under-reported include denosumab (by more than 3 times), risodronic acid, zolendronic acid and alendronic acid. This has significant implications with managing Oral and Maxillofacial surgery, particularly with patient consent and mitigating risk of medications related osteonecrosis of the jaws (MRONJ) [8]. With regards to immunosuppressants, there was no statistical difference in the reporting between the two groups (Table 1) however it can be seen from Table 4 that prednisone therapy was significantly under-reported by patients, which would have significant implications in preventing adrenal and Addisonian crises when managing patients surgically. Nonetheless, it is important to be cautious with these medication results as electronic GP health-summaries are known to document ceased/modified medications [9].

Allergies were also under reported by patients (Table 1). As seen in Table 2, there was only a 69% agreement in all allergies between the GP health summary and patient questionnaire. Table 4 explores the breakdown of various allergies reported by GPs and patients. Interestingly patients and GPs reported penicillin allergies equally. Again, missing patient allergies prior to committing to a surgical treatment plan can have dire consequences for patient outcome. Hence the need for GP health summaries in identifying all patient allergies.

Medical Co-morbidities	%	Medications	9/0
GIT	43	All Medications	23
Cardiology	47	Anti-platelets	79
Surgery	49	Anti-resorptives	84
MSK/Rheumatology	50	Immunesuppressants	93
Endocrine	68	Anti-coagulants	98
ENT/Ophthalmology	77	All Allergies	69
Respiratry	78		
Neurology	80		
Oncology	80		
Chemotherapy	97		
Radiotherapy	95		
Renal	82		
Psychiatry	87		
Haematology	92		

Table 2: Percentage of patients who report the same number of medical conditions, medications and allergies as noted by their GPs.

Medical Co-morbidities	GP	Patient
Cardiac		
HTN	43	48
Dyslipidemia	28	3
IHD	14	6
AF/arrythmia's	12	8
Stents	10	8
valvular disease	7	3
PPM	5	2
CABG	3	4
Cardiomyopathy	2	0
PVD	2	0
CHF	1	0
Cardiac ablation	1	1
Respiratory		
OSA/CPAP	12	2
Asthma	8	11

	COPD	8	3
	Bronchitis	3	3
	PE	1	1
	pneumothorax	1	0
	Pulmonary HTN	1	0
N	eurology		
	CVA/TIA/intra-cranial haemorrhage	12	10
	Migraine	8	1
	peripheral neuropathy/foot drop/carpal tunnel	5	0
	Parkinson's	4	4
	Dementia	4	3
	Epilepsy	3	3
	Complex regional pain syndrome/neuropathic pain	3	1
	BPPV/Meniere's	3	1
	Insomnia	3	0
	Temporal arteritis	2	1
	Dysphagia	1	0
G	IT		
	GORD/Barrett's Oesophagus	36	11
	Diverticular disease/colitis	17	2
	NASH/primary biliary cirrhosis	10	6
	IBS	7	1
	Hernia	4	2
	Colonic polyps	3	0
	Gastris	2	2
	Pancreatitis	1	1
	Coeliac disease	1	1
	Melena	1	0
E	ndocrine		
	Osteoporosis	30	4
	Diabetes (T1 and T2DM)	23	19
	Thyroid	14	14
	Adrenal gland adenoma	1	0

Volume 06; Issue 16

J Surg, an open access journal

ISSN: 2575-9760

MSK/Rheumatology/Dermatology		
Arthritis (osteo/rheumatoid/gout/pseudo-gout/cervical spondylosis)	48	44
Fractures (spinal/femoral/humeral/radial/ribs)	6	1
Tendon tears	6	0
Eczema/dermatitis	4	4
Lupus	2	1
Sjogren's Disease	2	1
Polymyalgia Rheumatica	2	1
Scleroderma	1	1
Dermatitis Herpatiformis	1	1
Rosacea	1	0
AVN femoral head	1	0
Paget's	0	1
Haematology		
Leukemia (CLL/Multiple Myeloma)	3	1
VTE/DVT	2	1
Bleeding disorder (thrombocytopenia)	2	1
Haemochromatosis/polycythemia	2	0
Opthalmology and ENT		
Cataracts	13	3
Glaucoma	9	2
detached retina	3	2
macular degeneration	3	0
sinusitis	2	0
uveitis	1	0
corneal ulcer/conjunctivitis	1	0
otitis externa	1	0
Renal		
ВРН	9	0
Chronic kidney disease	4	2
Polycystic kidney disease	3	0
Renal calculii	3	0
Chronic cystitis	1	0
Malignancies		

Volume 06; Issue 16

J Surg, an open access journal

	1	
Breast	5	4
Cutaneous SCC/BCC	5	1
Bowel	4	2
Prostate	4	0
Melanoma	2	1
Uterine and ovarian	1	1
Non-Hodgkin's Lymphoma	1	1
Lung	1	0
Oral SCC	0	1
Chemotherapy		
Breast	2	0
Radiotherapy		
Breast	2	0
Prostate	1	0
Surgery		
MSK (Shoulder/knee/hip/ankle/laminectomy/carpel tunnel)	25	15
Hysterectomy and salpingo-oophrectomy	20	8
Cholecystectomy	12	7
Appendectomy	8	8
Hernia repair (hiatal/inguinal/umbilical)	8	3
Bowel resection	7	1
TURP	5	2
Thyroidectomy	4	4
Mastectomy	4	2
Tonsillectomy	3	3
Nephrectomy	2	2
Vasectomy	2	1
parotidectomy/marginal mandibulectomy/SND/RFFF	2	2
Septoplasty/FESS	1	2
Resection intracranial tumour	0	1
Psychology		
Anxiety/Depression	14	2
Schizophrenia	1	1
Intellectual disability	1	

Volume 06; Issue 16

J Surg, an open access journal

ISSN: 2575-9760

Bipolar	1	0
OCD	1	0

Table 3: Breakdown of number of medical co-morbidities reported in the GP health summary (GP) and patient health questionnaire (patient).

Medications	GP	Patient
Anti-platelets		
Aspirin	23	11
Clopidogrel	10	6
asasantin (aspirin/dipyridamole)	3	1
Anti-coagulants		
Apixaban	6	5
Warfarin	3	2
Rivaroxaban	2	2
Dabigatran	1	1
Anti-resorptive therapy		
Denosumab	17	5
Risodronic acid (Actonel)	3	2
Zolendronic acid	2	1
Alendronic acid (Fosamax)	1	0
Immunosuppressants		
Prednisone	7	2
Methotrexate	2	2
Hizentra (IVIg)	1	1
Hydroxychloroquine	1	1
Leflunomide	1	0
Allergies		
Other (prothrombin X, feldene, amytriptilline, actonel, ACE inhibitors, detrusitol, crestor, janumet, gluten, hayfever, natrilix).	13	5
Opioids (morphine, endone, tramadol, codeine).	11	10
Penicillin	8	8
NSAIDs/aspirin	8	3
Cephalexin	7	4
Sulfur	5	5
Erythromycin	4	2
Maxolon	3	2

Volume 06; Issue 16

ISSN: 2575-9760

Endep	3	0
Bactrim	2	0
Stemetil	2	2
Clindamycin	1	2
Doxycycline	1	0
Ciprofloxacin	1	0
Elastoplast	1	1
Iodine contrast	1	1
Nitrous oxide	0	1

Table 4: Breakdown of number of medications and allergies reported in the GP health summary (GP) and patient health questionnaire (patient).

Variable	n	Mean	SD
Smoker	27	0.11	0.32
Alcohol	25	0.36	0.49
Illicit drugs	1	0	

Table 5: GP reported smoking, alcohol and illicit drug use.

Variable	n	Mean	SD
Smoker	96	0.06	0.24
Alcohol	96	0.51	0.5
Illicit drugs	96	0.01	0.1

Table 6: Patient reported smoking, alcohol and illicit drug use.

Tables 5 and 6 highlight the number of reported smokers, alcohol and illicit drug use. It can be seen that the GP only reported smoking status of patients in 27% of cases whereas patients self-reported smoking status in 96% of cases. Alcohol consumption was report in 25% of GP health summaries, while patients self-reported in 96%. Illicit drug use (or not) was reported in only one GP summary, as opposed to 96% of cases with patient questionnaires. This shows that patient questionnaires were still important in gathering data on a patient's social history, to help improve patient surgical management. Such as the use of nicotine replacement therapies, alcohol withdrawal scales and testing for liver disease and blood dyscrasia/coagulopathies, optimising any disease processes and prior to embarking on elective surgical treatment.

This study clearly shows the need for GP health care summary in addition to the patient health questionnaire, for all patients aged over 50-years during the initial surgical consultation to better manage any surgical needs. However, it is important to realise that there are limitations to committing to a single source of patient health information. For example, if a patient does not have a GP with which to review regularly regarding their chronic diseases, the health care summary would be expected to be deficient. Also, as explored above, GP health care summaries can have out-dated redundant information [9]. Therefore, as highlighted in other studies, patient health history accuracy improves with multiple modalities such as interviewing patients [3,4], as well as hospital in- and out-patient documents [2] and health care specialist correspondence [3], in addition to the patient health questionnaire and GP health summary.

The current study also raises more questions for further research in improving patient health information accuracy and comprehensiveness prior to committing to surgical management. It would be interesting to assess the above data to information gathered during interview with the surgeons. It would also

be helpful to compare the above data with regards to patient medications, to pharmacy dispensing history. Further, it would be interesting to assess if similar discrepancies in GP health summary and patient questionnaire exist in publicly treated patients.

Conclusion

GP health summaries reported significantly more medical co-morbidities, medications and allergies as compared to the patient health questionnaire. However, the GP summaries routinely under-reported smoking/alcohol/illicit drug use status of patients as compared to the patient health questionnaires. This study hence helps change daily practice to recommend routine acquisition of GP health care summary, in addition to the patient health questionnaire, in private patients over 50-years, prior to committing to a surgical management plan.

References

- Thibodeau EA, Rossomando KJ (1992) Survey of the medical history questionnaire. Oral Surg Oral Med Oral Pathol 74: 400-403.
- Lutka RW, Threadgill JM (1995) Correlation of dental-record medical histories with outpatient medical records. Gen Dent 43: 342-345.
- Bergmann MM, Jacobs EJ, Hoffman K, Boeing H (2004) Agreement of self-reported medical history: comparison of an in-person interview with a self-administered questionnaire. Eur J Epidemiol 19: 411-416.

- Boissonnault WG, Badke MB (2005) Collecting health history information: the accuracy of a patient self-administered questionnaire in an orthopedic outpatient setting. Phys Ther 85: 531-543.
- Carey B, Stassen L (2011) An audit comparing the discrepancies between a verbal enquiry, a written history, and an electronic medical history questionnaire: a suggested medical history/social history form for clinical practice. J Ir Dent Assoc 57: 54-59.
- Caughey GE, Vitry AI, Gilbert AL, Roughhead EE (2008) Prevalence of comorbidity of chronic disease in Australia. BMC Public Health 8: 1-13.
- Athilingam P, Visovsky C, Elliott AF (2015) Cognitive screening in persons with chronic diseases in primary care: challenges and recommendations for practice. Am J Alzheimers Dis Other Demen 30: 547-558.
- Ruggiero SL, Dodson TB, Fantasia J, Goodday R, Aghaloo T, et.al. (2014) American Association of Oral and Maxillofacial Surgeons position paper on medication-related osteonecrosis of the jaw – 2014 upate. J Oral Maxillofac Surg 72: 1938-1956.
- Taylor S, Welch S, Harding A, Abbott L, Riyat B, et.al. (2014) Accuracy of general practitioner medication histories for patients presenting to the emergency department. Aust Fam 43: 728-732.

Volume 06; Issue 16

J Surg, an open access journal