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Nutrition and Hydration

Current Awareness Bulletin

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Malnutrition – the 'Pandora's box' of health care we try not to open King's Fund

Malnutrition is arguably the biggest health risk we rarely think about.

Around 1 in 20 adults in the UK are estimated to be malnourished or at risk of malnutrition, and its impact can be profound. Malnutrition can increase the risk of illness and infection, increase the likelihood of falls, reduce mobility, reduce independence and reduce quality of life. People from the most deprived backgrounds are most affected.

The cost of treating someone who is malnourished is around three times the cost of treating someone who isn't. Estimates suggest that malnutrition may cost the health and care system as much as £22.6 billion a year. Malnourished people visit their GPs more often, have greater risk of complications in illnesses, and are more likely to need hospital and care home admission.

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Yet malnutrition is not such a high priority for health care staff, particularly those who do not provide frontline care. Nor is it one of the key health trends mapped by the Office for Health Improvement and Disparities.

Why is that and what, if anything, can be done about it?

To understand the issue, The King's Fund convened a roundtable, sponsored by Abbott, of twelve professionals involved in preventing, diagnosing and treating malnutrition. Attendees included GPs, allied health professionals, geriatricians, dietitians and staff from community or voluntary sector organisations.

Some clear, linked issues emerged.

First, nutrition is such a basic, fundamental element of our lives that it does not feel like a 'medical' issue at all. What we eat is not something that we feel we need to consult a GP about and may not be an area that a GP feels able to discuss with their patients. It is an 'invisible problem'. It is only when someone comes into the health care system with a problem – perhaps after a fall or when having treatment for a serious condition such as cancer – that malnutrition may be identified. And by then it may be harder to tackle.

Illness may mean people struggle to get to the shops so don't have food they feel like eating, while disability may reduce income, which makes it harder to afford nutritious food.

Second, malnutrition and its causes are complex. At our roundtable, experts talked about the differences between disease-related malnutrition (for example, as a result of heart failure, cancer or cancer treatments) and social malnutrition (for example, where people may not eat because of loneliness or may not eat well because of poverty). There was general agreement, though, that this neat split into disease-related and social malnutrition over-simplifies a situation in which one type of malnutrition can feed into the other. Illness may mean people struggle to get to the shops so don't have food they feel like eating, while disability may reduce income, which makes it harder to afford nutritious food. There was also discussion about the complex relationship between malnutrition, sarcopenia (muscle weakness) and frailty, and about the relationship between obesity and malnutrition (and how it is quite possible to experience both at the same time).

Third, malnutrition thrives on misunderstandings about health and health norms, particularly as people age. Too many people, including clinicians, see loss of appetite as a normal feature of ageing. And many people don't understand the basics of nutrition – protein, fats, vitamins, carbohydrates – and what constitutes a healthy diet at different stages of our lives: 'Should I make my 94–year–old mum eat carrots or is it OK if she eats steam pudding and custard? It is that sort of thing that people really don't understand.'

Fourth, even when malnutrition is recognised as an issue that goes beyond the individual or their family, it is seen as something that is everyone's responsibility – the GP, allied health professionals (such as OTs), physiotherapists, local authorities, the voluntary sector. In practice, this means it is often seen as no one's responsibility – and without a clear lead it too often falls between the cracks as an issue and there is insufficient concerted action. Lack of capacity across the system does not help. As a result, diagnosing malnutrition is, as one participant said, 'like opening a Pandora's box' which 'we shut very quickly'.

If anything, we have reduced the sort of community services that might help in this area, with recent reductions in basic services such as community meals ('meals on wheels').

Finally, we intervene far too late in the process. This applies to the treatment of individuals, too many of whom are malnourished when they first present at hospital, for example after a fall. But that is partly because we are not thinking about population health approaches to malnutrition, identifying groups who are most at risk and taking steps to reach them. If anything, we have reduced the sort of community services that might help in this area, with recent reductions in basic services such as community meals ('meals on wheels').

However, the situation is far from irredeemable. Our participants put forward a range of proposals for how we can tackle malnutrition more effectively. These included:

- more focus on public education about the fundamentals of nutrition and its impact on health and wellbeing
- greater community focus on early diagnosis and prevention
- improved education for clinicians about malnutrition and sarcopenia, especially in high-risk patient groups, including the elderly and people with conditions such as frailty and oncology
- a clearer sense of who is responsible for identifying and tackling malnutrition and its causes at a national and integrated care board level
- more clarity about the approach to take for different individuals – when is a 'food first' approach appropriate and when is it essential to use nutritional supplements?
- better pathways for tackling malnutrition when it is diagnosed, particularly in the community.

Though the group had little time to discuss it, there is also a need to recognise and tackle the broader causes of malnutrition, such as poverty, and the need for a food policy that ensures everyone has access to a healthy diet.

Above all, though, more work to ensure that malnutrition is recognised as a challenge and then to act on it was seen as a prerequisite for progress.

1. **Cancer-Related Malnutrition and the Role of Parenteral Nutrition in Cancer; A Narrative Review**

Authors: Firouzabadi, Dena and Ahmadi, Hossein

Publication Date: 2024

Journal: Nutrition & Cancer 76(10), pp. 870–884

Abstract: The growing incidence rate of cancer and its associated morbidity and mortality prompts the need to identify factors that could improve the quality of life (QoL) and survival of a patient with cancer. Cancer-associated malnutrition is a common complication that could start at the early stages of cancer and could further develop into advanced cachexia. Response to treatment, length of hospital stay, progression of infection, and other complications of cancer including chemotherapy adverse events could all be influenced by the progression of malnutrition. Nutritional interventions may vary from oral to enteral and parenteral therapy. Parenteral nutrition (PN) therapy may benefit patients at certain stages of cancer in whom contraindications or inefficacy of other modalities of nutritional support are present. This method may seem invasive, costly, and risky but at the same time may improve certain patients' QoL and chance of survival. In trained settings with proper facilities, this method of nutritional support can benefit patients; However, the indication for starting PN must be carefully supervised considering that other nutritional support methods may be equally efficient and at the same time easier to access and apply.

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2. **The Experience and Needs of Living With Home Parenteral Nutrition in Adult Patients: A Meta-Synthesis of Qualitative Studies**

Authors: Fu, Manyi;Shi, Ming;Li, Mengjie and He, Guijuan

Publication Date: 2024

Journal: Journal of Clinical Nursing (John Wiley & Sons, Inc.) 33(11), pp. 4468–4483

Abstract: Background: Home parenteral nutrition (HPN) can improve the nutritional status of patients with gastrointestinal dysfunction. However, some patients face a series of challenges during its implementation, which significantly affect their quality of life. Aims: To explore the experience and needs of living with home parenteral nutrition in adult patients. Design: A systematic review and meta-synthesis. Methods: A search was conducted across multiple databases, including PubMed, Embase, Cochrane Library, Web of Science, Chinese Biomedical Literature Service System, China National Knowledge Infrastructure, Wanfang Database and Wipu Database, to explore the real-life experiences and needs of adult patients receiving HPN. The search covered the period up to March 2024. Qualitative research quality was evaluated using the Joanna Briggs Institute's Australian Centre for Evidence-Based Health Care Quality Assessment Criteria for Qualitative Research. Data synthesis was performed using Thomas and Harden's method of thematic and content analysis. Results: Twelve studies, each offering qualitative data, were analysed, resulting in the identification of four themes: positive experiences of HPN; the interplay of dynamic changes across physical, mental and social levels; self-adjustment to the new normal; and multidimensional needs of

patients receiving HPN. Conclusions: Patients receiving HPN face multiple challenges physically, psychologically and socially. This paper also reveals the supportive needs of patients in adapting to a new lifestyle with HPN. This indicates that healthcare professionals should provide comprehensive, continuous and dynamic supportive medical services to facilitate patients' reintegration and return to normal social life. Patient and Public Involvement: As this study constitutes a meta-synthesis, patient or public contribution is not applicable. Reporting Approach: Adhering to the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) reporting guidelines, this meta-synthesis was conducted.

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3. **Association between hydration status and the risk and all-cause mortality of diabetic kidney disease**

Authors: He, Yayun;Wu, Xia and Tang, Yunhai

Publication Date: 2024

Journal: Renal Failure 46(2), pp. 2386154

Abstract: Background: This cohort study aimed to explore the relationship between hydration status and the risk of diabetic kidney disease (DKD) as well as all-cause death in DKD patients.; Methods: Weighted univariable and multivariable logistic regression models were used to explore the association between hydration status and DKD risk in diabetic population while weighted univariable and multivariable Cox regression models were used to identify the association between hydration status and all-cause mortality in DKD patients. Kaplan-Meier curve was plotted to present the survival probability of patients with different hydration status. Estimates were presented as odds ratio (OR), and hazard ratio (HR) with 95% confidence interval (CI).; Results: The mean follow-up time was 79.74 (±1.89) months. There were 2041 participants with DKD, and 2889 participants without. At the end of the follow-up, 965 participants were alive. The risk of DKD was increased as the increase of osmolarity level (OR = 1.07, 95%CI: 1.05-1.08). The elevated risk of DKD was observed in patients with impending dehydration (OR = 1.49, 95%CI: 1.19-1.85) or current dehydration (OR = 2.69, 95%CI: 2.09-3.46). The association between increased osmolarty level and elevated risk of all-cause mortality in DKD patients was statistically different (HR = 1.02, 95%CI: 1.01-1.03). Current dehydration was correlated with increased all-cause mortality risk in DKD patients (HR = 1.27, 95%CI: 1.01-1.61). Compared to DKD patients with normal hydration, the survival probability of DKD patients with current dehydration was significant lower ($p < 0.001$).; Conclusion: Increased osmolarity level was associated with increased risk of DKD and elevated risk of all-cause mortality in DKD patients.

4. **Educational needs of direct care workers in long-term care facilities providing mealtime assistance to older adults with dementia**

Authors: Jung, Dukyoo;Park, Jisung;Choi, Eunju;Yoo, Leeho;Kim, Kahyun;Cho, Seyoung and Shin, Soogyung

Publication Date: 2024

Journal: BMC Geriatrics 24(1), pp. 1–13

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5. **Associations Between Hydration Status and Executive Function in Middle-Aged and Older Adults: Findings from the Nationally Representative Health and Retirement Study**

Authors: Singer, Katelyn J.;Davy, Brenda M.;Davy, Kevin P. and Katz, Benjamin

Publication Date: 2024

Journal: Journal of Nutrition in Gerontology and Geriatrics , pp. 1–19

Abstract: The purpose of the current study is to examine the association between hydration status and cognitive function in middle-aged and older adults, drawing from a large, nationally representative sample in the United States and using a comprehensive set of executive function performance measures. We utilized data from the Health and Retirement Study to conduct twelve, three-stage hierarchical regressions on hydration status and executive function performance of older adults. Cognitive performance scores on the Trail Making A, Symbol Digit Modalities, and Letter Cancellation tests significantly differed by hydration status, and these outcomes follow a curvilinear pattern, such that performance scores are lower for those who are hyper-hydrated or dehydrated relative to those who are euhydrated or near-dehydration. Our study's findings are consistent with prior studies examining the impact of serum osmolarity on cognitive performance. Specifically, a curvilinear pattern was associated with speed of processing tests of executive function. Overall, hydration status is associated with curvilinear patterns of performance on executive function measures, specifically Trail Making A, Symbol Digit Modalities, and Letter Cancellation Tests.

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6. **The Importance of Nutrition in Cancer Care: A Narrative Review**

Authors: Soares, Camilla Horn;Beuren, Amanda Guterres;Friedrich, Heloisa Jacques;Gabrielli, Carolina Pagnoncelli;Stefani, Giovanna Potrick and Steemburgo, Thais

Publication Date: 2024

Journal: Current Nutrition Reports 13(4), pp. 950–965

Abstract: Purpose of Review: Cancer, a complex disease affecting millions globally, presents considerable challenges for both patients and health care providers. Within the broad spectrum of cancer care, nutrition plays a key role in supporting patients throughout their journey. This narrative review examines the role of nutrition in cancer care, exploring its impact on treatment outcomes, nutritional status, current dietary recommendations, physical activity,

palliative care, and finally, as a nutritional encouragement for cancer survivors.; Recent Findings: Evidence indicates that cancer and anticancer treatments frequently cause malnutrition and loss of muscle mass, which can exacerbate symptoms, impair immune function, and hamper recovery. Therefore, adequate nutritional support is crucial for maintaining strength, controlling symptoms, and optimizing treatment tolerance in patients with cancer. Several factors influence nutritional needs and dietary recommendations, including cancer type, treatment, and individual patient characteristics. Nutritional care aims not only to ensure sufficient energy and protein intake, but also to manage specific symptoms such as dysgeusia, nausea, and dysphagia. Registered dietitians play a crucial role in providing personalized nutritional guidance, monitoring nutritional status, and implementing interventions to address emerging challenges in cancer care. Furthermore, recent research has underscored the benefits of dietary interventions in cancer treatment. From targeted nutritional supplements to more invasive nutritional support, interest in how nutrition can affect cancer risk and treatment outcomes is increasing. Overall, this review highlights the critical role of nutritional care in comprehensive cancer treatment. By recognizing and meeting dietary demands throughout the entire cancer journey, health care professionals can improve patients' well-being, response to treatment, and long-term prognosis. (© 2024. The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.)

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7. **Understanding mealtime behavioral problems in nursing home residents living with dementia: a group concept mapping approach**

Authors: van Buuren, Eline,C.P.;Perry, Marieke;Bakker, Christian;Koopmans, Raymond T. C. M. and van der Steen, Jenny,T.

Publication Date: 2024

Journal: BMC Geriatrics 24(1), pp. 843

Abstract: Background: Persons with dementia frequently experience mealtime behavioral problems that can result in reduced or lack of intake of food or fluids. Multiple underlying causes and expressions of mealtime behavioral problems complicate its interpretation and intervention, because problems originating from cognitive and functional decline and behavioral changes may interact. Healthcare professionals and family caregivers may encounter a variety of practical and moral dilemmas in dealing with these problems. We aimed at a better understanding of mealtime behavioral problems and related complex issues in nursing home residents with dementia from a daily practice perspective.; Methods: We used a mixed-method Group Concept Mapping approach in this study, and collected data online with a panel of 67 healthcare professionals, researchers and relatives from across The Netherlands. The participants contributed to either or all of the following phases: (1) the generation of ideas (brainstorm), (2) sorting, and (3) rating of the ideas. Subsequent phases included data analysis with Groupwisdom ® software and interpretation of the results. Multidimensional scaling and hierarchical cluster analysis resulted in a concept map visualizing the coherence and importance of ideas. Bridging values were calculated, with low values indicating a distinct, clear concept.; Results: Brainstorming resulted in 285 statements representing 85 ideas. The concept map visualized three categories capturing ten clusters which describe the management of mealtime behavioral problems, causes of mealtime behavioral problems, and expressions and interpretations of mealtime behavioral problems.

Concepts reflecting direct consequences, ethical components, and considerations to handle challenging situations overlapped on the concept map with the highest bridging values (range 0.58-0.87).; Conclusion: This study added to unraveling the complex nature of mealtime behavioral problems, as perceived in practice. It is recommended to comprehensively analyze all components in the management of these problems, in particular being aware of ethical factors and align care for residents with dementia accordingly. (© 2024. The Author(s).)

Sources Used:

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