

Impact of Nutrition Knowledge on the Self-Perceived Health-Related Quality of Life in United Arab Emirates University Students

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Outline

- Introduction
- Problem statement
- Objectives
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INTRODUCTION

Health-related quality of life (HRQOL):

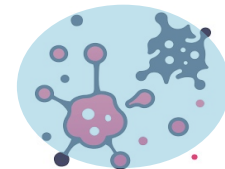
- ❖ *Self-perceived health-related quality of life (HRQOL)* is the outcome of physical, psychological, social and self-perception aspects affected by health status that impact the quality of life.¹

INTRODUCTION

HRQOL and NCDs:

- ❖ Lower HRQOL scores are reported in individuals with obesity, cancer, heart diseases, type 2 diabetes.^{1,2,3,4}
- ❖ In UAE → obesity rates (~30%).⁵
- ❖ Mortality in UAE → 5% from diabetes, 40% from CVD, and 12% from cancer, similar to the global trends.⁵

HRQOL negatively affected by NCDs



INTRODUCTION

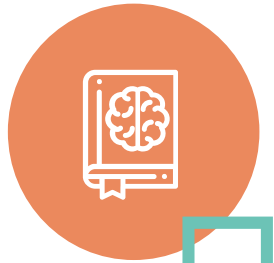
HRQOL in university students:

- ❖ University students form economically productive future population, and their quality of life is critical. However, their HRQOL can be negatively influenced by socio-environmental factors.⁶

INTRODUCTION

Nutrition Knowledge (NK):

- ❖ NK is knowing the concepts of nutrition and health including impact of diet on health and its relation to disease, background of major sources of nutrients in food, dietary recommendations, and dietary guidelines.⁷
- ❖ Poor NK in university students is associated with increased NCDs risk.⁸
- ❖ Low NK scores are reported among them in UAE.^{9,10,11}



PROBLEM STATEMENT

Inadequate NK in university students

↑ risk of obesity and NCDs

↑ Obesity/NCDs and ↓ HRQOL

NK and self-perceived HRQOL ???

↑ NK ⇒ ↑ self-perceived HRQOL ???



OBJECTIVES

- ❖ **Primary:**

- ❖ To determine the impact of a structured course-based NK module on the self-perceived HRQOL in university students

- ❖ **Secondary:**

- ❖ To identify the relationship between NK and self-perceived HRQOL in university students

METHODS

Pre-Post Research Design

Study Period: Fall 2020

Intervention group (n= 21 minimum out of total 142 registered)*

Students registered in General Education- Contemporary Food Science and Nutrition course (FDSC 250)

Control group (n= 21 minimum)*

Students registered in any course from colleges other than CFA/CMHS with no previous or current exposure to a nutrition related course at UAEU

Self Administered online questionnaires

- **Demographic Proforma**
- **Arabic General Nutrition Knowledge Questionnaire (86-items Arabic GNKQ-R)**
- **Arabic Health-related quality of life questionnaire (CDC HRQOL-14)**

Pretest: At the beginning of the course (Weeks 1-2)

Post test: At the end of 8 weeks of completion of nutrition module (Weeks 9-15)

Pretest: Weeks 4-8

Post test: At least 2 weeks from administration of pretest, (Weeks 6-12)

Figure 1. Study design

*Calculated using G*Power 3.1.9.4 software

Ethics Approval: UAEU-SScEC: ERS_2020_6179

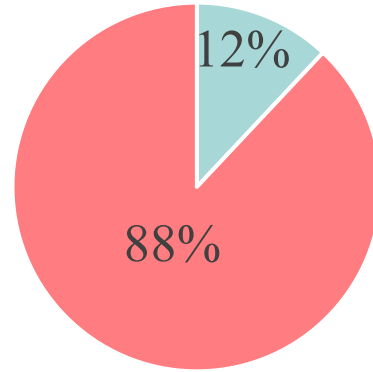
METHODS (cont.)

FDSC 250 course provides 8 weeks / 11 chapters of NK module related to:

- Macro-and-micronutrients, their food sources, functions, deficiencies, dietary reference intakes
- Food-based dietary guidelines and selection of healthy food choices
- Lifestyle and physical activity for healthy living, and relationships between diet and diseases
- Food labeling

RESULTS

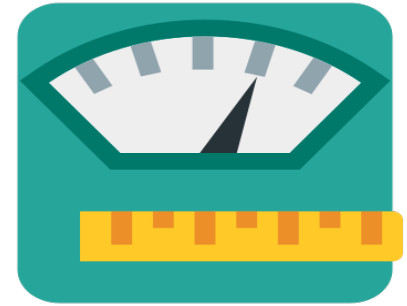
Demographics:



■ Male ■ Female



Age 20.3 ± 1.5 years



BMI 23.7 ± 4.6 kg/m²

RESULTS

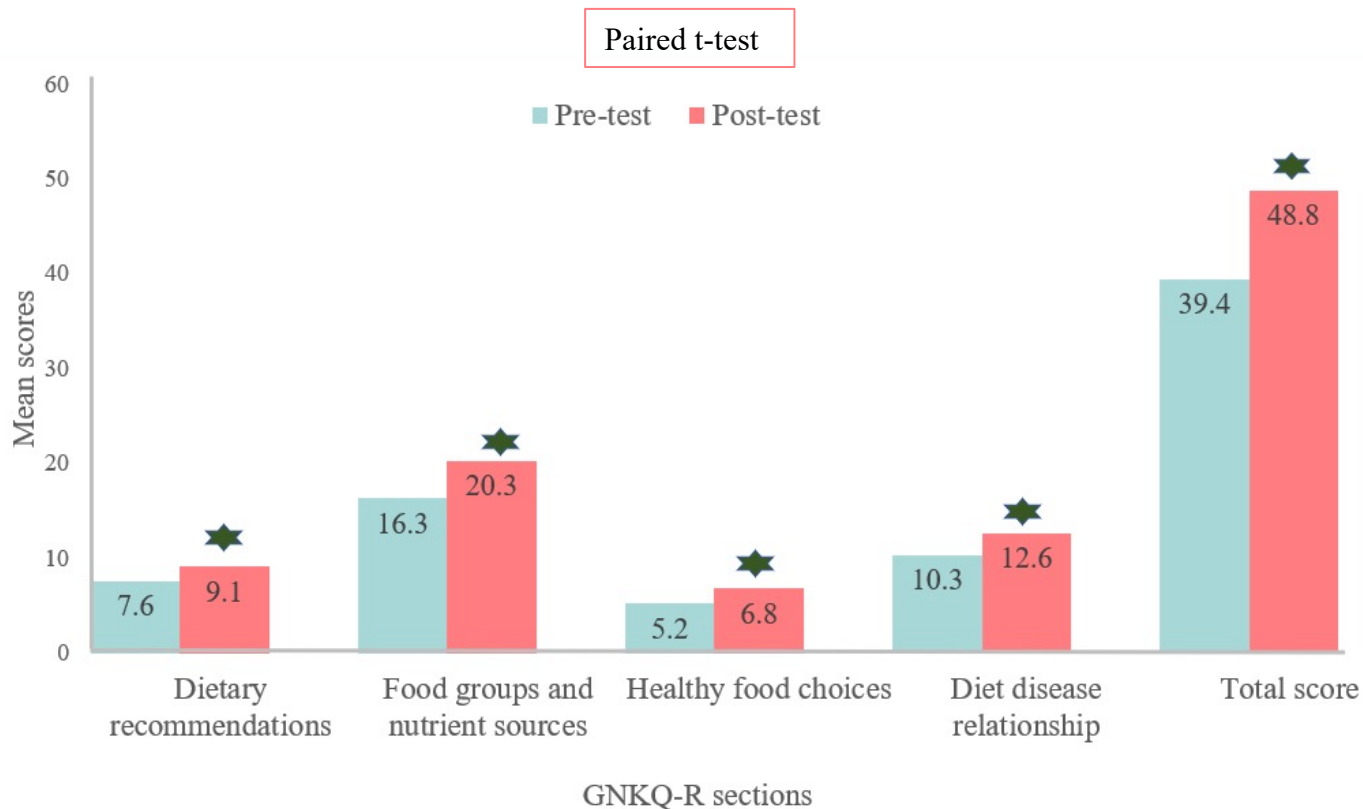


Figure 2. Pre-post NK scores in **intervention group** (n=21); *Significant improvement in post-test NK scores ($p < 0.05$)

RESULTS

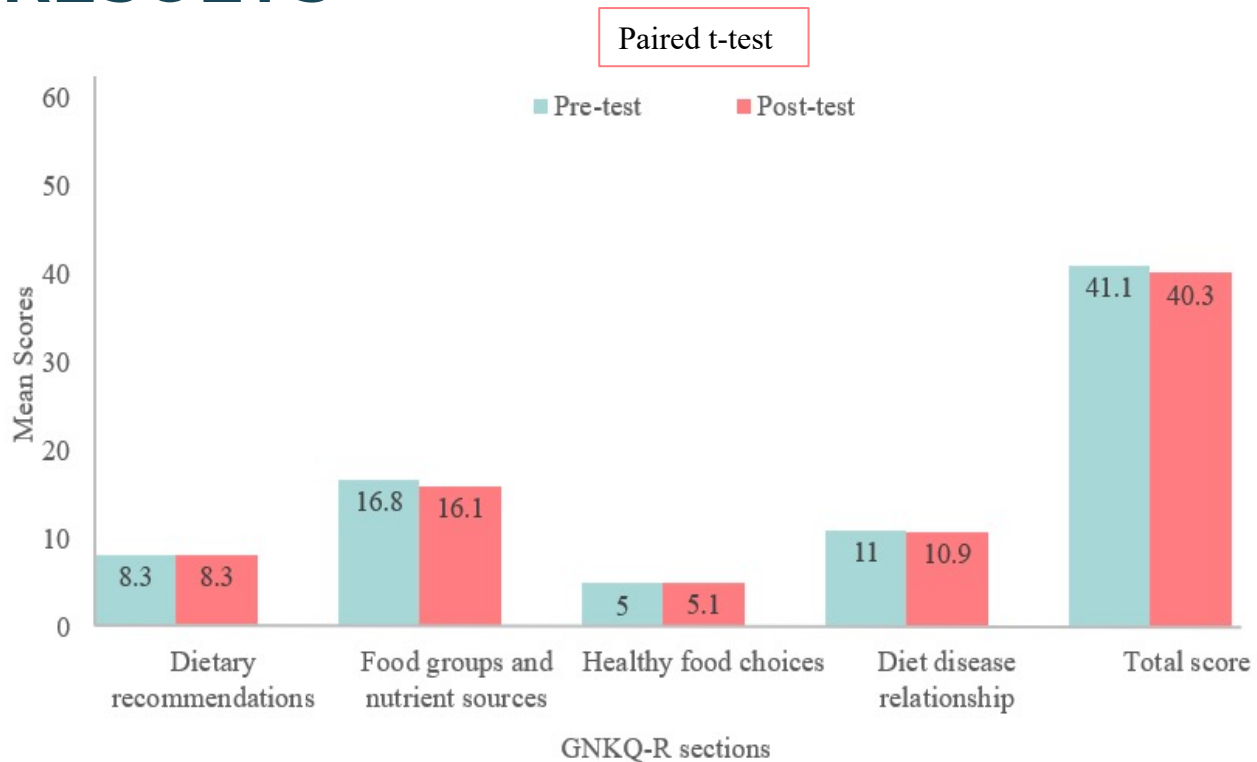


Figure 3. Pre-post NK scores in **control group** (n=21). No significant improvement in post-test NK scores

RESULTS

Table 1. Self-perceived health related quality of life of the participants

	Intervention (n = 21)			Control (n = 21)		
	Pre-test (mean (SD))	Post-test (mean (SD))	p value *	Pre-test (mean (SD))	Post-test (mean (SD))	p value **
Perceived general health	3.2 (1.1)	2.8 (1.2)	.030	3.0 (1.0)	3.1 (1.0)	.329
Physically healthy days	25.5 (8.3)	23.5 (8.4)	.087	22.8 (9.2)	20.9 (9.9)	.187
Mentally healthy days	19.4 (10.9)	21.2 (7.8)	.497	24.2 (5.1)	21.5 (9.3)	.204
Healthy days	23.7 (8.3)	22.0 (7.1)	.358	22.1 (8.4)	23.9 (6.7)	.187
Pain free days	26.00 (5.6)	26.4 (3.4)	.700	22.5 (9.0)	22.6 (7.6)	.943
Depression free days	20.9 (10.7)	20.4 (9.0)	.845	22.8 (7.9)	23.0 (7.0)	.875
Anxious free days	22.3 (8.7)	19.4 (9.5)	.205	21.2 (8.7)	22.2 (8.5)	.515
Good sleep days	18.4 (10.9)	14.3 (9.8)	.106	18.7 (11.5)	18.5 (10.2)	.937
Very healthy days	12.1 (11.1)	16.7 (10.5)	.034	17.6 (7.9)	16.5 (9.1)	.664

* p-value of the difference between time 1 and time 2 within the intervention group based on paired t test.. ** p-value of the difference between time 1 and time 2 within the control group based on paired t test. # Significantly different in comparison with time 1 in the intervention group, based on independent t test. ($p < 0.05$). † Significantly different in comparison with time 2 in the intervention group, based on independent t test ($p < 0.05$)

RESULTS

Table 2. Relationship between nutrition knowledge and components of self-perceived health related quality of life of the participants (n=171)

Parameter	General health	Very healthy days
Nutrition Knowledge (total scores)	- 0.273 (0.000)	0.177 (0.004)

Figures in parentheses indicate p values

RESULTS

- ❖ Negative results in HRQOL mentally healthy days, depression, anxiety, and good sleep identified → students stress reduce HRQOL systematic review findings.⁶
- ❖ Overall low NK scores in university students → reported in student from Asia, Africa, The Americas → Universities in the UAE.^{8,9,10,11}



CONCLUSIONS

- *Summary*
- ❖ Significant positive relationships established between the total NK scores and components of HRQOL, perceived general health and healthy days, in university students.
- ❖ Significant improvements recorded in post NK scores in intervention group reflecting the efficacy of structured course-based NK module.

CONCLUSIONS

- *Recommendations:*
 - ❖ Determine Self-perceived HRQOL as part of students' welfare activities of students' health clinics.
 - ❖ Design target-based interventions to improve NK and self-perceived HRQOL in university students such as providing NK module as a mandatory requirement.
 - ❖ Validate Arabic self-perceived HRQOL questionnaire for its wider use in Arabic population.

RESOURCES

1. Trikkalinou, A. Papazafiropoulou, AK. and Melidonis, A. (2017). Type 2 Diabetes and Quality of Life. *World journal of diabetes*, 8(4), pp. 120–129. DOI: 10.4239/wjd.v8.i4.120 [Accessed 20 November 2020].
2. Busutil, R., Espallardo, O., Torres, A., Martínez-Galdeano, L., Zozaya, N. and Hidalgo-Vega, Á., 2017. The impact of obesity on health-related quality of life in Spain. *Health and Quality of Life Outcomes*, [online] 15(1). Available at: <<https://hqlo.biomedcentral.com/articles/10.1186/s12955-017-0773-y>>.
3. Färkkilä, N. Torvinen, S. Roine, R. Sintonen, H. Hänninen, J. Taari, K. and Saarto, T. (2014) “Health-Related Quality of Life among Breast, Prostate, and Colorectal Cancer Patients with End-Stage Disease,” *Quality of Life Research*, 23(4), pp. 1387–94. doi: 10.1007/s11136-013-0562-y. [Accessed 26 October 2020].
4. Ko, H. Lee, J. Shin, J. and Jo, E. (2015). Health-Related Quality of Life and Cardiovascular Disease Risk in Korean Adults. *Korean Journal of Family Medicine*, 36(6), p.349. [Accessed 26 November 2020].
5. World Health Organization. (2018). Noncommunicable Diseases Country Profiles. (2018). Available at: <https://www.who.int/nmh/publications/ncd-profiles2018/en/> [Accessed 16 November 2020]
6. Ribeiro, Í., Pereira, R., Freire, I., de Oliveira, B., Casotti, C. and Boery, E. (2018). Stress and Quality of Life Among University Students: A Systematic Literature Review. *Health Professions Education*, [online] 4(2), pp.70-77. Available at: <https://www.sciencedirect.com/science/article/pii/S2452301117300305>

RESOURCES

7. Miller, L. and Cassady, D. (2015). The effects of nutrition knowledge on food label use. A review of the literature. *Appetite*, 92, pp.207-216. Available at: <<https://www.sciencedirect.com/science/article/pii/S0195666315002743#bib0315>> [Accessed 3 December 2020].
8. Pengpid, S. and Peltzer, K., 2020. Prevalence and correlates of multiple behavioural risk factors of non-communicable diseases among university students from 24 countries. *Journal of Public Health*, [online] pp.1-10. Available at: <https://academic.oup.com/jpubhealth/advance-article-abstract/doi/10.1093/pubmed/fdaa138/5896574?redirectedFrom=fulltext> [Accessed 16 December 2020].
9. Attlee, A. Abu-Qiyas, S. and Obaid, R.S. (2014). Assessment of Nutrition Knowledge of a University Community in Sharjah, United Arab Emirates. *Malaysian Journal of Nutrition*, 20 (3), pp. 327–337 2.
10. Ali, H. JarrarAbo-El-Enen, M. Al Shamsi, M. and Al Ashqar, H (2015). Students’ perspectives on promoting healthful food choices from campus vending machines: a qualitative interview study. *BMC Public Health*, [online] 15(1). Available at: <<https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186%2Fs12889-015-1859-2>> .
11. Khawaja. A, Qassim. S, Hassan. N, Arafa. E. (2019). Added Sugar: Nutritional Knowledge and Consumption Pattern of a Principal Driver of Obesity and Diabetes among Undergraduates in UAE. *Clinical Research & Reviews*, 13(4), pp. 2579–2584. doi: 10.1016/j.dsx.2019.06.031. [Accessed 26 November 2020].