

Nutritional challenge in children with Congenital malformations

Natalia Orlova

Kharkiv National Medical University, Ukraine

Abstract

Background: Causes of protein-energy malnutrition (PEM) in them are multifactorial, and malnourishment could also be thanks to motor disorders, digestive problems, medicine use, and therefore the social environment.

PEM is one among the foremost serious medical problems round the world. consistent with WHO research, in poor families in 22-35% of youngsters aged 2 to six years, the weight (BW) is below the 5th percentile, the expansion of 11% of youngsters is below the 5th percentile. In hospitalized children, various sorts of PEM are still common, which aggravates the course of the disease, worsens their prognosis, and causes a delay within the physical and neurological development of youngsters.

In Ukraine, together of low income and middle income countries (LMICs), PEM is detected and diagnosed almost actively especially in children with neurologic impairment.

Objective: Assessment of nutritional status and nutritional support in children with congenital malformations of brain.

Goal. Assessment of nutritional status and nutritional support in children with congenital malformations of brain.

Keywords: Multidisciplinary team, Palliative care, Palliative patients, Clinical trail designs

INTRODUCTION

The anthropometric assessment of the youngsters, evaluation of oromotor dysfunction (OMD), a 24-hr dietary recall, assessment of nutritional status before ("baseline") and after 6 months of implementing of food modification ("endline") were studied. 17 children were recruited for the study (young children and pre-schoolers) who took part within the department of Palliative Care thanks to congenital malformations of brain. there have been 9 (53%) young children (0-36 months) and eight (47%) pre-schoolers (3-6 years). the typical age was 3.6 ± 2.1 years. All caregivers were female.

METHADODOLOGY

For nutritional status investigation the anthropometric assessment was used. Anthropometry was measured in accordance with the quality procedure. BW was measured employing a digital weighing Infant Scale and was recorded to the closest decimal place (0.1 kg). The H/L was estimated by means of Infant Length Board marked in cm and recorded nearest 0.1 cm. for youngsters with paralytic syndromes the H/L decided by measuring the length of the large tibia (cm) and calculated by formula thanks to inability to face, scoliosis or joint contractures of patients.

Additionally the nutritional status included a study of a 24-hr dietary recall and questionnaire of caregivers. the subsequent questions were included: 1. Does the kid usually eat alone or with others? 2. When does the kid eat? (Are the meals regular, what percentage times per day?) 3. Is there sufficient time for feeding? (Does the meal last more or but 30 minutes?) 4. does one apply special feeding (If no, what food does one choose?).

Result

The sample included 9 males and eight females. there have been 14/17 children with paralytic syndromes (I-V level of GMFCS). Severe cognitive impairment was established in 8/17. Prevalence of OMD was in total sample, and was distributed as "mild" in 2/17 children, "moderate" in 4/17 and "severe" in 11/17 children. Severe OMD is related to microcephaly, cognitive impairment and V level of GMFCS.

Correspondence to: Kharkiv National Medical University, Ukraine. E-mail: natalia354@gmail.com

Received: January 30, 2021; **Accepted:** February 12, 2021; **Published:** April 12, 2021

Citation: Natalia O, Olena R (2021) Nutritional challenges in children with Congenital malformations. In J Sch Cogn Psychol. DOI: 10.35248/2329-8901.19.7.215

Copyright: ©2021 Natalia, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

The feeding time was different in 5 tube-fed children compared with 12 bottle-fed or spoon-fed 12 children (median 11 min vs 32 min). there have been no significant differences in correlation of OMD severity, sex or age.

The results of caregivers' answers for questionnaire demonstrated that each one children had meals alone with none social component, regularly, minimum 4 times, maximum 6 times per day. None of them applied any special feeding formula. The meals length in 4 tube fed children was even but 15 min. The 24-hr dietary recall demonstrated that only 3 children (younger than 1 year) received formula for feeding, others -"adult" meal (porridges, vegetables, milk and meat, pureed by texture modifications for consistency). All children were unable to feed themselves and needed some feeding assistance.

DISCUSSION

The moderate PEM was diagnosed in 2/17 children, severe PEM in 12/17 from the entire cohort in "baseline" study. The distribution of PEM degree in "endline" was following: moderate PEM was found in 5/17 children, severe PEM in 9/17.

Our data was collected to match the youngsters with NS and without NS. the youngsters with NS had much severe deviation of Z-score BW for age at "baseline" (median -6.2 vs -2.1) (MW test $p=0.0111$). We didn't find any significant difference in Z-score deviation of H/L for age (median -2.7 vs -3.4) (MW test $p=0.7429$). The median of Z-score BW for age in total cohort was -3.2 [minimum -0.5 maximum -10.4], of H/L for age was -2.7 [minimum -0.5 maximum -7.1]. Among children who didn't receive NS 2/8 children with loss of BW and 1/8 children with loss of H/L. In children who received NS 1/9 children with loss of BW and 4/9 children with loss of H/L. this means that a 6-month period with NS for PEM isn't enough and requires further monitoring.

We found a big difference in changes of Z-score BW for age in children under NS during 6 mo "baseline" and "endline" (median -6.2 vs -5.4) (W test $p=0.0208$) and no significant difference in changes of Z-score H/L for age in children under NS during 6 mo "baseline" and "endline" (median -3.4 vs -3.4) (W test $p=1.0$).

To correct PEM in children with congenital malformations of brain, speech therapists and physical therapists were involved as members of the multidisciplinary team. We proposed a training staff for monitoring the nutritional status in children with PEM and involvement of caregivers.

CONCLUSION

The study demonstrated moderate and severe nutritional disorders in young children and pre-schoolers with congenital malformations of brain: Z-score BW for age in total cohort was -3.2, H/L for age was -2.7 in LMICs. Its results differ from the previous studies that include children with CP. Late appointment of nutritional support to such children has been demonstrated, also as its effect on increasing growth and weight. High-quality clinical trials are needed to raised comprehend the methodology of nutritive support in children with different neurological impairments. We proposed a training staff for monitoring the nutritional status in children with PEM and involvement of caregivers.

References

- 1 Abd-El-Fattah SM, Patrick RR (2011) The relationship among achievement motivation orientations, achievement goals, and academic achievement and interest: A multiple mediation analysis. *Aust J Educ Dev Psychol* 11: 91-110.
- 2 Chen WW, Wong YL (2014) The relationship between goal orientation and academic achievement in hong kong: The role of context. *Asia-Pacific Educ Res* 24(1):169-176. doi:10.1007/s4029901301697.
- 3 Dekker S, Krabbendam L, Lee NC, Boschloo A, de Groot R, Jolles J (2013) Sex differences in goal orientation in adolescents aged 10-19: The older boys adopt work-avoidant goals twice as often as girls. *Learn Individ Differ* 26:196-200. doi: 10.1016/j.lindif.201207011.
- 4 Ebner NC, Freund A M, Baltes PB (2006) Developmental changes in personal goal orientation from young to late adulthood: From striving for gains to maintenance and prevention of losses. *Psychol Aging* 21(4): 664-678. doi:10.1037/08827974214664.
- 5 Eder AB, Elliot AJ, Harmon-Jones E (2013) Approach and avoidance motivation: Issues and advances. *Emot Rev* 5(3): 227-229. doi:10.1177/1754073913477990.
- 6 Elliot AJ, Eder AB, Harmon-Jones E (2013) Approach-avoidance motivation and emotion: Convergence and divergence. *Emot Rev* 5(3):308-311. doi:10.1177/1754073913477517.
- 7 Elliot AJ, McGregor HA (2001) A 2 X 2 achievement goal framework. *J Pers Soc Psychol* 80 (3):501-519. doi:10.1037/100223514803501.
- 8 Elliot AJ, Murayama K, Pekrun R (2011) A 3 x 2 achievement goal model. *J Educ Psychol* 103(3): 632-648. doi:10.1037/a0023952.
- 9 Elliot AJ, Murayama K, Kobeisy A, Lichtenfeld S (2015) Potential-based achievement goals. *Br J Educ Psychol* 83: 192-206. doi:10.1111/bjep.12051.
- 10 ErdemKeklik D, Keklik İ. (2014). High school students' achievement goals: assessing gender, grade level and parental education. *Cukurova Univ Fac Educ J* 43(1):63-73. doi:10.14812/cufej2014005.
- 11 Gatumu JC, Njue N, Chandi JR (2012) Women participation in Miraa (Khat) business and the academic performance of primary school children in Runyenjes Division , Embu , Kenya, *Int J Humanit Soc Sci* 2(17): 82-87.

- 12 Grant H, Dweck CS (2003) Clarifying achievement goals and their impact. *J Pers Soc Psychol* 85(3): 541–553. doi:10.1037/00223514853541.
- 13 Hanushek EA, Peterson PE (2014) Higher grades, higher GDP. *Hoover Dig* 1(Winter): 75–78.
- 14 Hanushek EA, Ruhose J, Woessman L (2016) It pays to improve school quality. *Educ NEXT*, 16(3): 16–24.
- 15 Hejazi E, Lavasani MG, Amani H, Was CA (2012) Academic identity status, goal orientation, and academic achievement among high school students. *J Res Educ* 22(1): 291–320.
- 16 Ikeda K, Castel AD, Murayama K (2015) Mastery-approach goals eliminate retrieval-induced forgetting: The role of achievement goals in memory inhibition. *Personal Soc Psych Bull*: 1-9. doi:10.1177/0146167215575730.
- 17 Johnson ML, Sinatra GM (2014) The influence of approach and avoidance goals on conceptual change. *J Educ Res*, 107(4): 312–325. doi:10.1080/00220671.2013.807492.
- 18 Kabangi MW (2008) Influence of home and school environment on Kenya Certificate of Secondary Education performance in Siakago Division, Kenya. Thesis, Kenyatta University, Kenya.
- 19 Kaplan A, Flum H (2010) Achievement goal orientations and identity formation styles. *Educ Res Rev* 5(1): 50–67. doi:10.1016/j.edurev.2009.06.004
- 20 Lieberman DA, Remedios R (2007) Do undergraduates' motives for studying change as they progress through their degrees? *Br J Educ Psychol* 77(2): 379–395. doi: 10.1348/000709906X157772.
- 21 Mbeere South Sub-County Education Office (2014) Secondary school enrolment data 2014. Author.
- 22 Ministry of Education Science and Technology (2014) 2014 basic education statistical booklet. Author. Nairobi.
- 23 Murayama K, Elliot AJ (2011) Achievement motivation and memory: Achievement goals differentially influence immediate and delayed remember-know recognition memory. *Personal Soc Psych Bull* 37(10): 1339–1348. doi:10.1177/0146167211410575.
- 24 Mutweleli SM (2014) Academic motivation and self-regulation as predictors of academic achievement of students in public secondary schools in Nairobi County, Kenya. Thesis, Kenyatta University, Kenya.
- 25 Ngeranwa DJN (2013) Impact of Khat cultivation on educational performance among upper primary school pupils in Gachoka Division, Embu County, Kenya. Kenyatta University, Kenya.
- 26 Pulkka AT, Niemivirta M (2013) Predictive relationships between adult students' achievement goal orientations, course evaluations, and performance. *Int J Educ Res* 61: 26–37. doi: 10.1016/j.ijer.2013.03.015.
- Schmider E, Ziegler M, Danay E, Beyer L, Bühner M (2010) Is it really robust? Reinvestigating the robustness of ANOVA against violations of the normal distribution assumption. *Methodology* 6(4): 147–151. doi:10.1027/1614-2241/a000016.
- 27 The Kenya National Examinations Council (KNEC) (2013) The 2013 Kenya Certificate of Secondary Education (KCSE) examination essential statistics. Author, Nairobi.
- 28 Van Yperen NW, Blaga M, Postmes T (2014) A meta-analysis of self-reported achievement goals and nonself-report performance across three achievement domains (work, sports, and education). *PloS One* 9(4): 1-16. doi: 10.1371/journal.pone.0093594.
- 29 Van Yperen NW, Blaga M, Postmes T (2015) A meta-analysis of the impact of situationally induced achievement goals on task performance. *Hum Perform* 28(2): 165–182. doi:10.1080/08959285.2015.1006772.
- 30 Van Yperen NW, Elliot AJ, Anseel F (2009) Influence of mastery-avoidance goals on performance improvement. *Eur J Soc Psychol* 39: 932–943. doi:10.1002/ejsp.
- 31 Vansteenkiste M, Lens W, Elliot AJ, Soenens B, Mouratidis A (2014) Moving the achievement goal approach one step forward: Toward a systematic examination of the autonomous and controlled reasons underlying achievement goals. *Educ Psychol* 49(3): 153–174. doi:10.1080/00461520.2014.928598.
- 32 Walvoord BE, Anderson VJ (2010) *Effective grading* (2nd ed). Josse-Bass, California.
- 33 Was C (2006) Academic achievement goal orientation : Taking another look. *Electronic Journal of Research in Educational Psychology*, 4(10), 529–550.
- 34 Was CA, Al-harthy I, Stack-Oden M, Isaacson RM (2009) Academic identity status and the relationship to achievement goal orientation. *Electron J Res Educ Psychol* 7(2): 627–652.
- Wawire CK (2010) Predictors and consequences of self-handicapping and defensive pessimism.