MedNut Mail

The How, When, Where, Which and Why of pharmacotnutrition

Templates for common clinical observations 4

Y Coleman

26th April 2022

https://medicationsandnutrition.online

Commentary

Personalising templates is a more effective use of time than writing each essentially-similar entry from scratch – the days we are tired or rushed or distracted are the days we leave out something important.

Another benefit that templates confer is the consistency of the information being passed on which means the readers are more likely to accept it if it is consistently being included in similar cases.

These templates focus on B12.

Currently prescribed two drugs that decrease B12 absorption - being **XXXXX** and **XXXXX**. There is disagreement between pathology ranges and research findings with regard to appropriate B12 levels. Neuro-imaging research found a direct causal link between B12 status and consequent memory impairment; it also found increasing memory impairment as B12 levels dropped even whilst within currently defined acceptable ranges and that B12 interventions are effective once levels are less than 300 pmol/L. Advisable to check B12 levels and if less than 300 pmol/L then intervention may be advisable.

Elevated MCV therefore advisable to check B12 levels. There is disagreement between pathology ranges and research findings with regard to appropriate B12 levels. Neuro-imaging research found a direct causal link between B12 status and consequent memory impairment; it also found increasing memory impairment as B12 levels dropped even whilst within currently defined acceptable ranges and that B12 interventions are effective once levels are less than 300 pmol/L. Currently prescribed **XXX** which negatively impacts B12 status therefore advisable to check B12 status and if less than 300 pmol/L then intervention advisable.

Low B12 exacerbates elevated TNFα which is an inflammatory response marker; elevation of the inflammatory response can include a pain response and currently prescribed **XXXXX** therefore advisable to check B12 status. There is disagreement between pathology ranges and research findings with regard to appropriate B12 levels - recent neuro-imaging research shows a direct causal link between B12 status and consequent memory impairment and recommend B12 interventions once levels are less than 300 pmol/L.

Low B12 is important in the righting reflex when a person stumbles and currently prescribed **XXXXX** therefore advisable to check B12 status and if low then intervention advisable.

Recent evidence found a direct correlation between level of cognitive impairment and degree of elevation of homocysteine levels, and that if homocysteine levels are reduced to acceptable range then early cognitive impairment can be reversed. Homocysteine status is altered by 4 B vitamins - B12, folate, pyridoxine and riboflavin. **XXXXX** is currently prescribed **XXXXX** which decreases B12 absorption therefore advisable to check homocysteine levels and if elevated then intervention recommended.

Currently prescribed B12 intervention and duration of the intervention is unknown - evidence indicates elevated B12 levels diminish cognitive function therefore advisable to check B12 levels. If B12 levels are higher than or well within acceptable range then advisable to review frequency of administration of the intervention and consider changing from 3-monthly to 6-monthly.

What actions will you initiate as a consequence of these templates – will you -

- utilise templates in your clinical assessment reports?
- include various scenarios for each nutrient?
- include the enclosed templates for B12?

Conclusions

The list of templates being made available is steadily growing – the question is – are you integrating them in some format into your clinical practice?

Case study

Medical History with Nutritional Aspect

Amputation	☐	Constipation	☐	Dysphagia	☑	MND	☐
Anaemia	☐	CVA	☑	Enteral Feed	☐	MS	☐
Arthritis	☐	CVD	☐	Falls	☐	Osteoporosis	☐
Cancer	☐	Dementia	☐	Fracture	☐	PD	☐
CCF	☐	Dentures	☐	Frailty	☐	Pressure Area	☐
Chest Infection	☐	Depression	☐	Gout	☐	Renal	☐
COAD	☐	DM Type 1	☐	Hypertension	☑	Ulcer	☐
Confusion	☐	DM Type 2	☐	Incontinent	☑	UTI	☐

Food Allergies:

Other: DVT, asthma, IDC, intellectual disability

Biochemistry with Pharmaconutritional Consequences

No recent relevant results available that may have a pharmaconutrition component.

Medications That May Adversely Affect Nutritional Status

Drug	Vits + Mins	bpp	>90%	N/V	C/D	Wt	App	Tst	Thir	Sal	Drlg	d m	Dys	BSL
atenolol			☐	NV	CD	↑	↕	☑				☑	☐	☑
fybrogel			☐					☐				☐	☐	☐
hiprex			☐	NV			↓	☐				☐	☐	☐
norvasc			☑	NV	CD	↑	↕	☑	↑			☑	☑	☐
solprin	K, Fe, B12, folate, C		☐	NV			↓	☐				☐	☐	☑
vit c	250mg tds		☐					☐				☐	☐	☐
			▩					▩				▩	▩	▩

Extra drug:

Comments – medication and nutrition impacts (direct and indirect) only

No recent relevant biochemistry available. Advisable to check plasma proteins (albumin, total proteins) as markers of nutritional status. The plasma proteins are the primary transporters for one of the prescribed drugs and hypoproteinaemia may alter its effects including side effects.

Currently prescribed 3 medications, being atenolol, Norvasc, Solprin that alter glycaemic control therefore advisable to monitor glycaemic control on a regular basis.

Aspirin reversibly decreases gastric vitamin C levels.

Aspirin plus vitamin C (960 mg/day) attenuates drug-induced gastric damage and restores anti-oxidant protection - currently administered 750 mg vitamin C/day therefore advisable to consider increasing vitamin C intervention to qid.

Norvasc impairs zinc status therefore advisable to check status.

Atenolol is absorbed from the gut by OATP1A2 and OATP2B1 transporters that are located in the small intestines; both orange juice and apple juice decrease atenolol availability and effectiveness – their mechanism of action is inhibition of the OATP1A2 and OATP2B1 transporters. Advisable for orange and apple juice to be administered at a different time from atenolol.

Atenolol is a substrate for OCT1 for transport into the liver, a substrate for OCT2 for transport into the kidneys, and a substrate and inhibitor for MATE into the urinary system. All these transporters are primary transporters for thiamine therefore advisable to either monitor thiamine status or administer a small regular intervention at a different time from atenolol administration.

What else would you include?

Medications have profoundly and positively changed health outcomes however they do generally come with some nutritional harms. By identifying and addressing the nutritional harms, optimal health outcomes are closer to being achieved.

You may be interested in some of our other products …

MedNut Mail is our free weekly email that identifies and comments upon some aspect of pharmaconutrition.

For more information click here.

Medications have profoundly and positively changed health outcomes however they do generally come with some nutritional harms. By identifying and addressing the nutritional harms, optimal health outcomes are closer to being achieved.

This resource is for innovative clinicians looking to expand their expertise so they can continue to provide their best service to the people in their care.

For more information click here.