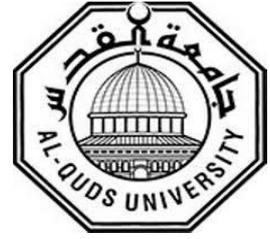


**Deanship of Graduate Studies
Al-Quds University**



**Lifestyle Pattern and Quality of Life among School
Children in Gaza City- Palestine**

Kholoud Khaled Al Sedawi

MPH Thesis

Jerusalem - Palestine

1440 / 2018

**Lifestyle Pattern and Quality of Life among School
Children in Gaza City- Palestine**

Prepared By

Kholoud Khaled Al Sedawi

Physics Science – Al Aqsa University, Gaza, Palestine

Supervisor

Dr. Amal Sarsour

PhD, Assistant Professor- Environmental Health Earth and
Human Center for Research and Studies

Thesis Submitted in Partial Fulfillment of Requirements for
the Master Degree of Public Health / Health Management
School of Public Health - Al-Quds University

1440 / 2018

Deanship of Graduate Studies
Al-Quds University
School of Public Health



Thesis Approval

Lifestyle Pattern and Quality of Life among school children in Gaza City- Palestine

Prepared by: Kholoud Khalid Al Sedawi
Registration No.: 21411050

Supervisor: Dr. Amal Sarsour

Master thesis was submitted and accepted, Date: **28/11/2018**

The names of signatures of the examining committee members are as follows:

1. Head of committee: Dr. Amal Sarsour
2. Internal examiner: Dr. Bassam Abu Hamad
3. External examiner: Dr. Ashraf Eljedi

Signature *A. Sarsour*
Signature *B. Abu Hamad*
Signature *A. Eljedi*

Jerusalem - Palestine

1440 / 2018

Dedication

To my husband who supported me through each step of the way, for being for me the greatest source of motivation, inspiration and push me in the success way ... The sun of my life “Ghassan”

To who sacrificed a lot for me to become what I am now ... My mother and father.

To the light of my eyes ... My kids “Waseem, Rama, Khalil & Jad”

To who supported me, my second family ... My mother in law and father in law.

To my friends

To my colleagues

And

To everyone who encouraged, supported, and helped me to make this study a reality

I dedicate this research for all of them...

Thank you all for your endless support.

Kholoud Khaled Al Sedawi

Declaration

I certify that this thesis submitted for the degree of master is the result of my own research, except where otherwise acknowledged, and that this thesis or any of its parts has not been submitted for higher degree to any other university or institution.

Kholoud Khaled Al Sedawi

Signed: *Kholoud Khaled Al Sedawi*

Date: 28 Nov. 2018

Acknowledgment

This study would not be feasible without the guidance and assistance of many individuals who helped me to overcome all the obstacles I have faced during completion of this study.

- My deep gratitude to my advisor Dr. Amal Sarsour for her inspiration, patience, nurturing, guidance and unlimited support. I am very grateful for her advice and encouragement.
- I am grateful for Dr. Yehia Abed, Dr. Bassam Abu Hamad and Dr. Khitam Abu Hamad for their guidance and for their kind support in reviewing the study instrument. Deep thanks must also go to the experts who reviewed the study tools and provided fruitful feedback.
- Whilst words could not pay their dues, to my husband for his constant love and support, who has encouraged me throughout my academic career and support in my professional life. Thank you for your belief in me. You have been my pillars of strength!
- I am grateful to the administrative staff of UNRWA schools, governmental schools, and private schools.
- Deep thanks to all students who participated in the study because without them this work could not be accomplished. .
- Finally, my appreciation is presented to all who provide me an advice, support, information, or encouragement in order to complete my master study. Sincere thanks to my colleagues at the school of public health. .

With respect,

Kholoud Al Sedawi

Abstract

Universally, there is a growing interest in studying the Quality of Life (QOL); where, most studies have shown that the quality of life has positive outcomes on both the individual and societal levels. This study ascertains the status of quality of life of the Gaza children and explores its correlates with their life style among children aged 10, 11 and 12 years.

Triangulated study design was used. For the quantitative part; 370 randomly selected (multi-stage cluster sampling approach) school children consented to participate of the study with 95.2% response rate. In addition, four focus group discussions with student' mothers were conducted. Quantitative data were collected first through face-to-face interviewed questionnaire and preliminary findings derived from the analysis of the questionnaires had informed the qualitative data collection. The researcher used the international scales for lifestyle and Kidscreen-52 Instrument for QOL. Cronbach Alpha readings for these scales were high (Cronbach's Alpha 0.937). The Statistical Package for SPSS software was used for the quantitative data entry and analysis while open coding thematic technique was used to analyze the qualitative data.

Findings revealed that 74.9% of children presented with normal weight for age, 2.2% of children were underweight with higher prevalence amongst girls (2.4%) than boys (2.0%). Furthermore, 23% were obese and overweight, boys showed higher obesity rates than in girls 29.5% and 15.3% respectively. The study findings revealed that a large percentage of Food Consumption Score (FCS) for food groups (94.9%) of children have acceptable food consumption and a very small percent (0.8%) of children have poor food consumption. It is worth mentioning that, more than half of children (62.2%) were living active and very active life, of the boys were (35.2%) higher than girls (27%). Differently, 36.8% of children were sedentary and low active, where the boys equal girls at this point. Also, most children sleep more than eight hours daily and practice appropriate personal hygiene habits. Main results indicate that most of the children had a high level of QOL in all dimensions, where the QOL among girls was higher than boys in most domains of QOL. Where the lowest domain of QOL for both was autonomy had the lowest score (74%), and the parent relations and home life which elicited the highest scores (93%). There was a significant association between high level of QOL and food intake with some socio demographic-economic factors such as had the monthly income more than 1500 NIS, children who always took pocket money and number of family members that 6 members and less. Inferential statistics show that children who have parents educated, parents employed, members of smaller families and take pocket money respondents had elicited statistically significantly higher quality of life scores than their counterparts (P value less than 0.05). Interestingly, ANOVA analysis shows that most of life style patterns were statistically significantly with the overall of QOL (P value less than 0.05). Where the children with undesirable lifestyles, such as skipping breakfast, longer television viewing, and later bedtime, were more likely to have poor level of QOL. These correlations were independent of sex, BMI and social background. Also there were no statistically significant differences in the overall of QOL in relation to participants' physical activity and their BMI Z-score.

The study concluded that the QOL is a multi-faceted concept and interventions aiming to enhance it, must be multi-sectoral. The study results can be used for the purposes of addressing the children needs and help to solve their lifestyle problems such as promoting healthy life style, positive behaviors, good food habits, conduct health education and increasing physical activity need to be implemented. Further understanding of these relationships will facilitate the development of interventions to help children with poor QOL.

Content

| | |
|---|------|
| Dedication | i |
| Declaration | ii |
| Acknowledgment | iii |
| Abstract | iv |
| List of tables | viii |
| List of figures | ix |
| List of annexes | x |
| List of abbreviations | xi |
| Chapter (1) | 1 |
| Introduction | 1 |
| 1.1 Background | 1 |
| 1.2 Research problem | 3 |
| 1.3 Justification of the study | 4 |
| 1.4 Study objectives | 5 |
| 1.4.1 Aim | 5 |
| 1.4.2 Objectives | 5 |
| 1.5 Research questions | 6 |
| 1.6 Context of the study | 6 |
| 1.6.1 Demographic Context | 6 |
| 1.6.2 Socioeconomic characteristic | 8 |
| 1.6.3 Education System | 9 |
| 1.6.4 Health Status of School Children | 9 |
| 1.7 Operational definitions | 10 |
| 1.7.1. Lifestyle | 10 |
| 1.7.2. Lifestyle Pattern | 10 |
| 1.7.3. Dietary Habits | 10 |
| 1.7.4. Physical activity | 11 |
| 1.7.5. Sedentary Lifestyle | 11 |
| 1.7.6. Body mass index | 11 |
| 1.7.7. Body mass index percentile | 12 |
| 1.7.8. Quality of Life | 12 |
| 1.8 Study Layout | 13 |
| Chapter (2) | 14 |
| Conceptual framework and Literature review | 14 |
| 2.1 Conceptual framework | 15 |
| 2.1.1 Socio- demographic factors | 16 |
| 2.1.2 Life style variables | 16 |
| 2.1.3 QOL dimensions | 17 |
| 2.2 Literature review | 18 |
| 2.2.1 Development periods in children and adolescents | 18 |
| 2.2.2 Understanding children’s lives | 19 |
| 2.2.3 School-based research | 20 |
| 2.2.4 Lifestyle patterns | 22 |
| 2.2.4.1 Dietary habits | 22 |

| | |
|--|----|
| 2.2.4.2 Physical activity and sedentary behavior | 29 |
| 2.2.4.3 Sleeping patterns | 32 |
| 2.2.4.4 Hygiene practices | 35 |
| 2.2.5 Quality of life | 39 |
| 2.2.5.1 Health-related quality of life | 40 |
| 2.2.5.2 Health-related quality of life in children and adolescents | 42 |
| 2.2.5.3 Measuring health-related quality of life in children and adolescents | 43 |
| 2.2.5.4 Benefits of QOL measurement for children | 48 |
| 2.2.6 The relationship between demographic and socioeconomic factors and lifestyle pattern and QOL | 48 |
| 2.2.7 The relationship between lifestyle pattern and QOL | 51 |
| Chapter (3) | 54 |
| Methodology | 54 |
| 3.1 Study Design | 54 |
| 3.2 Study settings | 54 |
| 3.3 Study population | 54 |
| 3.4 Eligibility criteria | 55 |
| 3.4.1 Inclusion criteria | 55 |
| 3.4.2 Exclusion criteria | 55 |
| 3.5 Study Period | 56 |
| 3.6 Sample size and sampling process | 57 |
| 3.7 Study instruments | 59 |
| 3.7.1 Quantitative instruments | 59 |
| 3.7.2 Qualitative instruments | 62 |
| 3.7.3 Anthropometric measurement | 62 |
| 3.8 Ethical and administrative consideration | 62 |
| 3.9 Pilot study | 64 |
| 3.10 Data collection | 64 |
| 3.11 Scientific rigor and trustworthiness | 66 |
| 3.11.1 Quantitative part (questionnaire) | 66 |
| 3.11.2 Qualitative part (Focus groups) | 67 |
| 3.12 Data entry and analysis | 67 |
| 3.13 Study Limitations | 69 |
| Chapter (4) | 70 |
| Results and Discussion | 70 |
| 4.1 Descriptive analysis | 70 |
| 4.1.1 Socio-demographic characteristics | 71 |
| 4.1.2 BMI Z-score characteristics | 75 |
| 4.1.3 Lifestyle characteristics | 77 |
| 4.1.3.1 Dietary habits characteristics | 77 |
| 4.1.3.1.1 Daily consumption of food groups | 85 |
| 4.1.3.2 Physical activity and sedentary behaviors characteristics | 88 |
| 4.1.3.3 Sleeping pattern characteristics | 93 |
| 4.1.3.4 Hygiene practices characteristics | 95 |
| 4.1.4 Quality of Life Domain | 98 |
| 4.1.4.1 Children' perspectives about their quality of life | 98 |

| | |
|---|-----|
| 4.1.4.2 Physical well-being | 101 |
| 4.1.4.3 Psychological well-being | 103 |
| 4.1.4.4 Mood and emotion | 104 |
| 4.1.4.5 Self-perception | 107 |
| 4.1.4.6 Autonomy | 108 |
| 4.1.4.7 Parent relations and home life | 110 |
| 4.1.4.8 Financial resources | 112 |
| 4.1.4.9 Social support and peers scale | 113 |
| 4.1.4.10 School environment and learning | 115 |
| 4.1.4.10 Social Acceptance/ Bullying | 117 |
| 4.2 Inferential analysis | 119 |
| 4.2.1 Differences in QOL in reference to demographic characteristics: | 119 |
| 4.2.2 Differences in QOL in reference to socio-economic aspects | 121 |
| 4.2.3 Differences in QOL in reference to health related aspects | 123 |
| 4.2.3.1 Correlation between overall QOL and BMI Z-score | 123 |
| 4.2.3.2 Differences in the overall QOL in relation dietary behavior characteristics | 124 |
| 4.2.3.3 Differences in overall QOL in relation to physical activity level | 126 |
| 4.2.3.4 Differences in overall QOL in relation to sleeping characteristics | 127 |
| 4.2.3.5 Correlation between overall QOL and hygiene practices | 128 |
| Chapter (5) | 131 |
| Conclusion and recommendations | 131 |
| 5.1 Conclusion | 131 |
| 5.2 General recommendations | 135 |
| 5.3 Recommendation for further research | 136 |
| References | 138 |
| Annexes | 157 |
| Abstract in Arabic | 200 |

Tables

| | | |
|---------------------|---|------------|
| Table (3.1) | Cronbach Alpha coefficient for QOL domains | 68 |
| Table (4.1) | Distribution of study' school children by demographic characteristics | 73 |
| Table (4.2) | Distribution of children' parents by demographic characteristics | 76 |
| Table (4.3) | Distribution of study' school children by BMI Z-score | 77 |
| Table (4.4) | Summary of dietary habits of the study' school children | 81 |
| Table (4.5) | Food Consumption Score | 90 |
| Table (4.6) | Summary of physical activity characteristics of study' school children | 91 |
| Table (4.7) | level of Physical activity among study' school children | 92 |
| Table (4.8) | Summary of sleeping pattern characteristics of study' school children | 95 |
| Table (4.9) | Summary of Hygiene practices characteristics of study' school children | 98 |
| Table (4.10) | Total score QOL by domains | 100 |
| Table (4.11) | Summary of health characteristics of study' school children | 102 |
| Table (4.12) | Summary of physical wellbeing characteristics of study' schoolchildren | 103 |
| Table (4.13) | Summary of psychological wellbeing characteristics of study' school children | 105 |
| Table (4.14) | Summary of mood and emotion characteristics of study' school children | 107 |
| Table (4.15) | Summary of self-perception characteristics of study' school children | 109 |
| Table (4.16) | Summary of autonomy characteristics of study' school children | 111 |
| Table (4.17) | Summary of parent relations and home life characteristics of study' school children | 113 |
| Table (4.18) | Summary of financial resources characteristics of study' school children | 114 |
| Table (4.19) | Summary of social support and peers characteristics of study' school children | 116 |
| Table (4.20) | Summary of school environment characteristics of study' school children | 117 |
| Table (4.21) | Summary of bullying characteristics of study' school children | 119 |
| Table (4.22) | Differences in overall QOL in relation to demographic characteristics | 121 |
| Table (4.23) | Differences in overall QOL in relation to socio-economic characteristics | 123 |
| Table (4.24) | Differences in the overall QOL in relation dietary behavior | 126 |
| Table (4.25) | Differences in the overall QOL in relation food intake | 128 |
| Table (4.26) | Differences in overall QOL in relation to physical activity level | 129 |
| Table (4.27) | Differences in overall QOL in relation to sleeping characteristics | 129 |
| Table (4.28) | Correlation between overall QOL and hygiene practices | 130 |

Figures

| | | |
|---------------------|---|------------|
| Figure (2.1) | Conceptual Framework. | 16 |
| Figure (4.1) | Distribution of the study' school children by Gender | 72 |
| Figure (4.2) | Distribution of study' school children by student employment status | 74 |
| Figure (4.3) | Distribution of study' school children by number of meals taken per day | 80 |
| Figure (4.4) | Distribution of study' schoolchildren by reason for skipping meal | 83 |
| Figure (4.5) | Total score QOL by domains according to gender | 102 |

Annexes

| | | |
|-------------------|--|------------|
| Annex (1) | Gaza Strip map | 159 |
| Annex (2) | Study population and sampling description | 161 |
| Annex (3) | Sample Size | 161 |
| Annex (4) | Names of the schools | 162 |
| Annex (5) | Parent Questionnaire (Arabic and English version) | 163 |
| Annex (6) | Student Questionnaire (Arabic and English version) | 168 |
| Annex (7) | Open-ended (semi-structured) questions for focus groups (Arabic and English version) | 187 |
| Annex (8) | LSD post-hoc and regression test results | 191 |
| Annex (9) | Measuring of Physical Activity | 193 |
| Annex (10) | Interpretation of scores of the KIDSCREEN-52 dimensions scales | 195 |
| Annex (11) | List of experts | 196 |
| Annex (12) | Helsinki approval | 197 |
| Annex (13) | Governmental and Privet schools approval – West & East Gaza | 198 |
| Annex (14) | UNRWA schools approval | 200 |
| Annex (15) | Summary of food intake frequency of the study' schoolchildren | 201 |

Abbreviations

| | |
|---------------|--|
| AASM | American Academy of Sleep Medicine |
| ANOVA | Analysis of Variance |
| BMI | Body Mass Index |
| CDC | Center of Disease Control and Prevention |
| CNPP | Center for Nutrition Policy and Promotion |
| FCS | Food Consumption Score |
| FGD | Focus Group Discussion |
| GDP | Gross Domestic Product |
| GSHS | Global School-based Student Health Survey |
| HRQOL | Health related Quality of Life |
| HUC | Health Unit Collaboration |
| IFH | International Scientific Forum on Home Hygiene |
| IRC | International Water and Sanitation Centre |
| MOH | Ministry of Health |
| MOEHE | Ministry of Education and Higher Education |
| NCES | National Center for Education Statistics |
| NIDDK | National Institute of Diabetes and Digestive and Kidney Diseases |
| NIS | New Israeli Shekel |
| NPAP | National Physical Activity Plan Alliance |
| PASSIA | Palestinian Academic Society for the Study of International Affairs |
| PCBS | Palestinian Central Bureau of Statistics |
| PNGO | Palestinian Non-Governmental Organization Network |
| QOL | Quality of Life |
| SD | Standard Deviation |
| SES | Socioeconomic Status |
| SPSS | Statistical Package for the Social Science |
| UN | United Nations |
| UNICEF | United Nations for children's Fund |
| UNRWA | United Nations Relief and Work Agency for Palestine Refugees in the Near East |
| US | United States |
| WFP | World Food Programme |
| WHO | World Health Organization |

Chapter One

Introduction

1.1 Background

Research over the past decades has proven that childhood is a period when the lifestyle patterns are initiated.). As children grow up, the life style evolves in general. One of this pattern is the physical activity, where the physical activity has immediate health benefits in childhood and adolescence, and it can be considered the construction phase for adulthood, thus resulting in the long-term health benefits (Macera, 2010). However, many children and adolescents in developed countries have sedentary lifestyles such as inactive physical activity, too much television viewing, video games, and increasing use computers (Kimm et al, 2002; Salmon et al., 2005; Rey-López et al., 2008; Clarke, 2015). Sedentary lifestyles are recognized to be associated with children and adolescents' obesity, diabetes, sleep disorders, violent behaviors, and other problems (Singer et al, 2004; WHO, 2002).

Recent several studies have revealed that lifestyles are associated with physical and mental health status, as well as the Quality of Life (QOL), where it is considered to be a multifactorial structure that focuses on individuals' personal evaluation of their physical health, mental health, and social functioning (Sawyer et al, 2001; Velten et al, 2014), It may be compatible with the World Health Organization (WHO) definition of health as status of complete physical, mental, and social well-being, and not merely the absence of disease and infirmity (WHO, 2006b; WHO, 2011a).

Lifestyle plays an important role on a person's health synchronized with technological development that affects positive or negative on the daily lifestyle such as breakfast, physical activity, smoking, watching television and using computer (WHO, 2008)

The dietary behaviors is another important factor of lifestyle, that influenced by many factors in a complex interplay manner. At the beginning of their lives, parents and the