Trends in Subacromial Pain Syndrome (SAPS) in primary care

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Abstract:

Context: Schouderproblemen zijn een vaak voorkomend probleem in de alledaagse huisartsenpraktijk, op elk gegeven moment sukkelt 7-34% van de bevolking met een schouderprobleem. Dit kan leiden tot een grote economische impact aangezien 1/5 arbeiders met schouderproblemen langdurig ziek vallen.
Van deze algemene schouderproblematiek is 40% toe te schrijven aan het subacromiaal pijnsyndroom (SAPS). Toch blijft de diagnostiek hiervan niet eenvoudig: dit gezien het plethora aan tests die elk op zichzelf weinig toegevoede waarde bieden, en de complexiteit van het gewricht. Daarom is het primordiaal dat de gemiddelde huisarts inzicht heeft in de incidentie, behandeling en co-morbiditeiten die dit probleem met zich meebrengt.
Onderzoeksvraag: Welke trends in incidentie, behandeling en co-morbiditeiten zien we in Vlaanderen over de afgelopen 20 jaar, specifiek toegespitst op het SAPS.
Methode: Deze kwalitatieve studie maakt gebruik van de Belgische Intego database, waar heel wat Vlaamse praktijken door middel van registratie van codes, zeer veel data genereren. We analyseerden de trends in incidentie, (medicamenteuze) behandeling en co-morbiditeiten vanaf het jaar 2000 tot 2021, dit door middel van een joint point regressie analyse.
Resultaten: We zien een lichte doch significante stijging in de incidentie van SAPS. Daarnaast worden in de eerste jaren van de analyse significant meer zwakke opioiden voorgeschreven voor de schouderproblematiek, deze lijkt af te zwakken sinds de afgelopen jaren. Het gebruik van NSAID's en cortisone injecties blijft stabiel overheen de jaren. Paracetamol kent ook een significante stijging in het aantal voorschriften.
Er werd een duidelijke toename gezien in correlatie met tal van co-morbiditeiten, oa: epicondylitis, (algemene) artrose, carpaal tunnel syndroom, diabetes, obesitas en depressie. Enkel bij reumatoide artritis is er geen toename.
Daarnaast zagen we een duidelijke neerwaartse trend qua leeftijd tov het jaar 2000.
Conclusie:
De toename in incidentie overheen de voorbije jaren kan verklaard worden door het toenemende sedentaire leven, de epidemie van obesitas en diabetes en het doorwerken tot op latere leeftijd van de gemiddelde Belg. Het is dus duidelijk dat naar de toekomst toe zowel specifiek de schouderpathologie goed moet aangepakt worden, met anders socio-economische consequenties tot gevolg maar ook het globale fysieke welzijn van de patient.
Qua medicatie zien we voornamelijk een belangrijke stijging in het gebruik van paracetamol, dit doet vermoeden dat de gemiddelde huisarts beter de indicaties voor pijnmedicatie inschat en eerst naar het veilige paracetamol grijpt.

Epidemiology of Subacromial Pain Syndrome in primary care: a registry-based study

Introduction:

Symptoms of shoulder ache are a fairly common problem in the general population. At any given time 7-34% suffer from any form of shoulder pain. Most of these patients tend to be treated in primary care, mostly due to the self-limiting nature of their complaints. However, 40-50 % of patients have ongoing symptoms 2 years after their initial complaint.[1] Annually 1,1-2,5% of all consultations at a general practitioner's (GP) office concern shoulder problems.[1,2]

Because of the heterogeneity of diagnostic criteria and classification systems it is hard for the GP to generate an adequate diagnosis and subsequent therapy.[1] Moreover, physical examination and shoulder tests are plenty but of low diagnostic value on their own. Only when combined they produce some base for diagnosis.[3,4,17] This results in 33-40% of patients who consulted their GP, still have ongoing suffering from their shoulder problems one year later.[2,3,5]

Due to the complexity of this articulation a broad range of pathology is possible.[7] That's why the Dutch Orthopaedic Association presented a new overarching term called Subacromial Pain Syndrome (SAPS): ranging from inflammation of subacromial space and bursa to supraspinatus tendon rupture.[6–9]
In this paper we will also use this terminology for clarity and focus on this syndrome as it's the most common diagnosis, 36-48 % of all shoulder pathology throughout primary care.[10]

In literature we've found several studies looking at incidence and therapy in primary care of non-traumatic shoulder injuries, for example Van der Windt et al. mapped the incidence of SAPS in the Netherlands. [2,11,12]
However to date no paper has yet studied a trend in SAPS' incidence spanning decades.

The aim of this study is to map the evolution of incidence, co-morbidities and use of therapy in patients with SAPS in Flanders, Belgium. Thereby creating important insights in this complex syndrome.

Methods:

Disclaimer:
The method used in this study is very similar to other studies using the Intego database. We used the same statistic analysis and methods as the study of *Smeets and Vaes et al.* [27]

Data collection

Data were obtained from Intego, a Belgian general practice-based morbidity registration network at the Department of General Practice of the University of Leuven. In 2021, 431 general practitioners (GPs) of 86 practices evenly spread throughout Flanders, Belgium, collaborated in the Intego project. GPs applied for inclusion in the registry. Before acceptance of their data, registration performance was audited using algorithms to compare their results with those of all other applicants.
Only data from practices with optimal registration performance were included in the database. Additionally, Intego data have been externally validated by means of national and international comparisons. Intego GPs prospectively and routinely registered all new diagnoses and new drug prescriptions, as well as laboratory test results and patient information, using computer-generated keywords internally linked to codes.
Using specially framed extraction software, new data were encrypted and collected from the GPs' personal computers and entered in a central database on a yearly basis. Registered data were continuously updated and historically accumulated for each patient. New diagnoses were classified according to a very detailed thesaurus (Medidoc codes) automatically linked to the International Classification of Primary Care (ICPC-2) and International Statistical Classification of Diseases and Related Health Problems 10th Revision. Drugs were classified according to the WHO's Anatomical Therapeutic Chemical (ATC) classification system. The denominator was the yearly contact group (YCG). These are the patients that visited the practice at least once in a given year. The present study used Intego data of a 20-year time period from 1 January 2000 to 31 December 2021

Patient involvement
No patients were involved in the development of the research question, study design or interpretation of the data.

Definition of SAPS
To define the overarching classification of SAPS we used a combination of ICPC-2 and ICD-10 codes. The ICPC-2 code L92 '*syndrome of the shoulder*' encompassing the ICD 10 codes: M75.1 '*rotator cuff syndrome*', M.75.3 '*calcific tendinitis of shoulder*', M75.4 '*impingement of the shoulder*', M75.5 '*bursitis of the shoulder*'.

Treatment of SAPS
All medication (NSAIDs, paracetamol, weak opioids or intra-articular use of cortisone) was recorded for all incident cases each year between 2000 and 2021. Medication use in a specific year was considered positive when at least one prescription had been made in the year following the first diagnosis.

Co-morbidities:
For all patients with new diagnosis of 'syndrome of the shoulder (L92)', medical history was registered. Comorbidities known to be linked with SAPS were analysed.[13]

Data analysis

Incidence (/1000 patient years at risk) were calculated for all ICPC-2 and ICD-10 codes. The rates were age-standardised by taking the Flemish population in Belgium as the standard population. The reference year for the standard population was 2000. Additionally, the trend in age-standardised rates between 2000 and 2021 was analysed. For that purpose, a joinpoint regression analysis was performed. A joinpoint is a point in the trend curve where a statistically significant change in trend over time is observed. A minimum number of three observations from a joinpoint to either end of the data, and a minimum number of four observations between two joinpoints were required. From the joinpoint regression model, the annual percentage change (APC) and the average annual percentage change (AAPC) were extracted. APC is calculated for each significant trend from a piecewise log-linear model on the logarithm of the age-standardised rate versus the year. AAPC represents the average of APC estimates per significant trend weighted by the corresponding trend length (number of years in the trend). The trend analysis using the joinpoint regression model was performed using the SEER*Stat software (Joinpoint Trend Analysis software from the Surveillance Research Programme of the US National Cancer Institute (available at http:// surveillance.cancer.gov/joinpoint)). Trends in comorbidity profile were explored in incident cases with the Cochran-Armitage test and the Jonckheere-Terpstra test over four time intervals: three of 5 years and one of 6 years (2000–2004, 2005–2009, 2010–2014, 2015–2021). The Cochran-Armitage test for trend is used when we try to associate our binary response with an ordinal variable with k categories. The Jonckheere-Terpstra trend test is used to try and associate a continuous response with an ordinal variable with k categories

Trends in medication over the years 2000–2021 were analysed in prevalent cases using a joinpoint regression analysis, as described above. A two-sided p value <0.05 was considered to be statistically significant. These analyses were performed using R Software V.3.3.2 (Free Software Foundation, Boston, Massachusetts, USA) (DescTools and clinfun packages).

Results:

Table 1: trends in incidence of SAPS (2000-2021)

	Year 2000	Year 2021	Summary AAPC (95% CI)	APC Trend 1	P value	APC Trend 2	P value	APC Trend 3	P value
L92				2000-2015		2015-2018		2018-2021	
Incidence (/1000)									
Total	12.56 ‰	22.67 ‰	3 (-0.2 to 6.3)	**2.8**	0.005	21.7	0.065	-3	0.265
Men	11.02 ‰	21.69 ‰	2.4 (-0.4 to 5.3)	0.6	0.149	16	0.137	-1.6	0.534
Women	13.97 ‰	23.54 ‰	2.2 (-0.5 to 5)	0.4	0.32	15.2	0.141	-0.80.	0.748
M75.1				2000-2015		2015-2018		2018-2021	
Incidence (/1000)									
Total	3.88 ‰	13.10 ‰	**5.9 (2 to 10)**	1.5	**0.036**	38.3	**0.024**	0.1	0.967
Men	3.35 ‰	12.75 ‰	**5.8 (2.1 to 9.7)**	1.4	**0.042**	38.2	**0.018**	0.5	0.845
Women	4.34 ‰	13.40 ‰	**5.7 (1.1 to 10.6)**	1.2	0.131	38	0.051	0.9	0.798
M75.3				2000-2010		2010-2021			
Incidence (/1000)									
Total	0.20 ‰	0.86 ‰	4.7 (-1.6 to 11.5)	-9.7	0.136	**17.1**	0		
Men	0.22 ‰	0.66 ‰	4.6 (-2.2 to 11.8)	-10.3	0.096	**20.2**	0		
Women	0.19 ‰	1.03 ‰	4.6 (-2.9 to 12.6)	-10	0.092	**23.3**	0		

M75.4									
Incidence (/1000)									
Total	0 ‰	3.11 ‰		-	-	-	-	-	-
Men	0 ‰	3.02 ‰		-	-	-	-	-	-
Women	0 ‰	3.19 ‰		-	-	-	-	-	-
M75.5				2000-2015		2015-2019		2019-2021	
Incidence (/1000)									
Total	0.98 ‰	2.79 ‰	**4.9 (2.2 to 7.8)**	-0.1	0.955	**15.8**	0		
Men	1.00 ‰	2.85 ‰	**4 (1.5 to 6.7)**	-0.6	0.342	**26.4**	0.001	-0.8	0.899
Women	0.96 ‰	2.82 ‰	4 (-1.2 to 9.5)	0	0.986	**35.7**	0.085	- 4.3	0.663

L92: 'syndrome of the shoulder', M75.1 '*rotator cuff syndrome*', M.75.3 '*calcific tendinitis of shoulder*', M75.4 '*impingement of the shoulder*', M75.5 '*bursitis of the shoulder*'.
AAPC: average annual percentage score, APC: annual percentage score

Table 2: trends in treatment of SAPS (2000-2021)

L92	Year 2000	Year 2021	Summary AAPC 95% CI	APC Trend 1	P value	APC Trend 2	P value	APC trend 3	P value	APC trend 4	P value
Cortisone injection				2000-2005		2005-2011		2011-2019		2019-2021	
Total	12.2%	9.5%	-0.5 (-3.7 to 2.9)	**3,3**	0,004	-8	0,198	5,5	**0,297**	-15,3	0,035
Men	11.0%	8.0%	-1 (-2.8 to 0.8)	-0,9	0,484	**3,7**	0,009	-9,3	**0,076**	-12,2	0,002
Women	13.0%	10.6%	-0,9 (-2;5 to 7)	0	0,977	-9	0,242				
Paracetamol				2000-2014		2014-2021					

Total	10.0%	11.9%	**1,9 (-0.1 to 3.9)**	**6,4**	0	**-6,7**	0,003				
Men	7.1%	9.1%	**2 (0.6 to 3.4)**	**5,7**	0	**-5**	0,002				
Women	12.1%	14.1%	**1,9 (0.4 to 3.4)**	**4,9**	0	**-5,1**	0,0012				
Weak opioids				2000-2018		2018-2021					
Total	5.9%	10.7%	**4,1 (1;8 to 6.4)**	**6,2**	0	-7,7	0,179				
Men	3.4%	8.5%	**3,7 (2.2 to 5.2)**	**5,3**	0	-5,7	0,14				
Women	7.5%	12.4%	**3,2 (1.4 to 5.1)**	**4,6**	0	-8,9	0,278				
NSAID				2000-2021							
Total	37.8%	36.2%	-0,2 (-0.7 to 0.3)	-0,2	0,452						
Men	33.3%	34.8%	-0,3 (-0.8 to 0.2)	-0,3	0,174						
Women	40.1%	37.4%	-0,4 (-0;8 to 0.2)	-0,4	0,098						
L92: ‘syndrome of the shoulder. ATC codes: Cortisone injection H02AB, Paracetamol N02BE01, Weak opioids N02AX, NSAID M01A											

Table 3: trends in co-morbidities linked to SAPS

Study population	2000-2004	2005-2009	2010-2014	2015-2021	Trend test P-value
Patients with L92	4216	6288	7407	22174	0
Mean age	56.3	56.3	55.3	55.5	0.002
Women	55.9%	55%	53.7%	54.9%	0.3886
Musculoskeletal comorbidities					
Arthrosis in other joints	759 (18%)	1308 (20,8%)	1666 (22,5%)	4826 (21,8%)	<0.0001
Reumatoid arthritis	77 (1.8%)	118 (1,9%)	149 (2%)	433 (2%)	0.5677
Epicondylitis lat + med	56 (1.3%)	103 (1.6%)	144 (1.9%)	424 (1.9%)	0.0083
Carpal tunnel syndrome	32 (0.8%)	66 (1%)	87 (1.2%)	284 (1.3%)	0.003
Other comorbidities					
Obesitas	16 (0.4%)	29 (0.5%)	40 (0.5%)	290 (1.3%)	<0.0001
Diabetes mellitus	279 (6.6%)	540 (8.6%)	933 (12.6%)	2546 (11.5%)	<0.0001
Depression	82 (1.9%)	114 (1.8%)	158 (2.1%)	651 (2.9%)	<0.0001
ICD-10/ICPC-2 codes: Arthrosis in other joints: L89-91, Reumatoid arthritis: L88, Epicondylitis lat + med, Carpal tunnel syndrome: N93, Obesitas: T82, Diabetes mellitus: T89-90, Depression: P76					

Demographic trends in the incidence of patients with SAPS

Syndrome of the shoulder (L92)

The age-standardised incidence of the 'syndrome of the shoulder' showed a non-significant increase with 80% from 12.56‰ in 2000 to 22.67‰ in 2021 (AAPC: 3, 95 % CI -0.2 to 6.3). The only statistically significant positive trend was seen in the period from 2000-2010 for men and women together (APC: 2.8, 95% CI 1 to 4.7, P: 0.005).

Rotator cuff syndrome (M75.1)

The age-standardised incidence of the rotator cuff syndrome increased significantly with 233% from 3.88‰ in 2000 to 13.10‰ in 2021 (AAPC: 5.9, 95% CI 2 to 10), equally divided between men and women (AAPC: 5.8, 95% CI 2.1 to 9;7 for men and AAPC: 5.7, 95% CI 1.1 to 10.6 for women). Therefor the absolute incidence was greater for women than for men in each year over the period 2000-2021. The biggest

statistically significant increase was seen in the period 2015-2018 (APC: 38.3, 95% CI 6.7 to 78.9, P: 0.024).

Calcific tendinitis of shoulder (M75.3)
The age-standardised incidence of the calcific tendinitis of shoulder showed a non-significant increase with 326% from 0.20‰ in 2000 to 0.86‰ in 2021 (AAPC: 4.7, 95% CI -1.6 to 11.5). Initially there was a non-significant relative decrease for the period of 2000-2009 (APC: -9.7, 95% CI -21.4 to 3.6, P: 0.136 for men and women) where afterwards there was a significant relative increase for the period of 2009-2021 (APC: 17.1, 95% CI 10.8 to 23.8, P< 0.001)

Impingement syndrome of shoulder (M75.4)
The incidence rate of the impingement syndrome of shoulder in 2000 is 0. Therefor we couldn't perform any demographic analysis, including a joinpoint regression. This can be attributed to a lack of data in 2000 regarding the code M75.3 'the calcific tendinitis of shoulder'.

Bursitis of shoulder (M75.5)
The age standardised incidence of bursitis of the shoulder increased statistically significantly with 184% from 0.98‰ in 2000 to 2.79‰ in 2021 (AAPC: 4.9, 95% CI 1.5 to 6.7). The positive trend was the greatest in the period of 2014 to 2021 (APC: 15.8, 95% CI 9.2 to 22.8), but was not statistically significant for women (APC: 35.7, 95% CI -4.7 to 93)

Trends in prescriptions in patient with syndrome of the shoulder

Table 2 shows the trends in prescription for patients with SAPS, encoded with L92 'the syndrome of shoulder'. We will discuss the different trends for 'cortisone injection' (H02AB), 'paracetamol' (N02BE01), 'weak opioids' (N02AX), and 'NSAID' (M01A).

Prescription of weak opioids increased significantly during the whole period 2000-2021 (AAPC: 4.1, 95% CI 1.8 to 6.4). The prevalence of paracetamol prescriptions also showed a significant increase. (AAPC: 2, 95% CI 0.6 to 3.4 for men and AAPC: 1.9, 95% CI 0.4 to 3.4 for women). The drug prescription of cortisone injection (AAPC: -0,5, 95% CI -3.7 to 2.9) and NSAID (AAPC: -0.2, 95% CI -0.7 to 0.3) remained stable.
For both paracetamol and cortisone injection similar trends were visible across different time periods: in the early period of the study there was a great positive trend (APC: 3.3, 95% CI 1.3 to 5.3, P: 0.004 for cortisone injection and APC: 6.4, 95% CI 3.9 to 9, P< 0.001 for paracetamol). Afterwards the prescription decreased significantly in 2019-2021 and in 2014-2021 for, respectively, cortisone injection (APC: -15.3, 95% CI -27.2 to -1.4, P: 0.035) and paracetamol (APC: -6.7, 95% CI -10.5 to -2.7, P: 0.003). Although we saw the same trend for weak opioids, the

negative trend in the last period of 2018-2021 was non-significant (APC: -7.7, 95% CI -18.3 to 4.1, P: 0.179)

Trends in comorbidities in patients with syndrome of the shoulder (L92)

Among patients with 'syndrome of the shoulder' there seems to be a slight significant decrease in age over the years (56.3yrs -55.5yrs, P: 0.002). On the contrary, an important decline in proportion of women is noted, although insignificant.
As far as musculoskeletal comorbidities go, only rheumatoid arthritis failed to show significant increase, the others: general arthrosis (18% - 21,8%, P< 0.001), epicondylitis lateralis (1.3% - 1.9%, P: 0.0083), carpal tunnel syndrome (0.8% - 1.3%, P: 0.003) did show a significant increase.

Following this, all three of the remaining co-morbidities of interest also showed a significant increase: obesity (0.4%-1.3%), diabetes mellitus (6.6%-11.5%) and depression (1.9%-2.9%). Hereby general arthrosis (21.8%) and depression (11.5%) were the most frequent established comorbidities.

Discussion

Regarding incidence, the results were unequivocal. Although statistical significance was not always present, the general trend showed an overall increase in incidence. In 2000 the incidence rate was equal to 12.56‰ while in 2021 it had grown to 22.27‰.
A possible explanation for this increase is the sharp rise in prevalence of both obesity and diabetes mellitus in combination with a growing sedentary lifestyle.[14-16, 23] Also, the average Joe tends to work until an older age which creates a higher risk for musculoskeletal disorders.

The treatment of SAPS and more general non-traumatic shoulder pain, initially always consists of rest, ice and adequate analgesia.
Adequate analgesia consists of paracetamol, NSAIDs and mild opioids in a stepwise fashion. Although there is some controversy regarding the use of NSAIDs for shoulder pain in the acute setting, it is commonly recommended as first-line therapy.[18-19]

In our study, we see that the use of NSAID remained stable throughout the years. Paracetamol use, on the other hand, has shown an increase over the study period. This trend could be explained by a more conscious prescription attitude in general practices where the benefits and side-effects of certain medications are more carefully weighed. Also paracetamol is recommended as primary pain killer in musculoskeletal disease.

In certain cases cortisone infiltration could be in order, especially in those where pain can't be controlled by paracetamol/NSAID. Although cortisone infiltration often provides short-term (first 8 weeks) benefits, the long-term benefits are unclear. Hopewell et al, for example, proved no difference in pain or disability after 12 months, whether or not cortisone injection was administerd.[20,8]

Similar to NSAID use, we didn't encounter any specific trend regarding use of cortisone infiltrations.

Weak opioids aren't recommended painkillers in the treatment of SAPS, since the benefits most often don't outweigh the important side-effects. However it is used when other treatments fail to give sufficient pain relief.

Surprisingly we encountered a significant increase in the use of weak opioids during the period from 2000 to 2018. On the other hand, we've noticed a certain downward trend over the last couple of years, however non-significant. This applies to opioids, paracetamol and cortisone infusions alike. An explanation for this initial rise in use of weak opioids is difficult to find, as we'd expect a more conscious and attentive prescription habit throughout the years as new therapeutic insights are presented.

One of the most important long-term treatment options is physiotherapy and/or exercise. In this study we were limited by the data we could extract out of the Intego database. In this case, the prescription of physiotherapy couldn't be properly extracted, explaining why this isn't included in the study design.[21]

Unsurprisingly we're confronted with a significant decrease in age while looking at 'syndrome of the shoulder', this could be explained by the aforementioned obesity and diabetes epidemy.
Because of the practicality of study design we only looked at the broader 'syndrome of the shoulder' while analysing trends in co-morbidity. Here, we've seen a significant increase in correlation in diabetes, obesity, depression, epicondylitis, carpal tunnel and general arthrosis. Since incidence rates of diabetes, obesity and depression are growing globally, this can explain both the decrease in age and increase in correlation.[25,26,13,15-16]
It is important in treatment of SAPS to acknowledge these comorbidities and their influence on disease progression. Thereby taking different treatment options into account while also treating these comorbidities.
Not only do these comorbidities increase the risk for shoulder disease, shoulder pain also increases the risk for depression for example.[22]

To conclude our study shows an important increase in incidence of SAPS, this explained by a growing correlation in co-morbidities as diabetes and obesity. The typical patient with SAPS is thus younger and has more morbidities in comparison to

twenty years ago, resulting in a more complex therapeutic approach and an increase in both medical and financial burden. [24]

Strengths and weaknesses

To date we were the first to describe and analyse the trends in incidence of subacromial pain syndrome in particular and shoulder disease in general. Thereby we were also first in describing trends in co-morbidities linked to these syndromes in the same population. Furthermore this study tries to implement a much needed specific term for subacromial and rotator cuff disease.
Also, using Intego with a huge database of Flemish patients, conclusions can be drawn for both Flanders and other western countries.

On the other hand we were limited by the general code for shoulder syndrome (ICPC: L92) as we wanted to describe the new overarching term of Subacromial Pain Syndrome. Hereby we needed to limit us to the use of the broader term: shoulder syndrome, especially in analysing the co-morbidities this could mean a distorted picture as also omarthrosis is taken into account. The authors would hereby strongly suggest to split this broad code of shoulder syndrome into subdivisions: omarthrosis, subacromial pain syndrome and other shoulder pathology. As also the Dutch Orthopaedic Association recommends using the term subacromial pain syndrome. This would make the term more common in use within general practice and more easily coded.

Furthermore, as we work with the data real GP's code into their software, we depend greatly on the consistency and quality of coding. Hereby stating that this also depends on new insights in medical practice, certain trends in diagnosis or treatment.

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Reflectieverslag

Samen met Viktor Lannoy begonnen we drie jaar geleden aan het kiezen en uitschrijven van onze masterpaper huisartsgeneeskunde. Initieel werden we toebedeeld aan Prof Dr Vankrunkelsven. Echter kregen we na de initiële toewijzing te horen dat het aantal plaatsen beperkt was bij hem. Bijgevolg moesten we maanden later switchen van zowel onderwerp als promotor.

We werden uiteindelijk in onderling overleg toegekend aan Prof Bert Vaes. Met hem verliep het contact meteen zeer vlot. Uiteindelijk sloten we onze eerste jaar af met een eerste aanzet tot wat ons uiteindelijk onderwerp zou worden. We wisten dat we op dat moment een beschrijvende studie zouden maken gebruik makend van de intego database, iets waarmee onze promotor vertrouwd was. Ook wouden we ons richten op het muskuloskeletale omdat we dit beiden, Viktor en ik, een interessant topic vinden binnen de huisartsgeneeskunde. Ook is het een frequente klacht binnen de huisartsgeneeksunde waarmee we meteen ook de relevantie van onze paper kracht trachtte bij te zetten.

In ons tweede jaar werd onze onderzoeksvraag meer een meer duidelijk. We zouden de statistische trends van het subacromiaal pijnsyndroom over de afgelopen 20 jaar analyseren gebruik maken van de intego database. Het betrof de incidentie van dit subacromiaal pijnsyndroom, het voorschrijfgedrag van medicatie zoals het gebruik van paracetamol en ontstekingsremmers en de correlatie met bepaalde comorbiditeiten zoals obesitas en depressie. Initieel dachten we ook het voorschrijfgedrag met betrekking tot werkonbekwaamheid en behandeling zoals kine mee te nemen. Dit bleek praktisch echter niet haalbaar. Daarnaast moesten we ons ook beperken tot enkele peilers gezien de omvang anders te groot en te onoverzichtelijk zou worden.

We kozen ook specifiek voor de term subacromiaal pijnsyndroom gezien we hier goed bekend mee zijn in de lage landen. Hiervoor refereer ik voornamelijk naar de NHG richtijnen die ook in de dagelijkse praktijk vaak als leidraad dienen. Zo wouden we op deze manier ook echt de link leggen met de dagdagelijkse praktijk zoals wij ze kennen. Het kiezen van deze term zorgde echter voor het verloop van de paper soms wel voor wat moeilijkheden gezien er in de literatuur andere indelingen worden gemaakt. Op deze manier was het duidelijk afbakenen van onze onderzoeksgroep niet altijd gemakkelijk. Zo moesten we bepaalde zogenaamde codes uit de database trekken die voldoen aan onze onderzoeksgroep. Dit was echter niet altijd gemakkelijk gezien de diversiteit en complexiteit van de zogenaamde pijnsyndromen van de schouder.

Terwijl we onze onderzoeksvraag aan het verfijnen en afbakenen waren, begonnen we ook aan onze literatuurstudie. We moesten te weten komen wat er in de literatuur reeds gekend was over deze problematiek. We begonnen vrij algemeen met het opzoeken van wat er gekend is over de schouder in het algemeen en of er al bepaalde onderzoeken waren gebeurd met betrekking tot onze onderzoeksvraag. Over de incidentie waren er vershillende studies te vinden, echter niet de trends over bepaalde tijsperiodes. Dit zorgde er wel voor dat onze studie zeker relevant kon zijn gezien de weinig reeds beschikbare data.Ook

konden we aan de hand van bepaalde studies aantonen dat er bijvoorbeeld een verband is tussen diabetes mellitus en bepaalde schouderpathologie.

Nadien moesten we de methode van onze studie opzetten. Hier was het handig dat onze promotor reeds een gelijkaardige studie had opgezet. Nadien kwam voor mij persoonlijk het moeilijkste deel. De resultaten moesten bekomen worden door bepaalde statistische analyses uit te voeren. Hiervoor kregen we hulp van een statisticus, maar de uiteindelijke analyses voerden we wel zelf uit.

Eens de statistische analyses achter de rug waren en we de resultaten konden neerpennen, konden we de nadenken over de impact van resultaten en bijgevolg de discussie aanvatten. Daarnaast dachten we ook na over de sterktes en zwaktes van deze studie. Dit deel was het meest interessante deel van onze studie gezien we hier trachtten bepaalde verbanden en de relevantie van onze studies moesten inschatten.

De samenwerking met Viktor verliep vlot. We kenden elkaar al goed vanuit onze studentjaren uit Leuven. We hebben afwisselend aan de paper gewerkt en altijd de input van de andere kritisch bekeken en zo nodig herschreven. Wel was het voor mij soms moeilijk om de eerste twee jaar veel aan de paper te werken. Dit kwam door de royale tijd die we hadden voor de paper (3 jaar) en uiteraard ook de combinatie met het professionele leven. Ikzelf vond het persoonlijk op dat moment ook meer opportuun om mij op vrije momenten bij te scholen (richtlijenen lezen, technieken opzoeken,…) dan aan mijn thesis te werken.

Met het indien van deze masterpaper valt er toch ook een grote druk van de schouders. Tegelijkertijd is het altijd fijn om het uiteindelijke resultaat te aanschouwen. Het feit dat je aan de schrijvers- en niet de lezerskant zit, is verrijkend en boeiend. Dit hebben we gedurende onze studie geneeskunde niet veel gehad. Zelf een onderzoeksvraag vinden, de studie uitvoeren en dit allemaal op papier zetten is best uitdagend. Er is dan ook af en toe eens gevloekt geweest. Ik zie mezelf wel meer als een practictus dan een academicus. Zoals ik reeds aangaf, is de creatie van een paper iets waar je op het einde misschien wel meer voldoening uit haalt dan louter cursussen van buiten te leren, maar is tegelijkertijd ook niet volledig mijn ding.