

Al-Quds University

Deanship of Graduate Studies



**Evaluation of School's Canteen Policy
Implementation in Bethlehem Governorate**

Nusaiba Khader Daood Salah

Msc.Thesis

Jerusalem – Palestine

1441/2020

Al-Quds University

Deanship of Graduate Studies

Public Health Program



**Evaluation of School's Canteen Policy Implementation in Bethlehem
Governorate**

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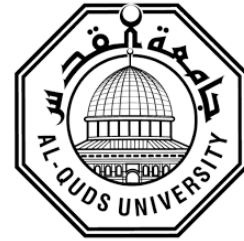
Supervisor: Dr. Hazem Agha

**A Thesis Submitted to the Faculty of Graduate Studies in Partial
Fulfillment of the Requirements for the Degree of Master in
Public Health / Faculty of Public Health - Al - Quds University.**

Jerusalem – Palestine

1441/2020

Al-Quds University
Deanship of Graduate Studies
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Thesis Approval

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Governorate

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Jerusalem – Palestine

1441/ 2020

Dedication

To my **Mother** and **Father** who gave me love, support and believed in my dreams.

To my beloved husband, I could never have done this without your encouragement and support.

To my mother in law, who took care of me and of my little family during this journey.

To my sisters and brothers, you are always beside me, my source of inspiration and a blessing to me.

To my little angels; the beautiful “Janna”, the delicate “Rahma” and “Ahmad” the little man.

Nusaiba Salah, 2020

Declaration

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

Signed:.....

NusaibaKhaderDaood Salah

Date :30 / 8 / 2020

Acknowledgment

First, I thank Allah for helping me complete this study.

My deepest gratitude to my supervisor Dr. Hazem Agha for his patience, support and guidance to improve my knowledge.

I am grateful to all members of the Faculty of Public Health for their support over the years especially Dr. Nuha El Sharif and Dr. Khaldoun Badr. Special thanks to those who helped me in the Ministry of Education and in the Directorate of Education/Bethlehem for their cooperation and all the schools', health supervisors and canteen workers who participated in this thesis for sharing their time and experience.

Last but not the least, my appreciation to my family: my parents, my mother in law, my sisters, my brothers, my little angels “ Janna, Rahma and Ahmad” and my beloved husband for providing me with continuous encouragement and unfailing support throughout my study years and through my researching process. This achievement would not have been possible without all of them.

Abstract

Background:

Schools' play a definitive role in helping young people to build up lifelong healthy behavior patterns and promoting the health and safety of them. There are 1282054 students in the Palestinian schools' distributed at 3037 schools'. The Ministry of Education and the Ministry of Health cooperates to adapt the school nutrition policy. This study aims to evaluate the school canteens' policy implementation in Bethlehem governorate. Similar studies are not available in Bethlehem, which makes it a rich area for research.

Methodology:

An evaluation study was conducted from February 2019 to April 2019 using a checklist and interview questionnaires with the school health officer and canteen workers. The target population of this study was the Palestinian governmental and private schools', which are governed by the Palestinian Ministry of Education in Bethlehem district. A stratified random sample of (49) schools' were obtained from the eight zones of Bethlehem governmental and private schools'. A checklist was used during the field visit to assess the implementation of school's canteen policy gathers data about socio demographic factors, canteen infrastructure, canteen equipment, canteen nutritional standards and canteen food safety and hygiene. An interview questionnaire was used with the school health officer and canteen workers, to assess knowledge, attitude and practices of school health officers and canteen workers about the school's canteen policy.

Results:

The study revealed that, the school's canteen policy implementation in Bethlehem governorate was "Fair" in the majority (71.4%) of schools' and "Poor" in 28.6% of them. The majority of school health supervisors were classified into having a "Good" knowledge level, "Good" attitude level and "Good" practice level. While, the majority of school canteen workers were classified into "Good" knowledge level, "Good" attitude level and "Fair" practice level.

There were statistically significant differences ($p\text{-value} < 0.05$) between the scores of the sample study members for the status of school's canteen policy implementation score to the variable of school building in favor of old school buildings. However, the result did not reveal difference ($p\text{-value} \geq 0.05$) attributed to the variables of zone number, schools' by students' gender, school level, school type, school property, the presence of a field health officer, canteen administration, the knowledge, attitudes and practices of school's supervisors and canteen workers.

There were no significant differences of statistical significance ($p\text{-value} \geq 0.05$) between health supervisors in their knowledge, attitudes and practices regarding their age, gender, social status, educational level, job, income level, years of experience and receiving training about canteen management. However, the study revealed a significant difference ($p\text{-value} < 0.05$) between health supervisors in their knowledge regarding their living place.

The study revealed that there were no significant differences of statistical significance ($p\text{-value} \geq 0.05$) between canteen workers in their knowledge, attitudes and practices regarding their age, gender, social status, educational level, living place, income level, years of experience. However, there was a significant difference ($p\text{-value} < 0.05$) between canteen workers in their practices regarding receiving training about canteen management.

Conclusions:

In conclusion, it was found that the level of school canteen policy implementation for the majority of Bethlehem governorate schools' was "Fair". The Impediments of the policy implementation were the enforcement of canteen infrastructure standards and the insufficient number of field health officers who can provide enough information about school canteen policy and monitor the implementation of it. Also, "Fair" practices level for the majority of school canteen workers due to the lack of receiving training about canteen management.

تقييم مدى تطبيق سياسة المقاصف المدرسية في محافظة بيت لحم

اعداد: نسيبة خضر داود صلاح

اشراف: د.حازم أغا

الملخص

الخلفية:

تلعب المدارس دوراً هاماً في بناء أنماط سلوكية صحية للشباب على مدى الحياة، كما وتعزز صحتهم وسلامتهم. هناك 1282054 طالب فلسطيني موزعون على 3037 مدرسة. تعاونت كلاً من وزارة التربية والتعليم ووزارة الصحة لتبني سياسة تغذوية في المدارس الفلسطينية. تهدف هذه الدراسة لتقييم واقع تطبيق سياسة المقاصف المدرسية في محافظة بيت لحم. لا يوجد دراسات مماثلة متوفرة في بيت لحم، مما يجعلها دراسة غنية للبحث.

المنهجية:

أجريت دراسة تقييمية في الفترة من شباط 2019 إلى نيسان 2019 باستخدام قائمة رصد و استبانيتين لكل من مسؤول الصحة المدرسية وعامل المقصف. الفئة المستهدفة في هذه الرسالة هي المدارس الحكومية والخاصة التي تشرف عليها وزارة التربية والتعليم في محافظة بيت لحم. أخذت عينة عشوائية طبقية مكونة من 49 مدرسة حكومية وخاصة من المناطق التعليمية الثمانية حسب تقسيم مديرية التربية والتعليم في بيت لحم. استخدمت قائمة الرصد أثناء الزيارات الميدانية لتقييم تطبيق سياسة المقاصف المدرسة لجمع بيانات عن العوامل الديموغرافية، بنية المقاصف التحتية، تجهيزات ومعدات المقاصف، المعايير الغذائية للمقاصف وسلامة ونظافة الغذاء. كما وجمع استبيان المقابلة أسئلة لجمع معلومات عن معرفة واتجاهات وممارسات حول سياسة المقاصف المدرسية لكل من مشرف الصحة في المدرسة وعامل المقصف.

النتائج:

أظهرت نتائج الدراسة أن تطبيق سياسة المقاصف المدرسية في محافظة بيت لحم كان "مرضٍ" لدى غالبية (71.4%) المدارس، وضعيف لدى 28.6% منها. وأن غالبية مشرفي الصحة في المدرسة كان مستوى معرفتهم "جيد" ومستوى اتجاهاتهم "جيد" ومستوى ممارساتهم "جيدة" فيما يتعلق بسياسة المقاصف المدرسية. وحصل غالبية عمال المقاصف في المدرسة على مستوى معرفة "جيد" ومستوى اتجاهات "جيد" بينما كان مستوى ممارساتهم "متدنٍ" فيما يتعلق بسياسة المقاصف المدرسية.

أظهرت نتائج الدراسة وجود فروق ذات دلالة إحصائية بين درجات تطبيق أفراد عينة الدراسة لسياسة المقاصف المدرسية تعزى لمتغير نوع بناية المدرسة ولم تظهر فروقاً ذات دلالة إحصائية بين درجات تطبيق أفراد عينة الدراسة لسياسة المقاصف المدرسية تعزى لمتغيرات المنطقة التعليمية، نوع المدرسة، جنس طلبة المدرسة، مرحلة المدرسة، ملكية المدرسة، وجود موظف صحة ميداني، إدارة المقصف، معرفة واتجاهات وممارسات كل من مشرفي الصحة المدرسية وعمال المقاصف.

كما أظهرت نتائج الدراسة وجود فروق ذات دلالة إحصائية بين درجات معرفة مشرفي الصحة المدرسية تعزى لمتغير مكان السكن ولم تظهر فروق ذات دلالة إحصائية بين درجات معرفة واتجاهات وممارسات مشرفي الصحة المدرسية تعزى لمتغيرات العمر، الجنس، الحالة الاجتماعية، المستوى التعليمي، عدد سنوات الخبرة و الحصول على تدريب يتعلق بإدارة المقاصف المدرسية.

وأظهرت نتائج الدراسة وجود فروق ذات دلالة إحصائية بين ممارسات عمال المقاصف تعزى لمتغيرالحصول على تدريب يتعلق بإدارة المقاصف المدرسية. بينما لم تظهر فروق ذات دلالة إحصائية بين درجات معرفة واتجاهات وممارسات عمال المقاصف تعزى لمتغيرات العمر، الجنس، الحالة الاجتماعية، المستوى التعليمي، عدد سنوات الخبرة و مكان السكن.

الاستنتاج:

تشير هذه النتائج إلى أن مستوى تنفيذ سياسة المقاصف المدرسية في مدارس محافظة بيت لحم كان بمستوى "مقبول". وتلخصت معوقات تطبيق هذه السياسة في تنفيذ معايير البنية التحتية للمقاصف والنقص في عدد موظفي الصحة الميدانيين الذين يقدمون معلومات كافية حول سياسة المقاصف المدرسية ويراقبون تنفيذها. بالإضافة إلى مستويات ممارسة "مقبولة" لسياسة المقاصف المدرسية لدى عمال المقاصف بسبب انخفاض نسبة الحصول على تدريب يتعلق بإدارة المقاصف المدرسية.

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List of Abbreviations

MOE	Ministry of Education
MOH	Ministry of Health
UNRWA	United Nations Relief and Works Agency
HPS	Health Promoting School
NGO	Non-Governmental Organization
SPSS	Statistical Package of Social Science
HBSC	Health Behavior in School-aged Children
WB	West Bank

Chapter One :Background

1.1 Introduction

A supportive environment of students' efforts to eat healthily and be active by providing opportunities for students to learn about and practice these behaviors and by implementing policies and practices that support healthy eating and regular physical activity (CDC, 2011). A school utilizes a canteen, which is the place where food is to be served, different snack and drink products are sold to meet nutritional needs of its students and the food for them to have the energy to achieve the task that they would do for the day (Galabo, 2019).

Engaging students in healthy eating habits and regular physical activity can help lowering their risk for obesity and related chronic diseases during adulthood. Different studies confirmed that regular physical activity and healthy eating play a powerful function in preventing chronic diseases, including heart disease, cancer, and stroke—the three leading causes of death among adults aged 18 years or older (CDC, 2011).

Many health problems such as eating disorders, iron deficiency, obesity, anemia and dental caries, and some long-term health problems such as cancer, coronary heart disease, and stroke can be prevented by healthy eating behaviors. (Guidelines, 1997)

A powerful contribution toward a healthy future for students can be done by implementing and sustaining a healthy school eating policies and programs. Schools' can help ensure that all students have the opportunity to pursue a lifetime of good health and acquire their educational potential (CDC, 2011).

According to the current studies available in Palestine, no studies have done on the issue of schools' canteens policy in Bethlehem governorate. Thus, there is a need to assess the application of schools' canteen policy applied in Bethlehem governmental and private schools'.

1.2 Problem Statement

The effectiveness of canteen nutrition policy is very important to raise the level of health and education of the students. Such evaluations can help in providing both Ministries of Education and Health with the necessary information, statistics and results. In Bethlehem, different private and public schools' should implement the policy of the Ministry of education regarding the canteen. The follow up of these canteens is done primarily by the MOE but not on regular basis which leaves a gap on how these canteens function. Therefore, evaluating the MOE policy canteens guidelines will help us in highlighting the reality of the application, enhance strengths, address weaknesses, developing and improving the policy implemented in Bethlehem governmental and private schools'.

1.2 Study Justification

In Gaza governorate, an observational descriptive study was conducted aimed to evaluate the reality of school canteens according to the Guidelines for Environmental Health Criteria' of Palestinian schools'. It was found that the canteens met the criteria with relative weight of 79.9% in canteen's construction, 72.0% in supervision of canteen's work, 71.80% in internal equipment, 71.10% in the specifications of food provided, 71.0% of the workers inside the canteens and finally 67.50% of the external specifications of canteens (السرحي, 2014).

Another study was conducted in Nablus governorate government schools' showed that almost all schools' got good score regarding the school canteen environment, excellent scores regarding the served food items in their canteens and regarding the practices of canteen workers in preparing and serving food items (Almasri, 2016).

Another study indicated very good level of implementing health services in government schools' at Khan Younis and Rafah Governorates with weight mean 85.6%, as well as

very good level of implementing school health education with weight mean 82.1%, moreover, very good level of school health environment with weighted mean 84.4% and the level very good of food services and school canteens with weighted mean 80.6% (Abu Luli, 2017).

According to the previous information, this research will be an evaluative study for the application of the schools' canteen policy in Bethlehem government and private schools', and the factors that influence canteens' policy implementation during the academic year 2018/2019. It is the first of its kind in government and private schools' in Bethlehem. The results of the study can be used to develop the implementation and evaluative strategies of schools' canteen policy, as it shows the reality of its application which will add a lot to the school health programs and to those of the Ministry of Education and of the Ministry of Health.

The study evaluated the main parts of the school canteen policy which included:

- Schools' characteristics.
- Canteens' infrastructure (building, floors, ceiling, workers, transportation and distribution, etc.).
- Health standards for school canteens.
- Canteens' nutritional standards (accepted food list, conditionally accepted food list and a forbidden food list).
- Canteens' food safety and hygiene.

It also evaluated the knowledge, attitude and practices of schools' health supervisors and canteens' workers about the schools' canteen policy.

1.3 Aim of the Study

The overall aim of this study is to evaluate the schools' canteens policy implementation in Bethlehem governorate.

1.5 The Objectives of the Study

1. To assess the implementation of canteens' policy on canteens' services at the government and private schools' in Bethlehem governorate.
2. To assess schools' structure factors on the implementation of canteens' policy at the government and private schools' in Bethlehem governorate.
3. To assess the knowledge, attitude and practices of canteens' policy in Bethlehem government and private schools' among health supervisors.
4. To assess the knowledge, attitude and practices of canteens' policy in Bethlehem government and private schools' among canteen workers.
5. To compare between the factors that affect the canteens' policy implementation in the government and private schools'.

1.6 Expected Outcome

This study expected to provide the Ministry of Education and the Ministry of Health with reliable information on the reality of commitment of schools' canteens policy in Bethlehem government and private schools', and the knowledge, attitudes and practices of both schools' health supervisors and schools' canteen workers, that will help the Ministry of Education to enhance the implementation of the canteen policy in a way that suits with needs and requirements of schools' and the standard of global schools' canteen policies.

Chapter Two: Literature Review

2.1 Background

Because children spend more and more time at schools' away from home, schools' play a definite role in helping young people to build up lifelong healthy behavior patterns and promoting health and safety of them. In addition, establishing healthy behaviors during childhood is more effective and smoother than trying to change unhealthy behaviors during adulthood. A link between health outcomes of young people and their academic success is shown by research (Couch, 2020).

The leading contributors to the disease burden in the Arab countries are nutrition-related diseases that appeared by under-nutrition and over-nutrition. Both under-nutrition and over-nutrition have a great negative effect on social, economic and public health care systems. Under-nutrition remains one of the most remarkable health problems among preschool children and the single main contributor to child mortality in many low and middle-income Arab countries. A significant proportion of children are undernourished, and over a third of the population in this region suffers from micronutrient deficiencies. On the other hand, in almost all the Arab countries, diet-related non-communicable diseases have become the main public health problems among adults such as obesity, heart disease, diabetes and cancer. Therefore, to control these nutritional problems intervention programs should be developed (Musaiger et al, 2011).

The Ministry of Education and Higher Education manages government educational institutions and supervise private educational institutions and others that are run by the United Nation Relief and Works Agency for Palestinian Refugees (UNRWA)(Directorate General of Planning of MOE, 2014). The ministry is working hard to adopt many comprehensive health programs to improve the students' health mentally, physically, psychologically, socially and environmentally (Directorate General of Planning of MOE, 2014).

The Ministry is working in collaboration with local and international partners, to pledge that school environment is appropriate for teaching and learning process and safe. To ensure a positive change on the students' and school health in general, these programs are linked with active participation of students, school staff and local community (MOE, 2017).

The issues of health education, school health, environment and others in Palestine are addressed by many services, activities and policies. However, they are rarely evaluated and lack the required tools and financial resources to measure them up because they lack financial support and qualified human resources in the field, or they are not included in regular budgets (MoH, 2012).

Because the condensed school curriculum often hinders the implementation of activities and limits opportunities for following up and discussion with parents, because teachers are overwhelmed with teaching tasks, and because there are limited initiatives for community-based activities during after school hours. There is inadequate number of health educators. In addition, there is a need to depart from traditional education styles towards interactive methods, and to invest in the pre-school level in health education as indicated by various research studies (MoH, 2012).

With the exception of school health reports issued by the Ministry of Education and the Ministry of Health, there are limited studies on schools' canteen policy in Palestinians schools'. Thus, there is a need to assess the application of schools' canteen policy applied in Palestinian government and private schools'.

2.2 Schools' Health Policy

A school plays an important role promoting the knowledge, attitudes, and skills of the children that they need to protect their health. As children grow into young adults, they

can play leading roles in creating healthy environments (UNRWA, 2015). Schools' health policy refers to the procedures that schools' establish for protecting and promoting the health of schoolchildren, to ensure that children achieve their optimal growth and development (Wilson, 1941).

A fundamental value of society must be the health and the well-being of children and youth. There is a need for cooperation between families, schools', agencies, communities and governments in taking a comprehensive approach to school health programs (Institute of Medicine (US) et al., 1997).

2.3 Health Promoting Schools'

To help schools' in addressing their health matters, the Health Promoting Schools' (HPS) has appeared in the last decades as a new framework. It is an illustrate key settings through which student's health can be getting better. It has been strongly enhanced by the WHO and is being carried out in many countries (Kuar et al., 2015).

Health Promoting Schools' (HPS) approach is based on WHO's Ottawa Charter for health promotion (Kuar et al., 2015), conceived originally in the United Kingdom (Lynagh et al., 2002). It has six important components: Safe and Healthy Environment, School Nutrition and Food Services, School Health Education (SHE), School Health Services (SHS), Physical Education and Recreation, School and Community Collaboration (Kuar et al., 2015).

HPS approach includes structural, organizational and economic change for improved health by balancing the health curriculum and classroom teaching. It provides chances for action aimed to enhance connections with the family and community, and development of school's polices and environment (Lynagh et al., 2002).

There is an evidence showed that the HPS have a positive impact on outcomes attached to both health and education, also it can provide an efficient structure for the practice of health promotion in schools' (Inchley et al., 2007).

2.4 Schools' Canteen Policy in Palestine

In the past, many schools' used to have school canteens; however, those canteens administered by private businesses who allocate part of their earnings to the Ministry of Education. School meals were not routinely provided in schools' and school canteens offered food substances for students without guidelines (Ministry of Health, 2005). In 2010, the schools' canteen policy implemented in cooperation between the MoE and MoH to improve the quality of food sold in schools' canteens, which evolve the students' academic performance and decrease the rate of nutrition related diseases (Almasri, 2016).

2.5 Previous Studies

2.5.1 Studies in Palestine:

A study conducted in Nablus city aimed to examine the reality of school health program in UNRWA and governmental primary schools'. A randomized sample composed of 443 of primary school teachers answered a questionnaire composed of 72 paragraphs divided into 4 parts, environmental health, physical health, psychological health and social health. The results showed that the percentage of school health program status was as follows: environmental health aspect 68%, physical health aspect 66%, psychological health aspect 69%, social health aspect 76% and the total degree of school health program status was 70% (طوقان , 2003).

The first time dietary practices and physical activity of Palestinian adolescents done was The Health Behavior in School-Aged Children (HBSC) Survey .It revealed that

there are many problems with the behavior of Palestinian adolescents in relation to eating, dieting and physical activity. The researchers recommended for more studies that are detailed with instruments about Palestinian adolescents physical activity and food habits (Al Sabbah, 2007).

Another study in Hebron aimed to assess the role of public schools' principals schools' in the matter of taking care of students. A questionnaire was used, consisted of (6) fields and (57) paragraphs. All teachers in Hebron schools' in addition to all principals and counselors represented the study population, while the cluster sample of the study consisted of (528) members selected randomly. The results of the study indicated that the role of principals of public schools' in Hebron in taking care of the students was medium (الدبابسة, 2009).

A study conducted in Gaza City aimed to explore the reality of health education of government schools' by analytical descriptive method of (129) educational supervisors from (50) government schools'. The results indicated that 91.467 % of the schools' monitors the school health environment carefully, 86.04% of the schools' state that schools' have a role in teachers and students health care, 14.668% of the schools' clarify that schools' have a role in teachers and students health education and 87.33% of the schools' illustrate that schools' have role in educational health (الجرجاوي, 2010).

A study in Gaza Strip aimed to identify the role of school management in health education activation at the primary stage the provinces of Gaza. A 125 employees from the staff of school districts nationwide Gaza Strip answered the questionnaire. The study illustrated that the role of the school administration in the of health education activation and food awareness from the perspective of principles and health supervisors in Gaza Governorates was high (فضة, 2012).

Another observational descriptive study in Gaza governorate, aimed to evaluate the reality of school canteens according to the Guidelines for Environmental Health Criteria' of Palestinian schools'. The study sample was 93066 out of 157050 students

were selected from 82 schools' distributed in both east and west Gaza directorates. The main result was that the canteens met the criteria of Guidelines for Environmental Health Criteria', with the following ranking of components: Specifications of Canteen's construction, supervision of canteen's work, internal equipment, specifications of food provided, workers inside the canteens, and finally external specifications of canteens, with relative weight 79.9%, 72.0%, 71.80%, 71.10%, 71.0% and 67.50% respectively (السرحي, 2014).

Another study was conducted in Nablus governorate government schools' to assess the canteen environment, evaluate food items served in school canteens compared with the Ministry of Education guidelines and assess the practices of canteen workers in preparing and serving food items. The results showed that almost all schools' got excellent scores regarding the served food items in their canteens, good score regarding the school canteen environment and excellent scores regarding the practices of canteen workers in preparing and serving food items. The study recommended that the training is needed for canteen workers as well as routine canteens monitoring and evaluation (Almasri, 2016).

Another study was conducted to study the implementation of school health program in Jerusalem elementary schools', from the point of view of schools' principals and health coordinators. The results showed that the degree of application health services, health education and the school feeding within the school was high. Also, the role of the school administration in achieving the aim of the health education for students for the point of view of schools' principals and health coordinators was a high degree (الشلودي, 2017).

A study conducted at Khan Younis and Rafah Governorates in government schools', aimed to assess the school health services quality. The study indicated very good level of implementing health services in government schools' at Khan Younis and Rafah Governorates with weight mean 85.6%, as well as very good level of implementing school health education with weight mean 82.1%, moreover, very good level of school health environment with weighted mean 84.4% and the level very good of food services and school canteens with weighted mean 80.6% (Abu Luli, 2017).

To identify the availability of the healthy school environment standards in Ramallah and Al-Bireh Governorate schools' (الشافعي, 2017), the researcher used the descriptive methodology. The study population consisted of (5248) persons (principals and teachers). The sample consisted of (828) persons chosen randomly. Through the questionnaire, the data were collected, processed and analyzed using the SPSS software package. The study results showed that the degree of availability of the healthy school environment standards in the schools' of Ramallah and Al-Bireh Governorate was high.

A study in the Governorate of Hebron aimed at investigating the situation of school health and the way to develop them. The study population consisted of all teacher members of the health committees and their coordinators, in Governorate of Hebron. Two tools (questionnaire and interview) were used for data collection. The estimation degree of the teacher members of school health and the coordinators to the status of school health principals in the Governorate of Hebron was high in the health services, school nutrition and canteen, education and health promotion and school environment (أبو زنيد, 2018).

2.5.2 Studies in Arab Countries:

A study identified the reality of application of health services programs applied on Zarqa Governorate Schools' in the academic year (2003/2004).The population of the study consisted of all schools' principals in Zarqa Governorate (316). They concluded that the implementation level of health services programs in the schools' of Zarqa Governorate is medium. The researcher recommended training for the teachers and health workers in schools'' health services providing more attention from schools' managers to carry out environmental reforms required by school health program personnel (البدح, 2006).

Several studies have revealed that the prevalence of overweight and obesity among adolescents in Arab countries ranges from 18% to 44% (Musaiger, 2011). Another

cross-sectional study was carried out amongst male and female secondary government school students selected using the multi-stage stratified random sampling technique, showed that the adolescents in Bahrain are moving toward unhealthy dietary habits and lifestyles, in the future, it will affect their health status. The study recommended that the school health programs should give a priority for promoting healthy lifestyle and eating habits (Musaiger, 2011).

A study in the State of Kuwait aimed to identify the school health level from female principals and teachers' point of view. A stratified random sample consisted of (104) female principals and (670) female teachers. The results indicated that the level of the school health from the female principals' point of view at the primary schools' in the state of Kuwait was medium. The level of the school health in the primary schools' in the State of Kuwait was medium, from the female teachers' point of view (الصرايرة وآخرون, 2012).

A school-based cross-sectional study was carried out in seven cities in Arab countries (Algeria, Jordan, Kuwait, Libya, Palestine, Syria, and United Arab Emirates). The study aimed to find out the prevalence of overweight and obesity among adolescents in these countries. The total sample included was 4698 adolescents aged from 15 to 18 years. They classify the adolescents as non-obese, overweight, and obese. The results of the study showed that among males, overweight were the highest among Kuwaiti adolescents (25.6%), followed by Jordanian (21.6%), and Syrian (19.7%) adolescents. Among females, the highest prevalence of overweight was reported in Libyan adolescents (26.6%), followed by Kuwaiti (20.8%), and Syrian (19.7%) adolescents. As for obesity, Kuwaiti adolescents showed the highest prevalence of obesity for both males (34.8%) and females (20.6%). The researchers conclude that an urgent need for a plan of action set up to fight obesity of schoolchildren in these countries (Musaiger, 2012).

A study in Jordan aimed to explore the knowledge, attitude and practice of food handlers in military hospitals. The investigation assorted valuable information about the level of knowledge, attitude, and practice in food safety of food handlers in military

hospitals in Jordan. It showed that the overall knowledge, attitude and practice scores were significantly higher ($P < 0.05$) in military (91.1) than in civilian employees (78.3). Educating, training and promoting positive attitude of food handlers would improve the rank of food hygiene knowledge, attitudes and practices (Sharif et al, 2013).

Alarming, high prevalence levels in the consumption of sugar-containing soft drinks and sweets was shown in The Health Behavior in School-Aged Children (HBSC) Survey that tested among 11- and 13-year-olds in Kuwait in 2002-2003. Reflecting the changing lifestyle, obesity and other chronic diseases since then, have increased in all populations. They recommended the schools' to implement health education and promotion programs to change school environments toward healthier ones because that many health habits are instituted during childhood and adolescent years (Honkala, 2014).

The study in Syria aimed to assess the role of school administration in health education in Lattakia city in basic education schools'. Analytical descriptive method was used and a sample of 30 principals was used to collect the study data. The results indicated that the role of the school administration in health education in basic education schools' of Lattakia city was in low degree and the degree of securing good environment suitable for good nutrition was low. The study recommended holding seminars, training courses and sessions and activating the role of health guide in school health field(زمزم, 2016).

2.5.3 International Studies:

Another study was done in Denmark to describe the availability of food and drinks in canteens at schools' and after school care institutions. The results of this study concluded that the institutional level one of important levels regards to the prevention of obesity and to increase nutrition habits in schools'' children. The results showed that only small percentage schools' and after school care institutions had a written policy on nutrition. All Danish children had access to milk; vending machines were rare at schools', food stand were run at the most of the schools' for profit, only 10% of schools'

offered children sugared carbonated drinks at food stands, Fruit was available daily in 35% of schools' and in 18% of the schools'. In after school care institutions, vending machines were not presented, sweets and sugared carbonated drinks were rare. However, juice is served daily in almost half of after school care institutions (Lissau et al., 2005).

(Vereecken et al., 2005) concluded that the school food policy could have an impact on adolescents' food habits in a study done at primary and secondary schools' in Belgium-Flanders. The study aimed to describe the availability of food items and to examine the influence of school food policy and aggregated school socioeconomically status on the consumption of fruit, soft drinks, crisps and sweets.

A study in Malaysia was done to evaluate the level of knowledge, attitudes and practices among food handlers at residential colleges and canteen in the main campus of Universiti Kebangsaan regarding the aspect of food hygiene and safety. The study showed that the food handlers' knowledge was moderate in general with mean point of 57.8%. However, they have good knowledge on personal hygiene and definition of foodborne diseases with mean point of 93.85% and 73.85%, respectively. On the contrary, their knowledge on food storage and preparation temperatures was poor with only 28%. Respondents showed positive attitudes towards two categories of questions in the aspect of food safety and hygiene (76.9%); foodborne prevention and control (70.8%). Majority of the respondents have an average practices in all parts of the questions (Nee et al., 2011).

A study aimed to measure food handler's attitude on food safety as well as their belief and their perceive barrier toward safe food handling recommended that a certification program for food handling is important, which reveals behavioral change for a better quality training (Aziz et al, 2013).

Another study in Shah Alam Selangor, Malaysia aimed to examine the awareness of food handler personal hygiene on food hygiene practices. Despite of the awareness of

food handlers about personal hygiene, they do not understand crucial aspects of personal hygiene such control food temperature value while cooking and cleaning work surface. Mobile food owners need to access and improve operator's knowledge, personal hygiene and the hygiene practices on food safety to consumer in order to prevent food borne illnesses (Ismail et al, 2015).

Another cross sectional study was conducted in 2014 at Sri Lanka government schools' to assess the service quality of canteens and to explore the causes for deviating the service quality from the guidelines. It showed that the majority of canteens were located in a suitable place, had a clean outside environment, had wastewater drainage, had bins for waste disposal and stored raw materials and cooked food separately. However, the majority of canteens did not keep bins closed, two third of food preparation areas satisfied the basic criteria, half of the canteens had cooling equipment and the majority of canteen workers did not use aprons or gloves (Weerasinghe et al., 2017).

An evaluation research was done in Dutch secondary schools' to investigate the effect of "Guidelines for Healthier Canteens" implementation tools in these schools' on the quality of implementation and the factors perceived by stakeholders as affecting implementation. For six months, ten intervention schools' implemented the guidelines, supported by the developed implementation tools. Ten control schools' received the guidelines without support. School managers, caterers, and canteen employees reported on individual and environmental factors affecting implementation. Stakeholders in intervention schools' scored higher on the determinants' knowledge, motivation, and lower on need for support. The study concluded that a combination of implementation tools, which included students' wishes, tailored information, reminders and examples of healthier products, supports stakeholders in creating a healthier school canteen (Evenhuis et al., 2019).

Chapter Three: Conceptual Framework

3.1 Introduction

This chapter will present the education in Palestine, the development of Palestinian school health program, the school canteen policy in Palestine, the study theoretical and conceptual framework and the study operational and practical definitions.

3.2 In Palestine

3.2.1 Education in Palestine:

Education is highly valued among families across the State of Palestine, with 95.4 per cent of children enrolled in basic education (UNICEF, 2020). Historically, formal education in Palestine has been supervised and managed by foreign rule. These powers varied their education agendas over the years (Ramahi, 2016). Education provision first emerged under Ottoman rule, and it was delivered in the Turkish language (Ramahi, 2016).

Education was expanded in 1917 during British rule, to supply a growing need for civil servants for the British Empire (Ramahi, 2016) and the education system became more formalized (Almasri, 2016). In 1948 with the creation of the Israeli occupation Palestinian, ambition for educational self-rule was broken. Palestinian refugees were subject to the educational policies and curricula of the host countries in UN-administered camps while Jordan and Egypt respectively disseminated their national curricula in the West Bank and Gaza Strip (Ramahi, 2016).

The responsibility of education was transferred to Israel after the war of 1967 (Almasri, 2016). In 1994, the first Palestinian Ministry of Education (MoE) was instituted with the remit to build up an ambitious Palestinian citizenry for institution building, state formation and the global information economy (Ramahi, 2016). The MoE supervised the education system on public, UNRWA and private schools’.

The Palestinian education system phases is comprised of pre-school education, basic education, secondary education and non-formal education (Unicef, 2018).

- **Pre-school education** is not obligatory which consists of two years. Pre-school education is primarily delivered by for-profit or non-profit private providers (Unicef, 2018). Survey results in the Education Statistical yearbook of the MoE showed that the number of kindergartens is 133 in the West bank and 685 in Gaza Strip (General Directorate of Educational Planning et al, 2019).
- **Basic education** is obligatory and provided by three types of schools': government schools' managed by the MoE, UNRWA schools' and private schools' managed by profit and non-profit institutions, which are registered and monitored by the MoE (Unicef, 2018).
- **Secondary education** is provided by government and private schools'. It includes academic and vocation education for 11th and 12th grades (UNICEF, 2018).

There are 3037 schools' in Palestine, distributed by area as 2300 in the West Bank and 737 in Gaza Strip. They are distributed by supervising authority as 2234 are government schools', 433 are private schools' and 370 are UNRWA schools'. They are distributed by building ownership as 2657 are owned, 336 are rented and 44 owned and rented at the same time. The number of school classes is 41637 and there are 69413 teachers in schools' (MoE, 2019).

There are 1,282,054 students in the Palestinian schools', 720,943 in the West Bank and 561,111 in Gaza Strip. They are distributed by supervised authority as 836,084 students are in government schools', 324,862 students are in UNRWA schools' and 121,108 students are in private schools'. They are distributed by gender as 635,662 are males and 646,392 are females (MoE, 2019).

3.2.2 Schools' Health Program Development in Palestine:

In Palestine, Ministry of Education (MoE) and Ministry of Health (MoH) cooperate to take the responsibility of health promotion because it is not just the responsibility of the medical sector. They contribute to a comprehensive global program where school health program consists of eight major themes: Medical services, health education and promotion, school environment, school nutrition, psychological and social health, strengthening the role of the local community, promoting the health of the workers at schools' and physical Education and Sports (MoE, 2017).

This cooperation between MoE and MoH targets schools' students by prevention and promotion of their health resulted in the construction of a nutrition policy, which includes setting clear standards for school nutrition programs in general and school canteens in particular (Almasri, 2016). The implementation of the policy was started on government schools' in 2010, on the basis of understanding the important function these programs play in promoting healthy behaviors and the delivery of concepts of proper nutrition in Palestinian society (Rimawi et al).

This program aimed to fulfill the right for health despite the political and economic challenges in the Palestinian territory. It was established to evolve the food sold in school canteens quality, improve the students' academic performance and the education indicators related to proper nutrition, improve the surrounding environment and canteens, reduce the emergence of nutrition-related diseases proportion in the community, as well as to stimulate the role of school health commissions in supporting nutritional trends and following up on the programs (Rimawi et al).

The school health program characterizes the following in detail: (Rimawi et al).

- Recommended Dietary Intake (RDI) for students of different ages .
- A list of food products must not be presented in canteens, like chips and puffed corn products .
- A healthy food list preferred to be available in school canteens, like dates, fruit, vegetables, and popcorn .

- The breakfast meal .
- Health standards for school canteens (building, floors, ceiling, workers, transportation and distribution, etc.) .
- Nutritional standards in school canteens (accepted food list, conditionally accepted food list and a forbidden food list).
- The people who are responsible for implementation and evaluating the nutrition policy.
- Appendices, which include: canteens follow up check list and cooperation documents between the MoH & MoE).

3.2.3 Schools' Canteen Policy in Palestine:

In the past, many schools' used to have school canteens; however, those canteens administered by private businesses who allocate part of their earnings to the Ministry of Education. School meals were not routinely provided in schools' and school canteens offered food substances for students without guidelines (Ministry of Health, 2005). In 2010, the schools' canteen policy implemented in cooperation between the MoE and MoH to improve the quality of food sold in schools' canteens, which evolve the students' academic performance and decrease the rate of nutrition related diseases (Almasri, 2016).

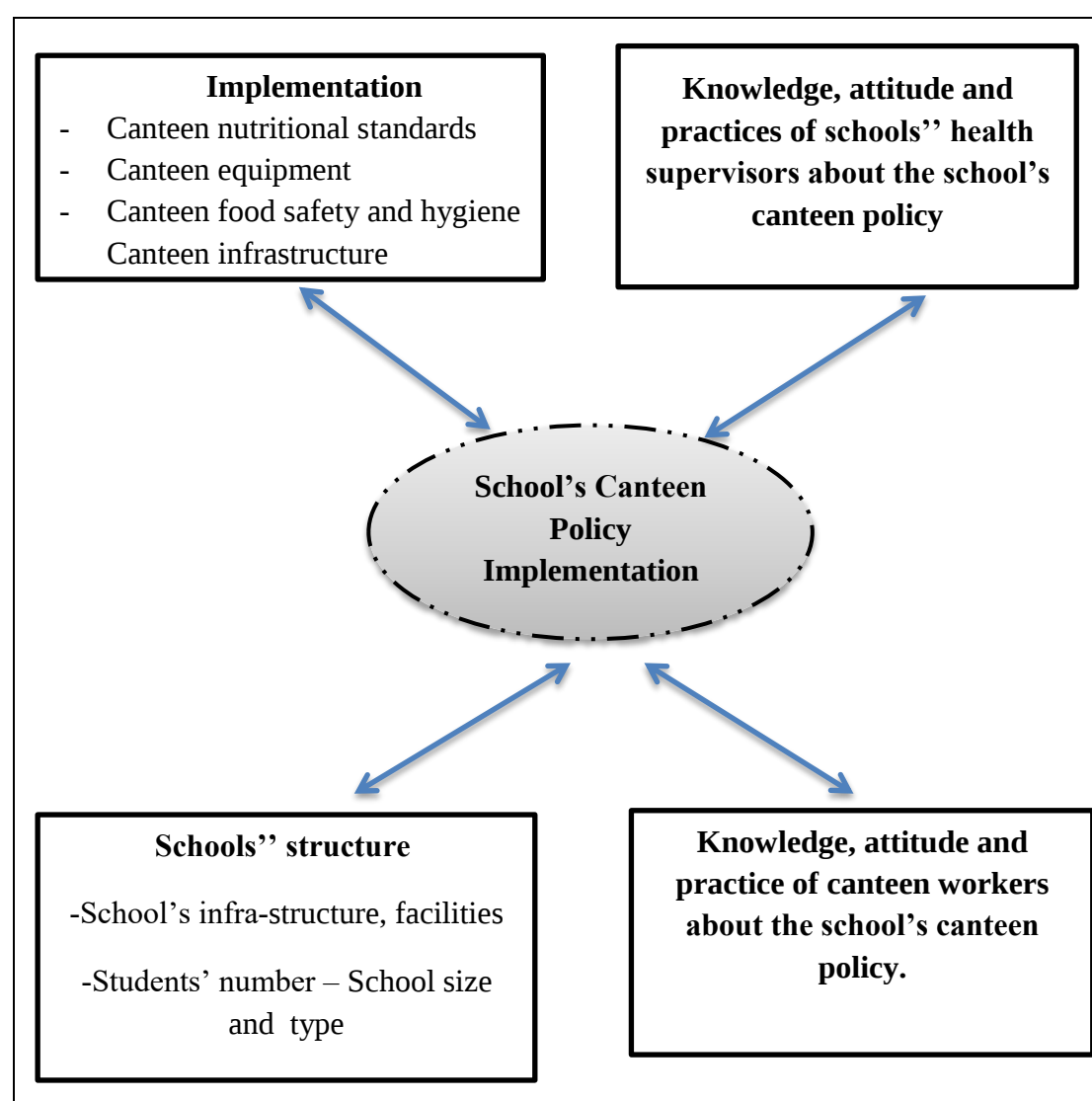
3.3 Study Theoretical and Conceptual Framework

This study conceptual model is built upon the theoretical models of the annual plan of the General Administration of School Health of the Ministry of Education for school public health program as follows:

- School's canteen policy implementation: canteen infrastructure, equipment, nutritional standards, food safety and hygiene.
- The knowledge, attitude and practice of schools' health supervisors about the school's canteen policy.

- The knowledge, attitude and practice of canteen workers about the school's canteen policy.
- The factors that influencing the implementation of schools'' canteen policy: schools'' structure, students' number, school type, students' gender and students' culture etc..

Figure 3.1: Study conceptual framework.



3.4 Study Operational and Practical Definitions

School: A place where children go to be educated. (Cambridge Dictionary)

School type: The kind of school (Governmental school, Private school or United Nation Relief and Works Agency for Palestinian Refugees School).

Governmental school: Any educational institution runs by the MoE.

Private school: Every licensed non-governmental educational institution, which teaches students according to the Palestinian curricula.

UNRWA school: Any educational institution runs or supervised by the United Nation Relief and Works Agency for Palestinian Refugees.

Canteen: A “store that sells food and beverages at schools’ for the students or the school staff”. (Almasri, 2016)

Canteen policy: Health standards (building, floors, ceiling, workers, transportation and distribution, etc.) for school canteens, and nutritional standards (accepted food list and a forbidden food list) for school canteens.

Canteen workers: “Workers who are responsible for preparing and selling food and beverages in school canteens”. (Almasri, 2016)

School manager: Refers to school principal (who does not teach) who is the director or the head of the school.

Schools’ health supervisors: The person who is supervises the application of school nutrition policy.

Received training: The training that was conducted by the MoE or other Institutions on managing school canteens or preparing canteen meals, and facilitating the implementation of the school nutrition policy.

Students’ number: the total number of school students.

Knowledge: understanding of or information about a subject that you get by experience or study, either known by one person or by people generally (Cambridge Dictionary).

Attitude: a feeling or opinion about something or someone, or a way of behaving that is caused by this (Cambridge Dictionary).

Practice: something that is usually or regularly done, often as a habit, tradition, or custom (Cambridge Dictionary).

Chapter Four: Methodology

This chapter will present the study design, study sample, and the methods used to collect and analyze the data to accomplish the aims and objectives of the study.

4.1 Setting of the Study

The study was conducted in Bethlehem governmental and private schools', which are governed by the Palestinian Ministry of Education (See appendix 1).

Bethlehem Government schools' are general schools' that present education and learning for 39258 Palestinian students in Bethlehem area, 20252 are females and 19006 are males while, Bethlehem private schools' present education and learning for 11240 Palestinian students in Bethlehem area, 4860 females and 6380 males (General Directorate of Educational Planning et al, 2019).

The total number of government schools' in Bethlehem is 134, 47 of them are for males, 42 are for females and 45 are mixed. While, the total number of private schools' in Bethlehem is 37, 2 of them are for males, 2 for females and 33 are mixed (General Directorate of Educational Planning et al, 2019).

4.2 Study Design

An evaluation study was used to evaluate the implementation of the MOE guidelines for canteens using a checklist. Also, a Knowledge attitudes and practices (KAP) study was conducted from February 2019 until April 2019 using interview questionnaires with the school health officers and canteen workers.

4.3 Study Population

The target population of this study was the Palestinian government and private schools', which are run by the Palestinian Ministry of Education in Bethlehem district (n = 49).

4.4 Sampling method

Bethlehem Directorate of Education classified Bethlehem area into eight zones. A stratified random sample was selected from a list of all schools' (governmental and private schools'). 49 schools' are selected from all zones of Bethlehem government and private schools' that are run by the Palestinian Ministry of Education (confidence level = 90%, margin of error = 10%, population proportion = 50%, population size = 171).

The percentage of Bethlehem governorate governmental schools' was 78.4%. Therefore, 39 government schools' were selected and distributed according to the frequency of these schools' at the eight zones. Five schools' from zone 1, five schools' from zone 2, six schools' from zone 3, five schools' from zone 4, five schools' from zone 5, five schools' from zone 6, four schools' from zone 7 and four schools' from zone 8.

The percentage of Bethlehem governorate private schools' was 21.6%. Therefore, 10 private schools' were obtained and distributed according to the frequency of these schools' at the eight zones. Eight schools' from zone 1, one school from zone 3 and one school from zone 8.

Table 4.1: Bethlehem governmental and private schools' frequencies

Zone Number	Districts	Governmental Schools'		Private Schools'	
		#	%	#	%
1	Bethlehem, Beit Jala and Beit Sahur.	19	11.11	29	16.95
2	Doha, Al-Khader and Artas.	17	9.94	5	2.92
3	Hussan, Battir, Wad Fukeen, Nahaleen and Jab'a.	21	12.28	2	1.16
4	Beit Fajjar, Jurat Sham'a, Um Salamona, Wad Nees, MurahMu'alla, Zawahra and Kh. Haddad.	17	9.94	0	0
5	Rawa'en, Rashayda, Keesan, Menya, Murah Rabah and Taqu'.	16	9.35	0	0
6	Beit Ta'mar, Za'tara, Shawawra and Ras Elwad.	17	9.94	0	0
7	Thabra, Wad Rahhal, Abu Ngeem, Janata, Hindaza and Breid'a.	13	7.60	0	0
8	Elkhass, Enu'man, Dar Salah and Ubeidiya.	14	8.18	1	0.58
Total		134	78.4	37	21.6

4.5 Inclusion-exclusion Criteria

Bethlehem government and private schools', which include canteens.

The schools' that excluded from the study were:

1. UNRWA schools'.
2. Bethlehem government and private schools', which did not include canteens.

Schools' that fit with the study inclusion-exclusion criteria were reviewed and afterwards were interviewed.

4.6 Study tools

Two questionnaires were used and included the following:

Part one: Checklist was used during the field visit to assess the implementation of school's canteen policy, and included the following information:

- Canteen infrastructure: area, ventilation, sewage, lightning, water, windows, washing sinks and cobble of canteen.
- Canteen equipment: external and internal equipment needed for canteen.
- Canteen nutritional standards: allowed and forbidden foods, healthy alternatives, sandwiches alternative standards, production and expiry dates, school rest time.
- Canteen food safety and hygiene: safety and hygiene of canteen workers, food and materials.

Part two: Interview questionnaire with the school health officer and canteen workers, and included questions related to each of the studied factor of the conceptual framework to assess the knowledge, attitude and practice of school health officer and canteen workers about the school's canteen policy. (See appendix 2)

4.7 Pilot study, reliability and validity

The checklist and the questionnaires were tested for face validity with referral to three experts in the field. The piloting was done on two government schools' in Bethlehem. Their data was not included in the study. The spelling errors in the checklist and questionnaires were corrected, deleted repeated questions, fonts modified and the checklist and questionnaires were finalized.

Table 4.2: Table of reliability

Checklist Parts	Cases Number	Parts Number	Chronpach alpha
Canteen infrastructure	49	14	0.84
Canteen floors	49	5	0.75
Canteen walls	49	4	0.76
Canteen ceilings	49	2	0.13
Canteen equipment and supplies	49	12	0.71
Canteen nutritional standards	49	31	0.51
Food Safety and hygiene	49	39	0.68
Total	49	107	0.89

4.9 Data collection

After selecting the sample (Stratified random sample) and getting Bethlehem Directorate of Education approvals, the data for this study was obtained by the researcher himself by filling the canteen checklist and using a structured interview with canteen workers and the school health supervisors. The data was collected from the included schools', which are run by the Palestinian Ministry of Education.

4.10 Data Analysis

All the data was obtained and the statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) version 22 (IBM Crop, 2013). Values of all studied variables were displayed as numbers and percentages. Mean, standard deviations, Chi-square, independent sample T- test was also performed.

In the checklist there were 108 points in order to check the application level of the school canteen policy distributed in areas of canteen infrastructure, nutritional standards and canteen food safety and hygiene. According to the checklist-collected information, a score was found for each school then, the implementation of school's canteen policy was assessed using three levels score "Poor", "Fair" and "Good". But

after analyzing the results and consulting statisticians, the school's canteen policy implementation was assessed using two levels score. "Poor" level presented the schools', which their school canteen policy application score was less than or equal 54 point (less than or equal 50%), "Fair" level presented the schools' whose their school canteen policy application score was greater than 54 points (greater than 50%).

The attitudes of school health supervisors and canteen workers were assessed using three levels score according to the questionnaires collected data. "Poor" level represented that the attitude of school canteen workers was less than 50%, "Fair" level represented that the attitude school canteen workers according to the questionnaire was between 50% and 80% and "Good" level represented that the attitude of school canteen workers according to the questionnaire was between 81% and 100%.

The practices of school health supervisors and canteen workers were assessed using three levels score according to the questionnaires collected data. "Poor" level represented that the practice of school canteen workers was less than 50%, "Fair" level represented that the practice school canteen workers according to the questionnaire was between 50% and 80% and "Good" level represented that the practice of school canteen workers according to the questionnaire was between 81% and 100%.

The knowledge of school health supervisors and canteen workers was assessed using three levels score according to the questionnaires collected data. "Poor" level represented that the knowledge of school canteen workers was less than 50%, "Fair" level represented that the knowledge school canteen workers according to the questionnaire was between 50% and 80% and "Good" level represented that the knowledge of school canteen workers according to the questionnaire was between 81% and 100%.

4.11 Ethical Consideration

In order to launch this study, the proposal was submitted to the approval and the discussion of both Al-Quds University-Faculty of public health research committee, and to that of Al-Quds University graduate studies committee. The permission to conduct the study had been obtained from Bethlehem Directorate of Education. The approval of Bethlehem Directorate of Education has been taken to conduct the study, through an official correspondence to the schools' of Bethlehem governorate to facilitate our work. (See appendix 3)

Participants filled a consent form after being informed about the study aim and objectives.

Chapter Five: Results

5.1 Introduction

This chapter will present the results of the study including six main parts:

- Schools'' characteristics.
- Canteens' infrastructure.
- Canteens' nutritional standards.
- Canteens' Food safety and hygiene.
- Knowledge, attitude and practices of schools'' health supervisors about the schools'' canteen policy.
- Knowledge, attitude and practice of canteens' workers about the schools'' canteen policy.

5.2 Schools'' characteristics

The schools'' distribution depended on the frequency of schools' at the eight zones that Bethlehem Directorate of Education divided. The study sample was divided into 79.6% government schools' and 20.4% private schools'. The majority of schools' were in zone 1 (26.5%). About one third (32.7%) of schools' were co-educational while 36.7% of them were girl schools', and 30.6% were boy schools'. 26.5% of the schools' were low primary schools' and 26.5% of them were high primary while 46.9% were secondary schools'.

59.2% of the schools' had new school buildings, the schools'' building property distributed as 89.8% owned and 10.2% rented. Only 65.3% of the schools' had a field

health officer. Only 16.3% of the schools' were managed by the school team while 83.7% of the schools' pledge them. Table (4.1a) shows the characteristics of the participated schools'. About one fourth (26.5%) of the schools' had no health supervision visits on their canteens by the academic year as shows. The average number of school health supervision visits per year was 3.91 visits a year 5.64 standard deviation(See Table 5.1).

Table 5.1: Schools’ characteristics and management.

Number	Variable	Frequency	Percentage %
1.	Zone Number		
	Zone 1	13	26.5
	Zone 2	5	10.2
	Zone 3	7	14.3
	Zone 4	5	10.2
	Zone 5	5	10.2
	Zone 6	5	10.2
	Zone 7	4	8.2
	Zone 8	5	10.2
2.	Schools’ by Students' Gender		
	Male schools’	15	30.6
	Female schools’	18	36.7
	Mixed schools’	16	32.7
3.	School Level		
	Low primary	13	26.5
	High primary	13	26.5
	Secondary	23	46.9
4.	School Type		
	Governmental	39	79.6
	Private	10	20.4
5.	School Building Type		
	Old	20	40.8
	New	29	59.2
6.	School Property		
	Owned	44	89.8
	Rented	5	10.2
7.	The presence of a field health officer		
	Yes	32	65.3
	No	17	34.7
8.	Canteen Administration		
	Self-management	8	16.3
	Pledge	41	83.7

5.3 Canteens infrastructure

Table 5.2 shows the description of the canteen. Around half of the canteens (49.0%) had two windows for selling while 8.2% of them had no windows, and students enter inside to buy their food. Moreover, the maximum height of study canteen windows was 1.6 meter while the minimum height was 0.8 meter. Generally, most of the school

canteens had no wall tiles with a frequency of 61.2%, the height of the wall tiles arranged between 0.6 meter and 2.7 meters.

71.4% of school canteens had a size of 15-meter square and less while in 28.6% of the sample, the size was more than 15-meter square. The break time specified for student's meal in the study sample arranged between 20 – 35 minutes (See Table 5.2).

Table 5.2: Canteen description

Number	Variable	Frequency	Percent %
1.	Number of canteen windows		
	0	4	8.2
	1	9	18.4
	2	24	49.0
	3	9	18.4
	4	2	4.1
	5	1	2.0
2.	Height of windows (meter)		
	Less than 1	18	36.7
	1 - 1.20	27	55.1
	Greater than 1.20	4	8.2
3.	Height of wall tiles (meter)		
	0	30	61.2
	0.5 – 1.00	12	24.5
	1.10 – 1.50	3	6.1
	1.51 – 2.00	3	6.1
	Greater than 2.00	1	2.1
4.	Size of canteen (meter)²		
	15 and less	35	71.4
	Above 15	14	28.6
5.	Break time (minutes)		
	20	4	8.2
	25	34	69.4
	30	9	18.4
	35	2	4.1

The majority of schools' (91.8%) had canteens in separated rooms, 61.2% of the school canteens were far enough from toilets, 87.8% of them were in an area free from odors and smoke, 71.4% of schools' canteen doors were tightly sealed, and only 53.1% of canteen building designed to prevent the entry of insects, rodents and other animals.

The ventilation and lightning were convenient in 73.5% of school canteens. 66.7% of canteens considered the separation between operations. The number of windows was suitable in 69.4% of school canteens and 73.5% of them had a suitable windows height and enough canteen size.

Despite of schools' canteen policy standards, only 32.7% of canteen windows and doors were covered with protective sieve. Only 30.6% of school canteens had channels covered and slanted to drain water during production and cleaning processes. In 36.7% of school, canteens the source of canteen's water was drinkable and only 51.0% of the canteens had a wash-basin for the use of staff. (See Table 5.3).

Table 5.3: Description of Canteen Building.

Number	Variable		Frequency	Percent %
1.	The canteen is located in an independent room	Yes	45	91.8
		No	4	8.2
2.	The canteen is away from the toilets	Yes	30	61.2
		No	19	38.8
3.	The canteen is in an area free from odors, smoke and any health disgusting	Yes	43	87.8
		No	6	12.2
4.	The building design prevent the entry of insects, rodents and animals	Yes	26	53.1
		No	23	46.9
5.	Cover all windows and doors with sieve	Yes	16	32.7
		No	33	67.3
6.	The main door is tightly sealed to prevent the entry of rodents and insects	Yes	35	71.4
		No	14	28.6
7.	Existing of channels covered netting and slanting	Yes	15	30.6
		No	34	69.4
8.	The ventilation and lighting is convenient	Yes	36	73.5
		No	13	26.5
9.	Separation between operations	Yes	32	66.7
		No	16	33.3
10.	The source of the canteen's water is drinkable.	Yes	18	36.7
		No	31	63.3
11.	Wash-basin is available for staff	Yes	24	49.0
		No	25	51.0
12.	The number of the windows is suitable	Yes	34	69.4
		No	15	30.6
13.	The windows height is suitable	Yes	36	73.5
		No	13	26.5
14.	The size of the canteen is suitable	Yes	36	73.5
		No	13	26.5

The majority of school canteen floors (81.6%) were covered with suitable tiles, three-quarters (75.5%) of the floors were easy to clean and disinfect. 83.7% of the floors did not allow sliding and 71.4% of them were free of cracks while only 2% of school canteen floors had no sharp corners. Table 4.3 shows the characteristics of school canteen floors (See Table 5.4).

Table 5.4: School canteen floors.

Number	Variable		Frequency	Percent %
1.	The floor is covered with suitable tiles	Yes	40	81.6
		No	9	18.4
2.	The floor is easy to clean and disinfect	Yes	37	75.5
		No	12	24.5
3.	The floor does not allow sliding	Yes	41	83.7
		No	8	16.3
4.	The floor is free of cracks	Yes	35	71.4
		No	14	28.6
5.	The floor has no sharp corners	Yes	1	2.0
		No	48	98.0

Only 30.6% of the walls of school canteens were easy to clean and disinfect, while 28.6% of school canteen walls were free of cracks and painted with light oil paint (See Table 5.5).

Table 5.5: School canteen walls.

Number	Variable		Frequency	Percent %
1.	There are tiles on the walls	Yes	15	30.6
		No	34	69.4
2.	The walls are easy to clean and disinfect	Yes	15	30.6
		No	34	69.4
3.	The walls are free of cracks	Yes	14	28.6
		No	35	71.4
4.	The walls are painted with light oil paint	Yes	14	28.6
		No	35	71.4

Table 5.6: School canteen roofs.

Number	Variable		Frequency	Percent %
1.	The dirt and mold accumulated on the roof	Yes	26	53.1
		No	23	46.9
2.	The roof has no sharp corners	Yes	1	2.0
		No	48	98.0

More than a half of school canteen roofs (53.1%) dirt and mold were accumulated, and only 2.0% of the roofs had no sharp corners as shown in Table 5.6.

67.3% of school canteens had a protective umbrella in front of the canteen. Only 20.4% of school canteens had machines for meals production while 73.5% of them had a refrigerator and 53.1% of them had cabinets and shelves. 22.4% of the machines and tools used in food processing in the school canteens were free of cracks, three quarters of them consisted of non-rusting metal and always clean, and the quarter of them can bear cleaning operations, odorless and non-absorbent. In 10.2% of school canteens, wooden tools were used. There was a separation of all kinds of meat and vegetables in 24.5 % of school canteens.

School canteen equipment and supplies results appear in Table 5.7.

Table 5.7: School canteens' equipment and supplies.

Number	Variable		Frequency	Percent %
1.	There is a protective umbrella in front of the canteen	Yes	33	67.3
		No	16	32.7
2.	There are machines for meals production	Yes	10	20.4
		No	39	79.6
3.	There is a refrigerator	Yes	36	73.5
		No	13	26.5
4.	There are cabinets and shelves	Yes	26	53.1
		No	23	46.9
5.	Machines and tools used in the food processing free of cracks	Yes	11	22.4
		No	38	77.6
6.	Machines and tools used in the food processing consist of non-rusting metal	Yes	12	24.5
		No	37	75.4
7.	Machines and tools used in the food processing can bear cleaning operations	Yes	15	30.6
		No	34	69.4
8.	Machines and tools used in the food processing are odorless	Yes	16	32.7
		No	33	67.3
9.	Machines and tools used in the food processing are non-absorbent	Yes	16	32.7
		No	33	67.3
10.	The use of wooden tools	Yes	5	10.2
		No	44	89.8
11.	Machines and tools used in the food processing are always clean	Yes	12	24.5
		No	37	75.5
12.	Use specific knives for vegetables and others for meat (separate knives)	Yes	12	24.5
		No	37	75.5

4.4 Canteens nutritional standards

In the study sample, there were 18 schools' that prepared meals and sandwiches inside the school canteen, 21 schools' sold meals and sandwiches, which were prepared outside school canteen, and 10 schools' neither prepared meals and sandwiches inside school canteen nor sold them.

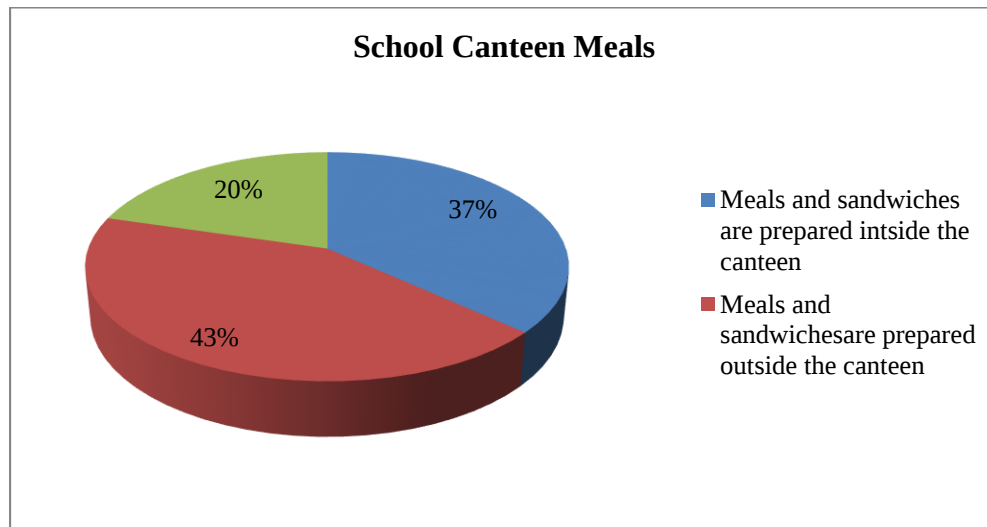


Figure 5.1: School Canteen Meals.

Generally, in most of schools' (91.8%), the break time was adequate and suitable for students. The products in 98.0% of canteens had food labels and the expiry dates for them were clearly printed in all of school canteens.

Table 5.8: The nutritional standards of school canteens.

Number	Variable		Frequency	Percent %
1.	The break time is adequate and suitable for students	Yes	45	91.8
		No	4	8.2
2.	The products have food labels	Yes	48	98.0
		No	1	2.0
3.	The expiry dates for foods are clearly printed	Yes	49	100.0
		No	0	0

Only 44.9% of the sandwiches were covered with plastic and paper bags, to protect them and only 26.5% of school canteens served several types of sandwiches. 61.2% of the sandwiches were preserved according to health standards.

Table 5.9: The nutritional standards of sandwiches sold at schools' canteens.

Number	Variable		Frequency	Percent %
1.	Sandwiches are covered with plastic or paper bags to protect them	Yes	22	44.9
		No	27	55.1
2.	There are several kinds of sandwiches	Yes	13	26.5
		No	36	73.5
3.	Sandwiches are preserved according to health standards	Yes	30	61.2
		No	19	38.8

Table 5.10: Availability of forbidden food at schools' canteens.

Number	Variable		Frequency	Percent%
1.	Soft drinks	Yes	1	2.0
		No	48	98.0
2.	Juice's contain less than 10% of natural juice	Yes	4	8.2
		No	45	91.8
3.	Popcorn products	Yes	9	18.4
		No	40	81.6
4.	Potato chips	Yes	6	12.2
		No	43	87.8
5.	Marshmallow	Yes	1	2.1
		No	47	97.9
6.	Candy made from gelatin	Yes	18	36.7
		No	31	63.3
7.	Indomie	Yes	2	4.1
		No	47	95.9
8.	Meat products (sell only on Thursday)	Yes	14	28.6
		No	35	71.4
9.	Ice-cream	Yes	3	6.1
		No	46	93.9
10.	Caffeine drinks	Yes	2	4.1
		No	47	95.9
11.	Dangerous materials	Yes	3	6.1
		No	46	93.9

There were no energy drinks, Rasalabed cream with chocolate, jelly, chewing gum, salted seeds, colored juice powder, cream products and Israeli products in the sample of school canteens. On the other hand, during the study, it was observed that 36.7% of the school canteens had sweet candy made from gelatin made from water, sugar, starch and gelatin, 28.6% of school canteens sold meat products in week days other than Thursday, 18.4% of school canteens had popcorn products and 12.2% of school canteens had potato chips products. Only 8.2% of the school canteens had juices with less than 10% natural fruit, 6.1% of school canteens had Ice cream and dangerous materials, 4.1% of school canteens had Indomie and caffeine drinks, 2.1% of school canteens had marshmallow and 2.0% of school canteens had soft drinks (See Table 5.10).

42.9% of school canteens had milk with different flavors, 34.7% of school canteens had mineral water, 26.5% of school canteens had salty yogurt (Laban-up), 8.2% of school canteens had fresh juices and 6.1% of school canteens had vegetables and fruits (See Table 5.11).

Table 5.11: Availability of healthy alternatives at schools' canteens.

Number	Variable		Frequency	%
1.	Salty yogurt (Laban up)	Yes	13	26.5
		No	36	37.5
2.	Milk with different flavors	Yes	21	42.9
		No	28	57.1
3.	Fresh juices	Yes	4	8.2
		No	45	91.8
4.	Mineral water	Yes	17	34.7
		No	32	65.3
5.	Vegetables	Yes	3	6.1
		No	46	93.9
6.	Fruits	Yes	3	6.1
		No	46	93.9

5.5 Canteens Food safety and hygiene

Table 5.12 summarizes the food safety and hygiene of canteen workers during meals preparation. Most of school canteen workers (95.9%) washed their clothes regularly. 38.8% of school canteen workers wore head scarfs, 61.2% of school canteen workers took into account hygiene conditions and 91.8% of school canteen workers abstained from bad habits like spitting, cleaning their nose and ears, chewing gum and putting hands in their mouths, eyes or ears. 83.7% of school canteen workers had clean and short nails and only 2.0% of school canteen workers wore jewelry and watches.

On the other hand, regarding healthy dress, only 10.2% of school canteen workers wore long-sleeved uniform while preparing and selling meals, only 22.4% of school canteen workers wore gloves. 49.0% of school canteen workers ate and drank in the canteens, 8.2% of school canteen workers smoked inside the canteens and 38.8% of school canteen workers received guests and visitors inside the canteen. Regarding training, only 24.5% of school canteen workers attended training for school canteens (See Table 5.12).

Table 5.12: Food safety and hygiene of canteen workers.

Number	Variable		Frequency	%
1.	The workers wear long-sleeved coats while preparing and selling meals	Yes	5	10.2
		No	44	89.8
2.	Workers wash their cloths regularly	Yes	47	95.9
		No	2	4.1
3.	Workers wear gloves	Yes	11	22.4
		No	38	77.6
4.	Workers wear headscarf	Yes	19	38.8
		No	30	61.2
5.	Workers eat and drink in the canteen	Yes	24	49.0
		No	25	51.0
6.	Workers smoke in the canteen	Yes	4	8.2
		No	45	91.8
7.	Workers applied general hygiene conditions	Yes	30	61.2
		No	19	38.8
8.	Workers wear jewelry and watches	Yes	1	5.3
		No	48	94.7
9.	Workers abstain from bad habits	Yes	45	91.8
		No	4	8.2
10.	The worker's nails are short and clean	Yes	41	83.7
		No	8	16.3
11.	There are visitors inside the canteen	Yes	19	38.8
		No	30	61.2
12.	The workers attended a training for schools' canteens	Yes	12	24.5
		No	37	75.5

The majority of school canteens them regularly checked the validity of raw materials, the insecticides and chemicals were stored away from food in more than half of the school canteens. While in the quarter of school canteens, the validity of raw materials was checked before use, raw materials were stored in suitable health conditions and the temperature of the refrigerators did not exceed 4 C°. The freezer temperature did not exceed -18 C° in 16.3% of school canteens. (See Table 5.13).

Table 5.13: Cleanliness of raw materials and storage.

Number	Variable		Frequency	%
1.	The validity of raw materials is checked before use	Yes	18	36.7
		No	31	63.3
2.	Raw materials are stored in suitable sanitary conditions	Yes	16	88.9
		No	33	67.3
3.	The temperature of the refrigerators does not exceed 4C°	Yes	16	32.7
		No	33	67.3
4.	The temperature of the freezers does not exceed -18 C°	Yes	8	16.3
		No	41	83.7
5.	The validity of raw materials is checked regularly	Yes	42	85.7
		No	7	14.3
6.	Insecticides and chemicals are stored away from food	Yes	28	57.1
		No	21	42.9

All of school canteens transported and distributed food by clean transportation, had appropriate temperature for the nature of the food inside the transportation medium and transport the food quickly. 95.9% of school canteens covered the food during transportation and 92.5% of school canteen products marketed quickly (See Table 5.14).

Table 5.14: Transport and distribution.

Number	Variable		Frequency	Percent%
1.	Food is transported and distributed by clean transportation	Yes	49	100.0
		No	0	0
2.	The temperature inside transportation is appropriate for the nature of the food	Yes	49	100.0
		No	0	0
3.	Food is covered	Yes	47	95.9
		No	2	4.1
4.	Food is transported quickly	Yes	49	100.0
		No	0	0
5.	Products are marketed quickly	Yes	37	92.5
		No	3	7.5

Table 5.15 summarizes school canteens hygiene and waste disposal. Only 59.2% of school canteens were clean in general while 71.4% of them were cleaned daily. In 63.3% of the school canteens the sewage network was intact, only 46.9% of school canteens had a source of water, only 42.9% of school canteens had suitable cleaning materials, 61.2% of school canteens had drying papers for the use of workers and 69.4% of them clean the used materials and equipment immediately after being used. Regarding waste disposal, only in 26.5% of school canteens the rubbish was placed in tight barrels, 16.3% of school canteens waste barrels were covered inside with plastic bags, 32.7% of school canteens emptied their waste barrels continuously and the number of waste barrels was sufficient in only 46.9% of school canteens.

Table 5.15: Hygiene and waste disposal.

Number	Variable		Frequency	%
1.	Canteen is clean in general	Yes	29	59.2
		No	20	40.8
2.	Sewage network is intact	Yes	31	63.3
		No	18	36.7
3.	The rubbish is placed in tight barrels	Yes	13	26.5
		No	36	37.5
4.	The waste barrels are covered inside with plastic bags	Yes	8	16.3
		No	41	83.7
5.	Waste barrels are emptied continuously	Yes	16	32.7
		No	33	67.3
6.	The number of waste barrels is sufficient	Yes	9	18.4
		No	40	81.6
7.	There is a source of water	Yes	23	46.9
		No	26	53.1
8.	There are suitable cleaning materials	Yes	21	42.9
		No	28	57.1
9.	There are dry papers for the workers	Yes	30	61.2
		No	19	38.8
10.	The used materials and equipment are cleaned immediately after being used	Yes	34	69.4
		No	15	30.6
11.	Canteen is cleaned daily	Yes	35	71.4
		No	14	28.6

All of school canteens had a person who was assigned to monitor the health of canteen although only 20.4% of these persons attended special courses or workshops for school

canteens. There were regular health visits to the health check on the canteen in 71.4% of canteens. Violations of law were given against 16.3% of school canteens, and 50.0% of them were removed (See Table 5.16).

Table 5.16: Health monitoring of schools' canteens.

Number	Variable		Frequency	Percent%
1.	A person is assigned to monitor the health of the canteen	Yes	49	100.0
		No	0	0
2.	This person attended special courses or workshops for school canteens	Yes	10	20.4
		No	39	79.6
3.	There are regular health visits to monitor the canteen	Yes	35	71.4
		No	14	28.6
4.	Violations of law were given against canteen	Yes	8	16.3
		No	41	83.7
5.	If the answer is yes, is the violation removed?	Yes	4	50.0
		No	2	25.0
		Don't know	2	25.0

In the current study, the majority (71.4%) of schools' were "Fair" in school canteen policy application and 28.6% of schools' had a "Poor" school canteen policy application (Figure 5.2).

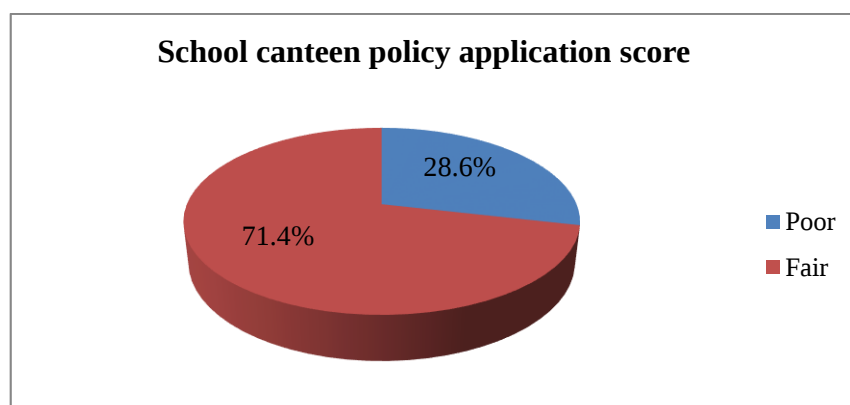


Figure 5.2: Schools' canteen policy application score.

5.6 Socio-demographic characteristics of school health supervisors

Table 5.17 shows the socio-demographic characteristics of school health supervisors. The majority (71.4%) of school health supervisors were females. 87.8% of school health supervisors were married, 8.2% of them were single and 4.1% of them were divorced. 61.2% of school health supervisors were living in a village, 30.6% of them were living in a city and only 8.2% of them were living in a refugee camp. The majority of school health supervisors (75.5%) had Bachelor's degree, 18.4% of them had a postgraduate degree, 4.1% of them had a diploma degree and only 2% of them had secondary education.

The majority of school health supervisors were teachers (91.8%) while 8.2% of them were assistant directors. The income level of most of the school health supervisors (51.0%) arranged between 2501-3500 New Israeli Shekels and 59.1% of school health supervisors had more than 11 years of experience. Only 8.2% of school health supervisors received training about school canteens, two of them had training in canteen management, one of them had training about cooperative canteens and one of them had training about nutrition in educational institutions. No one of school health supervisors received special vaccination (See Table5.17).

Table 5.17: The health supervisors' socio-demographic factors.

Variable		Frequency	Percent %
Age(years)	20-30	6	12.2
	31-40	20	40.8
	41-50	19	38.8
	Above than 50	4	8.2
Gender	Male	14	28.6
	Female	35	71.4
Social status	Single	4	8.2
	Married	43	87.8
	Divorced	2	4.1
Living place	Village	30	61.2
	City	15	30.6
	Camp	4	8.2
Educational level	Secondary	1	2.0
	Diploma	2	4.1
	Bachelor's	37	75.5
	Postgraduate	9	18.4
Job	Teacher	45	91.8
	Assistant director	4	8.2
Income level (NIS)	Less than 1500	2	4.1
	1500-2500	7	14.3
	2501-3500	25	51.0
	3501-4500	12	24.5
	More than 4500	3	6.1
Years of experience	2-4 years	8	16.3
	5-7 years	6	12.2
	8-10 years	6	12.2
	More than 11 years	29	59.2
Have you received training about canteen management?	Yes	4	8.2
	No	45	91.8
Have you received special vaccination	No	49	100.0
	Yes	0	0

5.7 Knowledge, attitude and practices of schools' health supervisors about schools' canteen policy.

Table 5.18 shows three levels of the knowledge, attitude and practices of school health supervisors according to the questionnaire provided to them. Overall, the majority (81.6%) of school health supervisors were classified into "Good" knowledge level. Of

them 18.4% were classified as having “Fair” knowledge level. The majority (79.6%) of school health supervisors was classified into “Good” attitude level, 18.4% of them were classified into “Fair” attitude level and only 2% of them were classified into “Poor” level. The majority (85.7%) of school health supervisors were classified into “Good” practice level, 14.6% of them was classified into “Fair” practice level.

Table 5.18: Scoring of knowledge, attitudes and practices of school health supervisors

	Frequency	Percent (%)
Health Supervisor Knowledge Level		
Fair (50% - 80%)	9	18.4
Good (81% - 100%)	40	81.6
Health Supervisor Attitude Level		
Fair (50% - 80%)	10	20.4
Good (81% - 100%)	39	79.6
Health Supervisor Practice Level		
Fair (50% - 80%)	7	14.3
Good (81% - 100%)	42	85.7

There was **no significant differences** of statistical significance between health supervisors in their knowledge regarding their age, gender, social status, educational level, job, income level, and years of experience and receiving training about canteen management ($p\text{-value} \geq 0.05$). There was **significant differences** of statistical significance between health supervisors in their knowledge regarding their living place ($p\text{-value} < 0.05$) (Table 5.19).

Table 5.19: Scoring of knowledge and socio demographic characteristics of school supervisors

Variable		Knowledge		Chi-square P value significance
		Fair	Good	
Age(years)	20-30	16.7%	83.3%	0.142
	31-40	25.0%	75.0%	
	41-50	5.3%	94.7%	
	Above than 50	50.0%	50.0%	
Gender	Male	21.4%	78.6%	0.76
	Female	17.1%	82.9%	
Social status	Single	25.0%	75.0%	0.454
	Married	16.3%	83.7%	
	Divorced	50.0%	50.0%	
Living place	Village	23.3%	76.7%	0.038
	City	0.0%	100.0%	
	Camp	50.0%	50.0%	
Educational level	Secondary	0.0%	100.0%	0.597
	Diploma	50.0%	50.0%	
	Bachelor's	18.9%	81.1%	
	Postgraduate	11.1%	88.9%	
Job	Teacher	20.0%	80.0%	0.322
	Assistant director	0.0%	100.0%	
Income level (NIS)	Less than 1500	0.0%	100.0%	0.355
	1500-2500	42.9%	57.1%	
	2501-3500	12.0%	88.0%	
	3501-4500	16.7%	83.3%	
	More than 4500	33.3%	66.7%	
Years of experience	2-4 years	25.0%	75.0%	0.963
	5-7 years	16.7%	83.3%	
	8-10 years	16.7%	83.3%	
	More than 11 years	17.2%	82.8%	
Have you received training about canteen management?	Yes	25.0%	75.0%	0.721
	No	17.8%	82.2%	
Have you received special vaccination	No	18.4%	81.6%	-
	Yes	0.0%	0.0%	

Table 5.20 shows the association between scoring of attitude of schools'' health supervisors with their socio demographic characteristics. There was **no significant differences** of statistical significance between health supervisors in their attitudes regarding their age, gender, social status, living place, educational level, job, income

level, years of experience and receiving training about canteen management (p-value $\geq$ 0.05).

Table 5.20: Scoring of attitude and socio demographic characteristics of school supervisors

Variable		Attitude		Chi-square P value significance
		Fair	Good	
Age(years)	20-30	16.7%	83.3%	0.719
	31-40	25.0%	75.0%	
	41-50	21.1%	78.9%	
	Above than 50	0.0%	100.0%	
Gender	Male	28.6%	71.4%	0.370
	Female	17.1%	82.9%	
Social status	Single	0.0%	100.0%	0.416
	Married	23.3%	76.7%	
	Divorced	0.0%	100.0%	
Living place	Village	30.0%	70.0%	0.107
	City	6.7%	93.3%	
	Camp	0.0%	100.0%	
Educational level	Secondary	0.0%	100.0%	0.660
	Diploma	0.0%	100.0%	
	Bachelor's	24.3%	75.7%	
	Postgraduate	11.1%	88.9%	
Job	Teacher	22.2%	77.8%	0.291
	Assistant director	0.0%	100.0%	
Income level (NIS)	Less than 1500	0.0%	100.0%	0.263
	1500-2500	0.0%	100.0%	
	2501-3500	32.0%	68.0%	
	3501-4500	16.7%	83.3%	
	More than 4500	0.0%	100.0%	
Years of experience	2-4 years	0.0%	100.0%	0.149
	5-7 years	50.0%	50.0%	
	8-10 years	16.7%	83.3%	
	More than 11 years	20.7%	79.3%	
Have you received training about canteen management?	Yes	50.0%	50.0%	0.125
	No	17.8%	82.2%	
Have you received special vaccination	No	20.4%	79.6%	-
	Yes	0.0%	0.0%	

Table 5.21 shows the association between scoring of practices of schools' health supervisors with their socio demographic characteristics. There was **no significant differences** of statistical significance between health supervisors in their practices regarding their age, gender, social status, living place, educational level, job, income level, years of experience and receiving training about canteen management (p-value $\geq$ 0.05).

Table 5.21: Scoring of practices and socio demographic characteristics of school supervisors

Variable		Practices		Chi-square P value significance
		Fair	Good	
Age(years)	20-30	16.7%	83.3%	0.695
	31-40	20.0%	80.0%	
	41-50	10.5%	89.5%	
	Above than 50	0.0%	100.0%	
Gender	Male	7.1%	92.9%	0.366
	Female	17.1%	82.9%	
Social status	Single	25.0%	75.0%	0.258
	Married	11.6%	88.4%	
	Divorced	50.0%	50.0%	
Living place	Village	13.3%	86.7%	0.815
	City	13.3%	86.7%	
	Camp	25.0%	75.0%	
Educational level	Secondary	0.0%	100.0%	0.806
	Diploma	0.0%	100.0%	
	Bachelor's	13.5%	86.5%	
	Postgraduate	22.2%	77.8%	
Job	Teacher	15.6%	84.4%	0.394
	Assistant director	0.0%	100.0%	
Income level (NIS)	Less than 1500	0.0%	100.0%	0.415
	1500-2500	28.6%	71.4%	
	2501-3500	8.0%	92.0%	
	3501-4500	25.0%	75.0%	
	More than 4500	0.0%	100.0%	
Years of experience	2-4 years	25.0%	75.0%	0.619
	5-7 years	16.7%	83.3%	
	8-10 years	0.0%	100.0%	
	More than 11 years	13.8%	86.2%	
Have you received training about canteen management?	Yes	25.0%	75.0%	0.523
	No	13.3%	86.7%	
	No	14.3%	85.7%	-

Have you received special vaccination	Yes	0.0%	0.0%	
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5.8 Socio-demographic characteristics of school canteen workers

Table 5.22 shows the socio-demographic characteristics of school canteen workers. The majority (77.6%) of school canteen workers were females. 71.4% of school canteen workers were married, 16.3% of them were single, 8.2% of them were divorced and 4.1% of them were widowed. 57.1% of school canteen workers were living in a village, 38.8% of them were living in a city and only 4.1% of them were living in a refugee camp. The majority of canteen workers (49.0%) had secondary education, 30.6% of them had primary education, 16.3 % of them had Bachelor's degree and only 4.1% of them had a diploma degree. The income level of most of school canteen workers (73.5%) was less than 1500 NIS. Only 18.4% of school health supervisors received training about school canteens, all of them had training in canteen management. None of school canteen workers received special vaccination.

Table 5.22: Description of canteen workers socio-demographic characteristics.

Number	Variable		Frequency	%
1.	Age (years)	Less than 20	1	2.0
		20-30	9	18.4
		31-40	14	28.6
		41-50	15	30.6
		Above than 50	10	20.4
2.	Gender	Male	11	22.4
		Female	38	77.6
3.	Social status	Single	8	16.3
		Married	35	71.4
		Divorced	4	8.2
		Widowed	2	4.1
4.	Living place	Village	28	57.1
		City	19	38.8
		Camp	2	4.1
5.	Educational level	Primary	15	30.6
		Secondary	24	49.0
		Diploma	2	4.1
		Bachelor's	8	16.3
6.	Income level (NIS)	Less than 1500	36	73.5
		1500-2500	11	22.4
		2501-3500	2	4.1
7.	Years of experience	Less than 2 years	12	24.5
		2-4 years	14	28.6
		5-7 years	12	24.5
		8-10 years	3	6.1
		More than 11 year	8	16.3
8.	Have you received training in canteen management?	Yes	9	18.4
		No	40	81.6
9.	Have you received special vaccination	Yes	0	0
		No	49	100.0

5.9 Knowledge, attitude and practice of canteen workers about the school's canteen policy.

In table 5.23, half of school canteen workers were classified into “Good” knowledge level, 44.9% of them were classified into “Fair” knowledge level and only 4.1% of them were classified into “Poor” knowledge level. The majority (71.4%) of school canteen workers were classified into “Good” attitude level. However, only 32.7% of school canteen workers were classified into “Good” practice level.

Table 5.23: Scoring of knowledge, attitude and practices score of school canteen workers.

	Frequency	Percent (%)
Canteen Workers Knowledge level		
Fair (50% - 80%)	24	49.0
Good (81% - 100%)	25	51.0
Canteen Workers Attitude level		
Fair (50% - 80%)	14	28.6
Good (81% - 100%)	35	71.4
Canteen Workers Practices level		
Poor (less than 50%)	12	24.5
Fair (50% - 80%)	21	42.9
Good (81% - 100%)	16	32.7

There was no significant differences of statistical significance between canteen workers in their knowledge regarding their age, gender, social status, living place, educational level, income level, and years of experience and receiving training about canteen management ($p\text{-value} \geq 0.05$) (Table 5.24).

Table 5.24: Scoring of Knowledge and socio demographic characteristics of school canteen workers

Variable		Knowledge		Chi-square P value significance
		Fair	Good	
Age(years)	Less than 20	100.0%	0.0%	0.255
	20-30	44.4%	55.6%	
	31-40	28.6%	71.4%	
	41-50	53.3%	46.7%	
	Above than 50	70.0%	30.0%	
Gender	Male	54.5%	45.5%	0.675
	Female	47.4%	52.6%	
Social status	Single	62.5%	37.5%	0.474
	Married	48.6%	51.4%	
	Divorced	50.0%	50.0%	
	Widowed	0.0%	100.0%	
Living place	Village	46.4%	53.6%	0.916
	City	52.6%	47.4%	
	Camp	50.0%	50.0%	
Educational level	Primary	60.0%	40.0%	0.742
	Secondary	41.7%	58.3%	
	Bachelor's	50.0%	50.0%	
	Postgraduate	50.0%	50.0%	
Income level (NIS)	Less than 1500	50.0%	50.0%	0.965
	1500-2500	45.5%	54.5%	
	2501-3500	50.0%	50.0%	
Years of experience	Less than 2 years	50.0%	50.0%	0.415
	2-4 years	42.9%	57.1%	
	5-7 years	33.3%	66.7%	
	8-10 years	66.7%	33.3%	
	More than 11 years	75.0%	25.0%	
Have you received training about canteen management?	Yes	66.7%	33.3%	0.240
	No	45.0%	55.0%	
Have you received special vaccination	No	49.0%	51.0%	-
	Yes	0.0%	0.0%	

There were **no significant differences** of statistical significance between canteen workers in their attitude regarding their age, gender, social status, living place, educational level, income level, and years of experience and receiving training about canteen management (p-value ≥ 0.05) (Table 5.25).

Table 5.25: Scoring of attitude and socio demographic characteristics of school canteen workers

Variable		Attitude		Chi-square P value significance
		Fair	Good	
Age(years)	Less than 20	0.0%	100.0%	0.872
	20-30	33.3%	66.7%	
	31-40	35.7%	64.3%	
	41-50	26.7%	73.3%	
	Above than 50	20.0%	80.0%	
Gender	Male	27.3%	72.7%	0.914
	Female	28.9%	71.1%	
Social status	Single	50.0%	50.0%	0.255
	Married	22.9%	77.1%	
	Divorced	50.0%	50.0%	
	Widowed	0.0%	100.0%	
Living place	Village	25.0%	75.0%	0.447
	City	36.8%	63.2%	
	Camp	0.0%	100.0%	
Educational level	Primary	13.3%	86.7%	0.289
	Secondary	37.5%	62.5%	
	Bachelor's	0.0%	100.0%	
	Postgraduate	37.5%	62.5%	
Income level (NIS)	Less than 1500	22.2%	77.8%	0.076
	1500-2500	54.5%	45.5%	
	2501-3500	0.0%	100.0%	
Years of experience	Less than 2 years	33.3%	66.7%	0.403
	2-4 years	42.9%	57.1%	
	5-7 years	8.3%	91.7%	
	8-10 years	33.3%	66.7%	
	More than 11 years	25.0%	75.0%	
Have you received training about canteen management?	Yes	33.3%	66.7%	0.726
	No	27.5%	72.5%	
Have you received special vaccination	No	28.6%	71.4%	-
	Yes	0.0%	0.0%	

There was **no significant differences** of statistical significance between canteen workers in their practices regarding their age, gender, social status, living place, educational level, income level, years of experience and ($p\text{-value} \geq 0.05$). There was **significant differences** of statistical significance ($p\text{-value} < 0.05$). between canteen workers in their practices regarding receiving training about canteen management (Table 5.26).

Table 5.26: Scoring of practices and socio demographic characteristics of school canteen workers

Variable		Practices			Chi-square P value significance
		Poor	Fair	Good	
Age(years)	Less than 20	100.0%	0.0%	0.0%	0.432
	20-30	11.1%	66.7%	22.2%	
	31-40	14.3%	50.0%	35.7%	
	41-50	26.7%	33.3%	40.0%	
	Above than 50	40.0%	30.0%	30.0%	
Gender	Male	27.3%	54.5%	18.2%	0.495
	Female	23.7%	39.5%	36.8%	
Social status	Single	25.0%	62.5%	12.5%	0.654
	Married	22.9%	40.0%	37.1%	
	Divorced	50.0%	25.0%	25.0%	
	Widowed	0.0%	50.0%	50.0%	
Living place	Village	28.6%	46.4%	25.0%	0.484
	City	15.8%	42.1%	42.1%	
	Camp	50.0%	0.0%	50.0%	
Educational level	Primary	20.0%	40.0%	40.0%	0.751
	Secondary	33.3%	37.5%	29.2%	
	Bachelor's	0.0%	50.0%	50.0%	
	Postgraduate	12.5%	62.5%	25.0%	
Income level (NIS)	Less than 1500	22.2%	41.7%	36.1%	0.813
	1500-2500	27.3%	45.5%	27.3%	
	2501-3500	50.0%	50.0%	0.0%	
Years of experience	Less than 2 years	33.3%	41.7%	25.0%	0.428
	2-4 years	7.1%	57.1%	35.7%	
	5-7 years	16.7%	41.7%	41.7%	
	8-10 years	66.7%	33.3%	0.0%	
	More than 11 years	37.5%	25.0%	37.5%	
Have you received training about canteen management?	Yes	55.6%	11.1%	33.3%	0.031
	No	17.5%	50.0%	32.5%	
Have you received special vaccination	No	24.5%	42.9%	32.7%	-
	Yes	0.0%	0.0%	0.0%	

5.10 The factors that influencing the implementation of schools' canteen policy.

5.10.1 The effect of the school characteristics and management on the application of the policy:

Table 5.27: Factors affecting the application of MOE policy at the schools' canteens

Number	Variable	Poor Application %	Fair Application %	Total %	Chi-Square P value
1.	Zone Number				0.936
	Zone 1	23.1%	76.9%	100.0%	
	Zone 2	40.0%	60.0%	100.0%	
	Zone 3	14.3%	85.7%	100.0%	
	Zone 4	20.0%	80.0%	100.0%	
	Zone 5	40.0%	60.0%	100.0%	
	Zone 6	40.0%	60.0%	100.0%	
	Zone 7	25.0%	75.0%	100.0%	
	Zone 8	40.0%	60.0%	100.0%	
2.	Schools' by Students' Gender				0.493
	Males	40.0%	60.0%	100.0%	
	Females	22.2%	77.8%	100.0%	
	Mixed schools'	25.0%	75.0%	100.0%	
3.	School Level				0.554
	Low primary	30.8%	69.2%	100.0%	
	High primary	38.5%	61.5%	100.0%	
	Secondary	21.7%	78.3%	100.0%	
4.	School Type				0.911
	Governmental	28.2%	71.8%	100.0%	
	Private	30.0%	70.0%	100.0%	
5.	School Building Type				0.035
	New Building	45.0%	55.0%	100.0%	
	Old Building	17.2%	82.8%	100.0%	
6.	School Property				0.551
	Owned	27.3%	72.7%	100.0%	
	Rented	40.0%	60.0%	100.0%	
7.	The presence of a field health officer				0.155
	Yes	21.9%	78.1%	100.0%	
	No	41.2%	58.8%	100.0%	
8.	Canteen Administration				0.142
	Self-management	50.0%	50.0%	100.0%	
	Pledge	24.4%	75.6%	100.0%	

There was **no significant differences** of statistical significance between schools' in their canteen policy application score regarding the zone number, schools' by students' gender, school level, school type, school property, the presence of a field health officer and canteen administration (p-value ≥ 0.05). There was **significant differences** between schools' in their canteen policy application score regarding the school building type (p-value < 0.05) (Table 5.27).

5.10.2 The effect of the knowledge, attitudes and practices scoring on the application of the policy:

Table 5.28 shows the association between knowledge, attitudes and practices of schools' supervisors and application of the policy. There was **no significant differences** of statistical significance between schools' in their canteen policy application score regarding the knowledge, attitudes and practices of schools' supervisors (p-value ≥ 0.05).

Table 5.28: Association between knowledge, attitudes and practices of schools' health supervisors and application of the policy

	Application Score		Chi-Square P value
	Fair	Good	
Health Supervisor Knowledge level			0.641
Fair (50% - 80%)	22.2%	77.8%	
Good (81% - 100%)	30.0%	70.0%	
Health Supervisor Attitude level			0.093
Fair (50% - 80%)	50.0%	50.0%	
Good (81% - 100%)	23.1%	76.9%	
Practice level			1.000
Fair (50% - 80%)	28.6%	71.4%	
Good (81% - 100%)	28.6%	71.4%	

There was **no significant differences** of statistical significance between schools' in their canteen policy application score regarding the knowledge, attitudes and practices levels of canteen workers (p-value ≥ 0.05) as shown in Table 5.29.

Table 5.29: Association between knowledge, attitudes and practices of canteens workers and application of the policy

	Application Score		Chi-Square P value
	Fair	Good	
Canteen Worker Knowledge Level			0.470
Fair (50% - 80%) (0-22)	33.3%	66.7%	
Good (81% - 100%) (23-28)	24.0%	76.0%	
Canteen Worker Attitude Level			0.162
Fair (50% - 80%) (0-17)	42.9%	57.1%	
Good (81% - 100%) (18-22)	22.9%	77.1%	
Canteen Worker Practices Level			0.511
Poor (less than 50%) (0-13)	41.7%	58.3%	
Fair (50% - 80%) (14-21)	23.8%	76.2%	
Good (81% - 100%) (22-27)	25.0%	75.0%	

Chapter Six: Discussion

6.1 Introduction

The overall aim of this study was to evaluate the implementation of school canteens' policy in Bethlehem governorate. This study provides a baseline data for both Ministries of Education and Health in the reality of the policy of application to develop the evaluation strategies to promote healthy behaviors and lifestyles in Palestinian society. Moreover, it will give recommendations for the policy makers, schools' and canteen workers to enhance the implementation of the policy for better outcomes for the students.

6.2 Socio-demographic and economic factors

A stratified sample of 49 government and private schools' was included in this study. The schools' were distributed as follows: 26.5% from Zone 1, 10.2% from Zone 2, 14.3% from Zone 3, 10.2 % from Zone 4, 10.2% from Zone 5, 10.2% from Zone 6, 8.2% from Zone 7 and 10.2% from Zone 8.

The results showed that 36.7% of the schools' were girls' schools', 30.6% were boys' schools' and 32.7% were co-educational. 79.6% of schools' were government while 20.4% were private schools'. The distribution of schools' level showed that 47% of the schools' were secondary schools', 26.5% were high primary schools' and 26.5% were low primary schools'. Of which, 59.2% were new school buildings and 40.8% were old school buildings, 89.8% of the schools' were possessing these buildings and only 10.2% were renting them. 83.7% of the schools' were pledging their canteens while 16.3% had canteen self- management.

Only 65.3% of the schools' had a field health officer who was employed by the directorate of education to monitor the implementation of school canteens' policy. This indicates that there was large percentage of school canteens (34.7%) did not receive the necessary guidance, follow up and surveillance. This in turn, negatively affected the implementation of school canteens' policy. This result was matched with (الشلودي, 2017) study results and corresponded to the results of (أبو زيد, 2018) study that recommended to increase the numbers of the field health officers and to be available continuously in schools'. There was variation in the number of health supervision visits per year between schools'. Quarter of the schools' had no health supervision visits per year, while other schools' had 30 visits a year, a clear evidence of the presence of problems with canteens' supervision and observation system on the application of school canteens' policy. (السرحي, 2014) study strongly recommend of high committee to supervise the canteens at the ministry level, and activate the coordination between the Ministry of Health and the Ministry of Economy. (زمزم, 2016), (فضة, 2012) and (كشكو, 2016) studies recommended for permanent checking of the school canteens conditions.

The number of canteens windows specialized for food selling was varied. Around half of the canteens had two windows for selling while 8.2% of them had no windows, and the students entered inside to buy their food, which may be a source of contamination. According to (الخطيب وآخرون, 2003) guide, the canteen must have windows facing the schoolyard, so the students can buy their belongings without entering the canteen. The average break time was 25.9 minutes, CDC researches recommended the school to include at least a 20-minutes break for the students' meal, and to distinguish between the adequate break time and the length of the meal period overall (Centers for Disease Control and Prevention (CDC),2019) (Conklin et al, 2002). The break time in the study sample ranged between 20 and 35 minutes.

6.3 Canteens infrastructure

The majority of schools' had canteens in a separated room which was a good indicator of responding to the canteens' policy, the same result was found in (Almasri, 2016) and (السرحي, 2014) studies. The canteens in 87.8% of the schools' were in an area free from odors and smoke. In addition, three-quarters of canteens had enough ventilation and lighting, suitable windows height for students, suitable canteen size and appropriate working area. The windows number was suitable for almost two quarters of school canteens. That was corresponded to (السرحي, 2014) study results and met the specifications of (الخطيب وآخرون, 2003) guide for the school canteens. According to (Weerasinghe et al, 2017) study, the majority of the canteens had adequate ventilation and lighting while the majority of them had not an adequate space while (Almasri, 2016) study showed that only half of school canteens had adequate lighting and ventilation. (كشكو وآخرون, 2018) study showed that the canteen had a suitable working space with low relative weight.

The main door in three-quarters of canteens was tightly sealed, to prevent the entry of rodents and insects corresponded to the results of (السرحي, 2014) study. Only 61.2% of the schools' canteens were away from schools' toilets, still more than one third of the schools' had their canteens near toilets that affected the quality and safety of food by increasing the probability of contamination. This result was resembling with (Almasri, 2016), (السرحي, 2014) studies and it was the opposite of what appeared in (Weerasinghe et al, 2017) study whereas most of the study sample canteens were located in an appropriate place away from unhygienic environments or toilets.

Half of schools' canteen buildings were designed to prevent the entry of insects, rodents and other animals due to unplanned and improper canteens' construction. Because of old school structures, only one third of canteen windows and doors were covered with protective sieve that prevented the entry of insects and rodents. That conflicted the specifications of (الخطيب وآخرون, 2003) guide for the school canteens and comparable to the (السرحي, 2014) study results.

Only a third of school canteens had channels netting and slanting which affected the process of draining water during the production and cleaning. Half of canteens had a washbasin for staff use and third of them had a source of drinkable water, which affected cleaning and food production process. The separation between operations was existed in two-thirds of school canteens only. The previous results were found to be comparable with (Almasri, 2016) study results while, (Abu Luli, 2017) and (السرحي, 2014) found that almost all school canteens had a sewage network and the majority of them were designed in appropriate manner. (السرحي, 2014) study found that all of canteens had a wash-basin a source of drinkable water.

The majority of the school canteen floors were covered with suitable tiles that facilitate cleaning and reduce dirt accumulation which corresponded to the results of (Almasri, 2016), (السرحي, 2014) and (الخطيب وآخرون, 2003) health specifications, on the contrary of (Weerasinghe et al, 2017) study. Three-quarters of the floors were easy to clean, disinfect, and free of cracks corresponded to the health specifications of (الخطيب وآخرون, 2003) guide and (السرحي, 2014) study results. Most of school canteen floors were not allowed sliding corresponded to the health specifications of (الخطيب وآخرون, 2003) guide. Only the third of the walls of school canteens were easy to clean and disinfected, free of cracks and painted with light oil paint on the contrary of (السرحي, 2014) study. In more than half of school canteen ceilings dirt and mold are accumulated. In both of canteen floors and roofs, the majority of them had sharp corners this in turn allows dirt accumulation. (كشكو وآخرون, 2018) study showed that the canteen walls were clean with low relative weight.

Regarding to school canteen equipment and supplies, Two-thirds of school canteens had a protective umbrella in front of the canteen to protect students from weather conditions corresponded to (السرحي, 2014) study and (Al-Khatib et al, 2003) guide health specifications. Only one-fifth of school canteens had machines for meals production while three-quarters of them had a refrigerator for food preservation, which corresponded to the results of (Weerasinghe et al, 2017), (السرحي, 2014), (Abu Luli, 2017) and (Almasri, 2016) studies. Half of school canteens had cabinets and shelves for food and equipment storage while only one third of school canteens of (Almasri,

2016) study had suitable shelves and pantries for storage. The canteens of (السرحي, 2014) study had shelves in low relative weight and cabinets in high relative weight.

The machines and tools used in food processing in school canteens that prepare meals in the third of the canteens were bear cleaning operations, odorless and non-absorbent. In a quarter of them, there was a separation of all kinds of meat and vegetables, the machines and tools always clean and free of cracks. There was a use of wooden tools in 10.2% of school canteens while, in three-quarters of them the machines and tools were consisted of non-rusting metal. This was found in the contrast with to what was found in (Weerasinghe et al, 2017), (السرحي, 2014) and (Almasri, 2016) studies.

In my opinion, there were several reasons for not complying with the infrastructure standards of the school canteens policy. First, old construction and buildings for 40.8% of schools' and designed for other purposes. In addition, two thirds of schools' buildings were rented and not originally prepared to be schools'. Kitchens or classrooms in most of the schools' had been transformed into a canteen because they did not have a room specifically built to be a canteen. Finally, improper schools' construction and the lack of good planning concerning schools'' construction.

6.4 Canteens nutritional standards

Almost in all of the school canteens, the break time was adequate and suitable for students, and the products had food labels and clearly printed expiry dates that corresponded with the results of (Almasri, 2016) and (أبو زنيد, 2018) studies.

Only in half of school canteens sandwiches were covered with plastic or paper bags, to protect them and to attain the canteen service quality, while the majority of them were preserved sandwiches according to health standards that coincided with the results of (Almasri, 2016), (السرحي, 2014), (كشكو وآخرون, 2018) studies and (الخطيب وآخرون, 2018) studies.

2003) guide health specifications. Only one quarter of school canteens served several types of sandwiches which means that two thirds of the canteens violated the schools' canteen policy, in the contrast with (كشكو وآخرون, 2018) and (Almasri, 2016) study which found that the majority of school canteens served a minimum three types of sandwiches.

Regarding to the forbidden food items, there were no energy drinks, Rasalabed cream with chocolate, jelly, chewing gum, salted seeds, colored juice powder, cream products and Israeli products in the sample of school canteens. This was corresponded to (Almasri, 2016) study results while (السرحي, 2014) study showed that chewing gum and salted seeds available with relative weight of 31.7%. On the other hand, in violation of the school canteen policy it was observed that one third of school canteens had sweet candy made from water, sugar, starch and gelatin, one quarter of school canteens sold meat products in week days other than Thursday, 18.4% of school canteens had popcorn products and 12.2% of school canteens had potato chips products. These results were close to the results of (Almasri, 2016) study.

Only little percentage of school canteens had juices with less than 10% natural fruit, Ice-cream, dangerous materials, Indomie, caffeine drinks, marshmallow and soft drinks while (Lissau et al, 2005) study found that 10% of the schools' sample had sugared carbonated drinks also, (Almasri, 2016) study found that almost half of school canteens had juices with less than 10% natural fruit, (السرحي, 2014) study found a dangerous glass bottles in 32.2% relative weight, almost half of schools' of (Vereecken et al, 2005) and (السرحي, 2014) studies had caffeine drinks and the majority of them had soft drinks.

Although the generalization of lists of forbidden food (See appendix 4) to all school canteens and the presence of gradual penal system for canteens that did not adhere to the list of forbidden food, items of forbidden food list were found in the school canteens. In my opinion, this was due to the absence of a field health officer in more than one third of schools' also; the canteen workers focus only on profit without any attention of

the low nutritional value of these products or the students' nutritional needs, and the penal system of the canteen workers is weak and no adequate actions had been done regarding the existence of forbidden food items.

Regarding to healthy food alternatives, almost half of school canteens had milk with different flavors, one third of school canteens had mineral water and one quarter of school canteens had salty yogurt (Laban-up). While a small percentage of school canteens had fresh juices, vegetables and fruits. These results were different from the results of (Almasri, 2016) study which found that only 6% of the school canteens served yogurts and flavored milk, 40% of them served mineral water, none of them served fresh juices and around one third of them served fruits and vegetables.

The (Lissau et al, 2005) study showed that milk was available in 97% of school samples, chocolate milk in 71% of them, yoghurt in 38% of them, fruits in 35% of them and vegetables in 16% of them. Almost all secondary schools' of (Vereecken et al, 2005) study sample had mineral water, fruit juice and chocolate milk. The majority of schools' administrations in (الشلودي, 2017) study monitored the suitability of the food and beverages sold in the canteen for students and observed food quality in the canteen. The Canteen guarantors of (أبو زنيد, 2018) study were committed to providing a list of permitted foods to students in a high degree while, the canteen offered high nutritional value food items in a moderate degree. (أبو زنيد, 2018) study recommended for providing healthy food alternatives in school canteens. Balanced meals were available to students at a high percentage in the school canteens of (طوقان, 2003) study. The canteen takes into account the goods health conditions in a moderate degree in (الشافعي, 2017) study. (كشكو وآخرون, 2018) study found that the canteen served healthy foods with high relative weight. (السرحي, 2014) study found that canteens met Guidelines for Environmental Health Criteria' in the specifications of food provided with 71.10% relative weight.

Because canteens' operators were focusing on profit, there was lack of healthy food alternatives in schools' canteens despite their health importance and richness in nutrients needed to build up the students' body and to prevent diseases. To address this

problem (أبو زنيد, 2018) study was recommended that women's societies take over the canteens guarantee and reduce the value of the financial guarantee. Also, the study recommended the schools' administrations and the local community to support the canteen served meals, making healthy meals and implementing healthy group breakfasts for students.

6.5 Canteens Food safety and hygiene

Regarding food safety and hygiene of canteen workers during meals preparation, almost all of school canteen workers washed their clothes, abstained from bad habits like spitting, cleaning their nose and ears, chewing gum and putting hands in their mouths, eyes or ears and they had clean and short nails. 38.8% of them wore head scarfs, two thirds of them took into account hygiene conditions while only small percentage of them wore jewelry and watches. In (Almasri, 2016) study, all of the schools' canteen workers maintained the health standards. (أبو زنيد, 2018) and (السرحي, 2014) studies showed that canteen workers adhere to the rules of hygiene in a high degree. The relative weight of canteen workers maintenance of personal hygiene was high in (كشكو وآخرون, 2018) study.

On the other hand, regarding healthy dress, only 10.5% of school canteen workers wore long-sleeved uniform while preparing and selling meals while (Abu Luli, 2017) study showed that the majority of canteen staff were committed to their long-sleeved uniform. Only one quarter of school canteen workers wore gloves, (السرحي, 2014), (Weerasinghe et al, 2017) and (Almasri, 2016) studies showed that the majority of school canteens food handlers did not use gloves or aprons during their work in the canteen. On the other hand, the canteen workers of (كشكو وآخرون, 2018) study wore gloves with high relative weight.

One half of school canteen workers ate and drank in the canteens; more than half of school canteen workers received guests and visitors inside the canteen against (الخطيب)

وآخرين, 2003) guide health specifications, and small percentage of school canteen workers smoked inside the canteens. (كشكو وآخرون, 2018) study showed that the workers abstained from smoking during meals preparation with low relative weight while (Almasri, 2016) study showed that the majority of schools' canteen workers took into account these health habits in the canteen. Regarding training, only one quarter of school canteen workers attended training about school canteens, the same result compared to (Almasri, 2016) study workers training results.

In the third of school canteens, the validity of raw materials was checked before being used, raw materials were stored in suitable health conditions and insecticides and chemicals were stored away from food. These results Corresponded to the results of (Weerasinghe M.C. et al, 2017) study and in contrast of (Almasri, 2016) and (طوفان, 2003) studies results. While the temperature of the refrigerators did not exceed 4 C° only in the third of school canteens and the freezers temperature did not exceed -18 C° only in half of them, these are the optimum refrigerators and freezers temperatures according to Food and Drug Administration. This in turn, affected the validity of food stored at these refrigerators and freezers.

All of school canteens transported and distributed food by clean transportation, had appropriate temperature for the nature of the food inside the transportation medium and transport the food quickly. Almost all school canteens covered the food during transportation selling products quickly. These results correspond to (Almasri, 2016) study results. The meals served by the canteen were fresh with low relative weight in (كشكو وآخرون, 2018) study.

According to school canteens hygiene and waste disposal, only half of school canteens were clean in general while the majority of them were cleaned daily corresponds to (Almasri, 2016), (السرحي, 2014) and (الشلودي, 2017) studies. In 63.3% of the school canteens, the sewage network was intact, 69.4% of them clean the used materials and equipment immediately after being used, while the majority of school canteens of (Almasri, 2016) study clean the used materials and equipment immediately after being

used. Almost half of school canteens had drying papers for the use of workers, suitable cleaning materials and a source of water corresponds to (Almasri, 2016) study results.

Regarding waste disposal, only in a quarter of school canteens, the rubbish was placed in tight barrels in contrast to (الخطيب وآخرون, 2003) guide health specifications, 16.3% of school canteens waste barrels were covered inside with plastic bags, one third of school canteens emptied their waste barrels continuously and the number of waste barrels was sufficient in less than half of school canteens. Only one third of (Almasri, 2016) study school canteens had enough and covered waste barrels while, the majority of (Weerasinghe et al, 2017) study sample managed waste disposal properly, used barrels for disposal however they kept the barrels open. (الشلودي, 2017) study showed that the majority of schools' administrations follow up waste disposal regularly and provided a sufficient number of waste barrels. The majority of (Abu Luli, 2017) school canteen ensured proper ways and methods of waste disposal. There was a suitable place in the canteen for waste disposal with low relative weight in (كشكو وآخرون, 2018) study. There were rubbish bins in front and around the canteen of (السرحي, 2014) study in high relative weight.

All of school canteens had a person who was assigned to monitor the health of canteen although only 20.4% of these persons attended special courses or workshops for school canteens. (أبو زنيد, 2018) study was recommended to hold courses, educational lectures and workshops for the school health supervisors'. There were regular health visits of health check on the canteen in less than two thirds of the canteens. (أبو زنيد, 2018) study was recommended for constant monitoring of the guarantor's commitment to healthy food conditions. While the percentage of supervision and monitoring of the canteen health of (الشافعي, 2017), (طوقان, 2003) and (السرحي, 2014) studies was high.

Violations of law were given against 16.3% of school canteens, the majority of these violations were due to the sale of prohibited food in violation of the school canteen policy, and 50.0% of them were removed. If violations of law occurred, gradual punishment system for the canteen guarantor should be implemented. (See appendix 5)

There were three stages of sanctions in the case of not complying with the list of allowed and forbidden food. A warning should be given for the canteen guarantor and the violated foodstuffs should be observed in the principal's room temporarily for the first-time violation. For the second time violation, a warning should be given to him, the canteen should be closed for three days, and the violated foodstuffs should be observed in the principal's room temporarily. While for the third time violation, the canteen guarantee contract to be broken without compensation for the canteen guarantor and the guarantee was offered to another person. (See appendix 5)

There were three stages of sanctions if prices were higher than the local market. An alert should be given for the canteen guarantor for the first-time violation. For the second time violation, a warning should be given to him and the canteen should be closed for two days. While for the third time violation, the canteen guarantee contract to be broken without compensation for the canteen guarantor and the guarantee was offered to another person. (See appendix 5)

In the event of violations related to public safety and security such as the presence of a gas cylinder inside the canteen or hazardous chemicals there were three stages of sanctions. For the first time violation, the canteen guarantor was given an alert with a decision to remove the damage. For the second time violation, a warning should be given to him. While for the third time violation, the canteen should be closed for two days. (See appendix 5)

In case of a disruption of personal hygiene, canteen cleanliness or food hygiene there was three punishment stages. For the first time violation, the canteen guarantor was given an alert. For the second time violation, a warning should be given to him. Moreover, the canteen closed for three days for the third time violation. (See appendix 5)

A warning is given, the canteen is closed for a week or the canteen guarantee contract was broken, one of these three actions was taken without committing to the gradual punishment in case of selling expired food or spoiled food, any moral violation of the canteen guarantor such as harassment of students, profanity use or assaulting employees from the faculty or school health officers' staff smoking or selling smoke inside the canteen. (See appendix 5)

If the seller is someone other than the owner of the contract, there were three punishment stages. For the first time violation, the canteen guarantor was given an alert. For the second time violation, a warning should be given to him and the canteen closed for a week. While, the canteen guarantee contract was broken without compensation for the canteen guarantor for the third time violation. (See appendix 5)

The canteen guarantors registered with the "Black List" if they were holding two or more warnings, their canteen was closed or their contract was broken. They were not entitled to apply for canteens for two years even if they get the highest guarantee price. After two years, if the guarantor obtains a canteen guarantee again and the violation was repeated, they were not entitled to apply for a 5-year canteen guarantee. (See appendix 5)

In the current study, the majority (71.4%) of schools' were "Fair" in school canteen policy application and 28.6% of schools' had a "Poor" school canteen policy application.

In (Almasri, 2016) study, almost all schools' got "excellent" score regarding to the served food items and the canteen food safety and hygiene, and "good" score regarding to school canteen environment. (الشلودي, 2017) found a high degree of application of health services, health education and school feeding program. The study results of (الشافعي, 2017) revealed that the degree of availability of the healthy school environment standards in the schools' of Ramallah and Al-Bireh Governorate was high. The degree of estimation of the school health supervisors and the coordinators to the status of

school health principals in the Governorate of Hebron was high in the field of school nutrition and canteen in the study of (أبو زنيد, 2018). In (كشكو وآخرون, 2018) study, health and safety standards were available in the canteen of Sulaiman Sultan Secondary School "A" for boys.

While (Abu Luli, 2017) found that “very good “level of food services and school canteens in government schools’ at Khan Younis and Rafah governorates. The study of (الصرايرة وآخرون, 2012) indicated that the primary schools’ health level in the state of Kuwait was medium and recommended to evaluate the school health programs in order to determine the strength and weakness points, and applying the suitable procedures. (Weerasinghe et al, 2017) study found that in school canteen management there were gaps that prevent submitting a good quality service. There was low provision for a suitable environment of healthy feeding in schools’ in (الجرجاوي وآخرون, 2010). (السرحي, 2014) study illustrated that the canteens met the criteria of Guidelines for Environmental Health Criteria', with 68.74%relative weight. The reality of applying the school health program to the lower basic stages of schools’ in the Nablus governorate from the teachers' point of view was 70% in the field of environmental health (طوقان, 2003).

6.6 Knowledge, attitude and practices of schools’ health supervisors about the school’s canteen policy

The majority of school health supervisors were females, which were coincided with the distribution of MoE staff by gender (General Directorate of Educational Planning et al, 2019). 87.8% of school health supervisors were married, 8.2% of them were single and 4.1% of them were divorced, which was comparable to the results of (الجهاز المركزي, 2018). 61.2% of school health supervisors were living in a village, 30.6% of them were living in a city and only 8.2% of them were living in a refugee camp. The majority of school health supervisors had Bachelor’s degree, 18.4% of them had a postgraduate degree, 4.1% of them had a diploma degree and only 2% of them

had secondary education, which was coincided with the distribution of MoE staff by high qualification (General Directorate of Educational Planning et al, 2019).

The majority of school health supervisors were teachers, the science teacher was usually assigned for monitoring school canteen task, because according to their specialization they were the most able to understand, monitor and supervise the school canteen policy application. The income level of the most of the school health supervisors ranged between 2501-3500 New Israeli Shekels and that was the average income of the Palestinian teacher. The more years of experience, the greater dependence on the school health supervisor for following up on the canteen, so, more than half of school health supervisors had more than 11 years of experience.

No one of school health supervisors received special vaccination. Only 8.2% of school health supervisors received training about school canteens, two of them had training in canteen management, one of them had training about cooperative canteens and one of them had training about nutrition in educational institutions. The study of (الجرجاوي وآخرون, 2011) recommended activating the role of the teachers in school health by attending specialized seminars, and training courses. (أبو زنيد, 2018) study was recommended to hold courses, educational lectures and workshops for the school health supervisors.

Overall, the majority of school health supervisors were classified into “Good” knowledge level. Of them 18.4% were classified into “Fair” knowledge level. This result was coincided to the academic qualifications and the educational level results of school health supervisors. Despite of condensed school curriculum and overwhelmed teaching tasks of school health supervisors and that prohibited the implementation of school health activities and limited opportunities for canteen policy application following up, the majority of school health supervisors were classified into “Good” attitude level, 18.4% of them were classified into “Fair” attitude level and only 2% of them were classified into “Poor” attitude level. The majority (85.7%) of was classified into “Good” practice level, 14.6% of them were classified into “Fair” practice level.

That was coincided with the results of (الشلودي, 2017) that showed that the role of school administration in achieving health education aim was high from the point of view of schools' principles and health supervisors. The study of (فضة, 2012) showed that the role of the school administration in the activation of health education from the perspective of managers and health workers in Gaza Governorates was high, and the role of the school administration in food awareness activation was high. The role of government school principals in the Hebron Governorate in caring for students in the health field was high in (الدبابسة, 2009) study. The school administration in (القرني, 2008) played its role in providing a suitable environment for healthy nutrition was in a high degree. While, the role of the school administration in securing good environment suitable for good nutrition was low in (زمزم, 2016) study.

Previous studies did not address the knowledge, attitudes and practices of schools' health supervisors while (أبو زنيد, 2018) study was recommended to reduce the academic burden of the school health supervisors. (الجرجاوي وآخرون, 2010) recommended for the necessity of activation the teachers' role in the school health area by attending specialized seminars, and training programs and (الصرايرة وآخرون, 2012) recommended for holding continuous courses for primary school principals and teachers in order to provide them with school health skills.

6.7 Knowledge, attitude and practice of canteen workers about the school's canteen policy

The majority of school canteen workers were females, that conformed to the findings of (Almasri, 2016), (Zain et al, 2002) and (Aziz et al, 2013) studies. Since many of Palestinian families suffer from poverty, the community encourages women to work in any related cooking jobs to raise the economic level of their families.

The majority of school canteen workers were married, 16.3% of them were single and small percentage of them were divorced and widowed which was comparable to the results of Palestinian population distribution according to their social status (الجهاز المركزي للإحصاء الفلسطيني, 2018) and (Aziz et al, 2013) study. 57.1% of school canteen workers were living in a village, 38.8% of them were living in a city and only 4.1% of them were living in a refugee camp. The majority of canteen workers (49.0%) had a secondary education, 30.6% of them had a primary education, 16.3 % of them had Bachelor's degree and only 4.1% of them had a diploma degree. That distribution was matched with the results of (Almasri, 2016), (Aziz et al, 2013), (Nee et al, 2011) studies and it was comparable to the Palestinian population distribution according to their educational attainments (الجهاز المركزي للإحصاء الفلسطيني, 2018).

The monthly income level of the most of school canteen workers was less than 1500 NIS, which was because the priority in canteen operation was given to guarantors suffering from difficult social conditions like poverty. All of school canteen workers had undergone routine medical examination while no one received special vaccination unlike (Zain et al, 2002) study results which showed that 60.7% of the participants were immunized Typhoid vaccine and 61.9% of them had undergone routine medical examination. (Nee et al, 2011) and (Aziz et al, 2013) studies showed that almost all the participants were immunized Typhoid vaccine. (Abu Luli, 2017), (السرحي, 2014) and (أبو زيد, 2018) studies results showed that the majority of the canteen staff had a disease-free certificate.

Only 18.4% of school canteen workers received training about school canteens, all of them had training in canteen management. These findings were consistent with (Nee et al, 2011) study and (Almasri, 2016) study that showed that the workers who received training about school canteens could understand and apply the policy better than the workers who did not, and even did not know about the policy. The training of canteen workers was optional and usually done in cooperation with community institutions or Non-Governmental Organizations (NGO's), the training included topics about canteen financial management besides explaining the school canteen policy. This developed the

knowledge and attitudes of canteen workers towards the school canteen policy and increased its application.

Half of school canteen workers were classified into “Good” knowledge level, 44.9% of them were classified into “Fair” knowledge level and only 4.1% of them were classified into “Poor” knowledge level. Almost half of the participants of (Zain et al, 2002) study had “Poor” knowledge level while the participants’ knowledge of (Nee et al, 2011) study was moderate and high knowledge of (Sharif et al, 2013) participants.

The majority of school canteen workers were classified into “Good” attitude level. While, one quarter of them was classified into “Fair” attitude level and only 2.0% of them were classified into “Poor” attitude level. These findings were consistent with (Aziz et al, 2013) study which showed a positive and significant relationship between food handlers’ attitude and safe food handling. Respondents of (Nee et al, 2011) study showed positive attitudes towards food safety, hygiene and foodborne prevention and control. In Addition, the participants of (Sharif et al, 2013) study showed high attitude level toward safe food handling.

Despite of high knowledge and attitude levels of school canteen workers, only 32.7% of school canteen workers were classified into “Good” practice level. While, the majority of them were classified into “Fair” practice level and one quarter of them were classified into “Poor” practice level. This corresponded to (Ismail et al, 2016) study, which showed that despite food handlers’ awareness of personal hygiene the need for, they did not understand crucial aspects of personal hygiene. The majority of the participants of (Nee et al, 2011) study exhibited a good practice in handling of foods hand washing, personnel hygiene, and raw materials management. While food handlers practice hygiene, level was good in (Sharif et al, 2013) study.

6.8 The factors that influencing the implementation of schools’ canteen policy

In this study the comparison of two levels of school policy application score revealed that there were no significant differences of statistical significance at the rate of ($p\text{-value} \geq 0.05$) regarding the zone number, schools' by students' gender, school level, school type, school property, the presence of a field health officer and canteen administration. Which corresponded to (الصرايرة, 2012) study results and in contrast to the results of (السرحي, 2014), (الشافعي, 2017) and (طوقان, 2003) studies which was in favor of governmental schools'.

The comparison of two levels of school policy application score revealed that there were no significant differences of statistical significance at the rate of ($p\text{-value} \geq 0.05$) regarding the sex of the students. Which corresponded to the results of (حشاينة, 2016) and (السرحي, 2014) studies, in contrast of (أبو زنيد, 2018) study results.

While, the comparison of two levels of school policy application score revealed that there were significant differences of statistical significance at the rate of ($p\text{-value} < 0.05$) regarding the school building type in favor of old school buildings.

Chapter Seven: Conclusions and Recommendations

7.1 Conclusions

In conclusion, it was found that:

- The level of school canteen policy implementation for the majority of Bethlehem governorate schools' was "Fair". The Impediments of the policy implementation were the enforcement of canteen infrastructure standards and the insufficient number of field health officers who can provide enough information about school canteen policy and monitor the implementation of it. "Fair" practices level for the majority of school canteen workers due to the lack of receiving training about canteen management.

7.2 Recommendations

7.2.1 Recommendations for the Policy Makers:

- Obligatory training for canteen workers about school canteen management.
- Increasing the number of field health officers who monitor and follow up school canteens' policy implementation in all school canteens.
- Increasing the number of field monitoring visits for field health officers to all school canteens.
- Activating the application of legal procedures against canteen guarantors and school canteen workers in the event of violations of the school canteen policy.

7.2.2 Recommendations for the Schools’:

- Developing the follow-up strategies, the canteen workers implementation of the school canteens’ policy nutritional standards.
- Development of school canteens’ infrastructures in a way which corresponds to the school canteens’ policy.
- Reduce the academic burden of the school health supervisors, directing their efforts to develop the implementation of the school canteen policy and upgrade the level of school health.

7.2.3 Recommendations for Canteen Workers:

- Commitment to the school canteens’ policy nutritional standards, food safety and hygiene standards.

7.2.4 Recommendations for Future Research:

- Evaluating the checklist used in the school canteens follow up.
- Developing a new, accurate and valid tool for evaluating the school canteen policy implementation.

7.3 Limitations

- The study covered only one governorate, which could limit the generalization of the findings on other Palestinian governorates.

8. References

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10. Appendices

Appendix (1):

Appendix (2):



جامعة القدس
Al-Quds University

كلية الصحة العامة

برنامج ماجستير الصحة العامة

قائمة الرصد (CL)

تحية طيبة وبعد،

تقوم الباحثة نسبية خضر صلاح من كلية الصحة العامة بإجراء بحث استكمالاً لمتطلبات الحصول على درجة الماجستير بعنوان " تقييم مدى تطبيق سياسة المقاصف المدرسية في محافظة بيت لحم " ، وقد وقع عليكم الاختيار للدراسة عشوائياً، فأرجو من حضرتكم التعاون في الإجابة عن أسئلة الاستبانة، علماً بأن الدراسة لأغراض البحث العلمي والأكاديمي فقط، وسيتم المحافظة على السرية الكاملة، والحرية الكاملة في المشاركة أو عدمها أو الانسحاب من الدراسة في أي وقت، لكنني أطمح لمشاركتكم ودوركم الكبير في إنجاح هذه الدراسة، ولكم جزيل الشكر.

نسبية صلاح

يرجى السماح للباحثة بتعبئة قائمة الرصد التالية:

القسم الأول: المتغيرات الاجتماعية:

رقم قائمة الرصد	1. SDC	
اسم المدرسة	2. SDC	
اسم المنطقة	3. SDC	
رقم المنطقة	4. SDC	
عدد الطلبة	5. SDC	
عدد الغرف الصفية	6. SDC	
جنس الطلبة:	7. SDC	
1. ذكور 2. اناث 3. مختلط		
الصفوف الدراسية:	8. SDC	
1. مرحلة أساسية دنيا 2. مرحلة أساسية عليا 3. مرحلة ثانوية		
نوع المدرسة:	9. SDC	
1. حكومية 2. خاصة		
مبنى المدرسة:	10. SDC	
1. قديم 2. حديث		
مبنى المدرسة:	11. SDC	
1. ملك 2. مستأجر		
يوجد موظف صحة ميداني	12. SDC	
1. نعم 2. لا		
عدد زيارات الرقابة الصحية على المقصف في السنة	13. SDC	
إدارة المقصف	14. SDC	
1. ذاتي 2. ضمان		
عدد شبابيك البيع في المقصف	15. SDC	
ارتفاع شبابيك البيع في المقصف بالمتر	16. SDC	
ارتفاع البلاط الصيني على الجدران في المقصف بالمتر	17. SDC	
مساحة المقصف بالمتر المربع	18.SDC	
مدة الاستراحة بالدقائق	19. SDC	

القسم الثاني: البنية التحتية:

المبنى	BC	
يوجد المقصف في غرفة مستقلة 1. نعم 2. لا	1. BC	_____
يوجد المقصف بعيد عن دورات المياه 1. نعم 2. لا	2. BC	_____
يوجد المقصف في منطقة خالية من الروائح، الدخان، الغبار أو أي مكرهة صحية 1. نعم 2. لا	3. BC	_____
تصميم البناء بطريقة تمنع دخول الحشرات والقوارض والحيوانات 1. نعم 2. لا	4. BC	_____
تغطية جميع الشبابيك والأبواب بالمنخل 1. نعم 2. لا	5. BC	_____
الباب الرئيسي محكم بحيث يمنع دخول القوارض والحشرات 1. نعم 2. لا	6. BC	_____
وجود قنوات مغطاة بالشبك ومائلة لتصريف المياه أثناء عمليات الإنتاج والتنظيف 1. نعم 2. لا	7. BC	_____
توجد تهوية وإضاءة كافية 1. نعم 2. لا	8. BC	_____
الفصل بين العمليات والتي يمكن أن تسبب التلوث المتبادل 1. نعم 2. لا	9. BC	_____
تتوفر في المقصف مياه من مصدر صالح للشرب 1. نعم 2. لا	10. BC	_____
تتوفر في المقصف مغسلة للعاملين بالمقصف 1. نعم 2. لا	11. BC	_____
عدد شبابيك البيع مناسبة 1. نعم 2. لا	12. BC	_____
ارتفاع الشبابيك مناسب للطلبة 1. نعم 2. لا	13. BC	_____
مساحة المقصف كافية ومناسبة للأدوات والبيع 1. نعم 2. لا	14. BC	_____

الأرضيات	FC	
الأرضية مبلطة ببلاط مناسب 1. نعم 2. لا	1. FC	_____
الأرضية سهلة التنظيف والتطهير 1. نعم 2. لا	2. FC	_____
الأرضية لا تسمح بالإنزلاق 1. نعم 2. لا	3. FC	_____
الأرضية خالية من الشقوق 1. نعم 2. لا	4. FC	_____
تخلو الأرضية من الزوايا الحادة، والزوايا مصممة بشكل مستدير لمنع تراكم الأوساخ وسهولة التنظيف 1. نعم 2. لا	5. FC	_____
الجدران	WC	
يوجد بلاط صيني على الجدران 1. نعم 2. لا	1. WC	_____
الجدران سهلة التنظيف والتطهير 1. نعم 2. لا	2. WC	_____
الجدران خالية من الشقوق 1. نعم 2. لا	3. WC	_____
الجدران مطلية بطلاء زيتي بلون فاتح (بدلاً من البلاط الصيني) 1. نعم 2. لا	4. WC	_____
الأسقف	CC	
تتراكم القاذورات والعفن على الأسقف 1. نعم 2. لا	1. CC	_____
تخلو الأسقف من الزوايا الحادة، والزوايا مصممة بشكل مستدير لمنع تراكم الأوساخ وسهولة التنظيف 1. نعم 2. لا	2. CC	_____
التجهيزات والمعدات	EC	
توجد مظلة واقية أمام المقصف 1. نعم 2. لا	1. EC	_____
توجد مأكانات للتحضير (عجانة، فرن،...) 1. نعم 2. لا	2. EC	_____
توجد ثلاجة لحفظ الأطعمة المبردة 1. نعم 2. لا	3. EC	_____

توجد خزائن ورفوف محكمة ومناسبة لتخزين الطعام والأدوات 1. نعم 2. لا	4. EC	
الآلات والأدوات المستخدمة في تصنيع الأغذية خالية من الشقوق والنتوءات كي تسهل عملية التنظيف 1. نعم 2. لا	5. EC	
الآلات والأدوات المستخدمة في تصنيع الأغذية تتكون من معدن غير قابل للصدأ 1. نعم 2. لا	6. EC	
الآلات والأدوات المستخدمة في تصنيع الأغذية تتحمل عمليات التطهير والتنظيف 1. نعم 2. لا	7. EC	
الآلات والأدوات المستخدمة في تصنيع الأغذية غير ناقلية للروائح 1. نعم 2. لا	8. EC	
الآلات والأدوات المستخدمة في تصنيع الأغذية غير ماصة للرطوبة 1. نعم 2. لا	9. EC	
استخدام الأدوات المصنوعة من الخشب 1. نعم 2. لا	10. EC	
الآلات والأدوات المستخدمة في تصنيع الأغذية نظيفة باستمرار 1. نعم 2. لا	11. EC	
استخدام سكاكين ومفارم خاصة للمواد الخام غير المطبوخة وأخرى للمواد التي تؤكل مباشرة كالخضار (الفصل بين اللحوم بأنواعها والخضار) 1. نعم 2. لا	12. EC	
المعايير التغذوية:	NC	
مدة الاستراحة مناسبة وكافية للطلاب 1. نعم 2. لا	1. NC	
يوجد على المنتجات الجاهزة بطاقة بيان باللغة العربية مطابقة للمواصفات 1. نعم 2. لا	2. NC	
تاريخ انتهاء المواد الغذائية محدد بصورة واضحة 1. نعم 2. لا	3. NC	

الساندويشات		
الساندويشات مغلقة بأكياس بلاستيكية أو ورقية لحمايتها من التلوث 1. نعم 2. لا	4. NC	
الساندويشات متنوعة (3 أنواع على الأقل) 1. نعم 2. لا	5. NC	
يتم حفظ الساندويشات حسب المعايير الصحية (درجة الحرارة) 1. نعم 2. لا	6. NC	
المواد الممنوع بيعها (هل هذه المواد متوفرة في المقصف؟)		
المشروبات الغازية 1. نعم 2. لا	7. NC	
مشروبات الطاقة 1. نعم 2. لا	8. NC	
العصائر التي تقل نسبة العصير الطبيعي فيها عن 10% 1. نعم 2. لا	9. NC	
منتجات الذرة المنفوشة 1. نعم 2. لا	10. NC	
رقائق شيبس البطاطا 1. نعم 2. لا	11. NC	
المارشملو 1. نعم 2. لا	12. NC	
رأس العبد 1. نعم 2. لا	13. NC	
الجلي بطعم الفاكهة 1. نعم 2. لا	14. NC	
الساكر المصنعة من الماء والسكر والجيلاتين أو النشأ وتشمل (حيايا، سمارتيز، الحبوب الملونة،...) 1. نعم 2. لا	15. NC	
العلكة بأنواعها 1. نعم 2. لا	16. NC	
البزر المملح بأنواعه 1. نعم 2. لا	17. NC	
اندومي 1. نعم 2. لا	18. NC	
اللحوم (تباع منتجات اللحوم فقط يوم الخميس)	19. NC	

1. نعم 2. لا		
بودرة العصائر الملونة	20. NC	_____
1. نعم 2. لا		
بوظة	21. NC	_____
1. نعم 2. لا		
قراطيس الكريما	22. NC	_____
1. نعم 2. لا		
مشروبات الكافيين (نسكافيه، كابتشينو، قهوة)	23. NC	_____
1. نعم 2. لا		
المنتجات الاسرائيلية	24. NC	_____
1. نعم 2. لا		
مواد خطرة (مفرقات، عبوات زجاجية، مواد منتهية الصلاحية،..)	25. NC	_____
1. نعم 2. لا		
البدائل الصحية (هل هذه البدائل متوفرة في المقصف؟)		
لبن أب	26. NC	_____
1. نعم 2. لا		
حليب بنكهات مختلفة	27. NC	_____
1. نعم 2. لا		
عصائر طبيعية	28. NC	_____
1. نعم 2. لا		
مياه معدنية	29. NC	_____
1. نعم 2. لا		
خضار (مثل السلطة)	30. NC	_____
1. نعم 2. لا		
فاكهة	31. NC	_____
1. نعم 2. لا		
أخرى: _____	32. NC	_____
السلامة الغذائية والنظافة	SHC	
عمال المقصف:		
يرتدي العمال مريول بأكمام طويلة عند تحضير الوجبات وبيعها	1. SHC	_____
1. نعم 2. لا		
يغسل العمال ملابسهم بشكل مستمر	2. SHC	_____

1. نعم 2. لا		
يرتدي العمال القفازات عند تحضير الوجبات وبيعها	3. SHC	
1. نعم 2. لا		
يرتدي العمال غطاء للرأس يستعمل لمرة واحدة عند تحضير الوجبات وبيعها	4. SHC	
1. نعم 2. لا		
يتناول العمال الطعام أو الشراب داخل المقصف	5. SHC	
1. نعم 2. لا		
يدخن العمال داخل المقصف	6. SHC	
1. نعم 2. لا		
يراعي العمال شروط النظافة العامة مثل غسل الأيدي بالماء والصابون بالإضافة إلى تعقيم الأيدي قبل البدء بالعمل أو بعد الخروج من دورات المياه أو الانتقال من عمل لآخر	7. SHC	
1. نعم 2. لا		
يرتدي العمال الحلي والمجوهرات والساعات أثناء العمل في تحضير الطعام	8. SHC	
1. نعم 2. لا		
يمتنع العمال عن العادات السيئة مثل البصق وتنظيف الأنف أو الأذن، مضغ اللبان، وضع العامل لأصبعه في فمه أو عينه أو أذنه	9. SHC	
1. نعم 2. لا		
أطافر العمال قصيرة ونظيفة	10. SHC	
1. نعم 2. لا		
يوجد زوار داخل المقصف	11. SHC	
1. نعم 2. لا		
حضر العمال تدريباً خاصاً بالمقاصف المدرسية	12. SHC	
1. نعم 2. لا		
المواد الخام والتخزين		
يتم التأكد من صلاحية المواد الخام قبل استخدامها	13. SHC	
1. نعم 2. لا		
المواد الخام مخزنة في ظروف صحية مناسبة (حرارة ورطوبة)	14. SHC	
1. نعم 2. لا		

لا تزيد درجة حرارة الثلاجات عن 4 درجة مئوية 1. نعم 2. لا	15. SHC	
لا تزيد درجة حرارة المجمدات عن -18 درجة مئوية 1. نعم 2. لا	16. SHC	
يتم تفقد مدة الصلاحية للمواد الخام والمواد الجاهزة باستمرار 1. نعم 2. لا	17. SHC	
يتم تخزين المبيدات الحشرية والمواد الكيماوية في أماكن منفصلة عن المواد الغذائية 1. نعم 2. لا	18. SHC	
النقل والتوزيع		
تتنقل المواد الغذائية وتوزع بوسائل نقل نظيفة 1. نعم 2. لا	19. SHC	
درجة الحرارة داخل وسيلة النقل ملائمة لطبيعة الغذاء 1. نعم 2. لا	20. SHC	
تتم تغطية المواد الغذائية وعدم تعريضها للأوساخ 1. نعم 2. لا	21. SHC	
يتم نقل المواد الغذائية بسرعة 1. نعم 2. لا	22. SHC	
يتم تسويق المنتجات المحضرة أولاً بأول 1. نعم 2. لا	23. SHC	
النظافة وتصريف الفضلات		
بيئة المقصف نظيفة بشكل عام 1. نعم 2. لا	24. SHC	
شبكة الصرف الصحي سليمة 1. نعم 2. لا	25. SHC	
يتم وضع القمامة داخل براميل محكمة 1. نعم 2. لا	26. SHC	
براميل النفايات مغطاة من الداخل بأكياس بلاستيكية 1. نعم 2. لا	27. SHC	
يتم تفريغ براميل القمامة باستمرار 1. نعم 2. لا	28. SHC	
عدد براميل النفايات كافي 1. نعم 2. لا	29. SHC	
هناك مصدر ماء متوفر (مثل حنفية ..) 1. نعم 2. لا	30. SHC	
توفر مواد تطهير وتنظيف مناسبة	31. SHC	

1. نعم 2. لا		
توفر ورق تنشيف لاستخدام العمال	32. SHC	_____
1. نعم 2. لا		
يتم تنظيف المواد المستخدمة والمعدات مباشرة بعد الاستعمال	33. SHC	_____
1. نعم 2. لا		
يتم تنظيف المقصف يومياً	34. SHC	_____
1. نعم 2. لا		
المراقبة الصحية		
تم تكليف أحد الأشخاص بالرقابة الصحية على المقصف والعاملين به	35. SHC	_____
1. نعم 2. لا		
حدد: (المنسق الصحي، مدير المدرسة، مدرس، لجنة طلابية)		
حضر الشخص المكلف دورات أو ورشات عمل خاصة بالمقاصف المدرسية	36. SHC	_____
1. نعم 2. لا		
هناك زيارات دورية للرقابة الصحية على المقصف (وزارة الصحة، مراقبة الأغذية، البيئة، ..)	37. SHC	_____
1. نعم 2. لا		
تم اصدار مخالفات بحق المقصف من احدى الجهات المسؤولة عن الرقابة هذا العام	38. SHC	_____
1. نعم 2. لا		
اذا كان الجواب نعم، هل تم العمل على التخلص من هذه المخالفة	39. SHC	_____
1. نعم 2. لا		



جامعة القدس
Al-Quds University

كلية الصحة العامة

برنامج ماجستير الصحة العامة

استبانة عمال المقاصف (W)

تحية طيبة وبعد،

تقوم الباحثة نسيبة خضر صلاح من كلية الصحة العامة بإجراء بحث استكمالاً لمتطلبات الحصول على درجة الماجستير بعنوان " تقييم مدى تطبيق سياسة المقاصف المدرسية في محافظة بيت لحم"، وقد وقع عليكم الاختيار للدراسة عشوائياً، فأرجو من حضرتكم التعاون في الإجابة عن أسئلة الاستبانة، علماً بأن الدراسة لأغراض البحث العلمي والأكاديمي فقط، وسيتم المحافظة على السرية الكاملة، والحرية الكاملة في المشاركة أو عدمها أو الانسحاب من الدراسة في أي وقت، لكنني أطمح لمشاركتكم ودوركم الكبير في إنجاح هذه الدراسة، ولكم جزيل الشكر.

نسيبة صلاح

أولاً : المتغيرات الاجتماعية:

الرجاء الإجابة عن الأسئلة التالية حسب المطلوب:

رقم الاستثمار	1. SDH	_____
العمر 1. (أقل من 20) 2. (20 – 30) 3. (31 – 40) 4. (41 – 50) 5. (أكبر من 50)	2. SDH	_____
الجنس 1. ذكر 2. أنثى	3. SDH	_____
الحالة الاجتماعية 1. أعزب/عزباء 2. متزوج/ة 3. مطلق/ة 4. أرمل/ة	4. SDH	_____
مكان السكن 1. قرية 2. مدينة 3. مخيم	5. SDH	_____
المستوى التعليمي 1. أساسي 2. ثانوي 3. دبلوم 4. بكالوريوس	6. SDH	_____
مستوى الدخل (بالشيكل) 1. (أقل من 2000) 2. (2000-2999) 3. (3000-3999) 4. (4000-5000) 5. (أكثر من 5000)	7. SDH	_____
سنوات الخبرة 1. أقل من سنة 2. 2-4 سنوات 3. 5-7 سنوات 4. 8-10 سنوات 5. 11 سنة فأكثر	8. SDH	_____
هل تلقيت دورات تدريبية في مجال ادارة المقاصف المدرسية؟ 1. نعم 2. لا	9. SDH	_____
إذا كانت الإجابة نعم، حدد موضوع الدورة _____	10. SDH	_____
هل تلقيت تطعيمات خاصة فيما يتعلق بالمقاصف المدرسية؟ 1. نعم 2. لا	11. SDH	_____
إذا كانت الإجابة نعم، حدد نوع المطعم	12. SDH	_____

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ثانياً: المعرفة:

الرجاء الإجابة عن العبارات في هذا القسم بوضع رقم الإجابة في المكان المخصص :

يجب على العاملين في المقصف تجنب لمس شعرهم عند التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	1.KW	_____
يجب على العاملين في المقصف ارتداء غطاء للرأس مثل القبعة عند التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	2. KW	_____
يجب على العاملين في المقصف لبس القفازات عند التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	3. KW	_____
يجب على العاملين في المقصف تغيير القفازات بشكل مستمر حين التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	4. KW	_____
من الممكن أن يكون موظفي المقاصف مصدراً للتلوث بالميكروبات الضارة من خلال ممارساتهم غير الصحية 1. نعم 2. لا 3. لا أعرف	5. KW	_____
أهم قاعدة في النظافة الشخصية لموظفي المقاصف هي أن على موظفي المقاصف غسل أيديهم بشكل متكرر (على الأقل كل ساعة) 1. نعم 2. لا 3. لا أعرف	6. KW	_____
الخضراوات واللحوم يجب أن لا تقطع بنفس السكين 1. نعم 2. لا 3. لا أعرف	7. KW	_____
الخضراوات واللحوم يجب أن لا تقطع على نفس لوح تقطيع الطعام 1. نعم 2. لا 3. لا أعرف	8. KW	_____
يجب حفظ الأطعمة في الثلاجة على درجة حرارة لا تزيد عن 4 درجة مئوية 1. نعم 2. لا 3. لا أعرف	9. KW	_____
يجب حفظ الأطعمة في الفريزر على درجة حرارة لا تزيد عن -18 درجة مئوية	10. KW	_____

1. نعم 2. لا 3. لا أعرف		
الاحتفاظ بالساندويشات الجاهزة والأغذية على درجة حرارة الثلاجة يمنع تلوثها 1. نعم 2. لا 3. لا أعرف	11. KW	
ملازمة الساندويشات الجاهزة والأغذية باليدين العاريتين تسبب تلوث الغذاء بالميكروبات الضارة 1. نعم 2. لا 3. لا أعرف	12. KW	
الأمراض المنقولة عن طريق الغذاء هي التي تنتقل بواسطة الطعام غير النظيف 1. نعم 2. لا 3. لا أعرف	13. KW	
التلوث المنقول هو نقل المواد الضارة أو الكائنات الحية الدقيقة من الغذاء إلى غذاء آخر أو من سطح ملامس مثل المعدات والأدوات واليدين إلى الغذاء 1. نعم 2. لا 3. لا أعرف	14. KW	
تسمم الغذاء يكون بسبب الميكروبات الممرضة 1. نعم 2. لا 3. لا أعرف	15. KW	
التسمم الغذائي من الممكن ان يسبب امراض خطيرة تؤدي للعلاج 1. نعم 2. لا 3. لا أعرف	16. KW	
تناول الخضراوات والفواكه غير المغسولة تسبب التسمم الغذائي 1. نعم 2. لا 3. لا أعرف	17. KW	
أهم العوامل لنمو البكتيريا في الطعام هو أن تكون درجة الحرارة أكثر من 4 درجات مئوية 1. نعم 2. لا 3. لا أعرف	18. KW	
البكتيريا الضارة تتكاثر بسرعة على درجة حرارة الغرفة 1. نعم 2. لا 3. لا أعرف	19. KW	
بإمكاننا رؤية الميكروبات الضارة الملوثة للغذاء بواسطة العين 1. نعم 2. لا 3. لا أعرف	20. KW	
الحشرات والصراصير والذباب بإمكانها نقل الميكروبات الممرضة الملوثة للغذاء 1. نعم 2. لا 3. لا أعرف	21. KW	

22. KW	لا مشكلة من تواجد المقصف بالقرب من دورات المياه 1. نعم 2. لا 3. لا أعرف	_____
23. KW	الالتزام بتطبيق سياسة المقاصف المدرسية سيقفل احتمالية حدوث تلوث الطعام 1. نعم 2. لا 3. لا أعرف	_____
24. KW	الالتزام بتطبيق سياسة المقاصف المدرسية سيعود بالنفع على صحة الطلاب 1. نعم 2. لا 3. لا أعرف	_____
25. KW	البزر المملح من المواد المسموح بيعها في المقصف 1. نعم 2. لا 3. لا أعرف	_____
26. KW	رأس العبد من المواد الممنوع بيعها في المقصف 1. نعم 2. لا 3. لا أعرف	_____
27. KW	يجب تغطية جميع الفتحات والشبابيك والأبواب في المقصف بالمنخل 1. نعم 2. لا 3. لا أعرف	_____
28. KW	يجب توفر مصدر مياه نظيفة في المقصف 1. نعم 2. لا 3. لا أعرف	_____

ثالثاً: الاتجاهات:

الرجاء الإجابة عن العبارات في هذا القسم بوضع رقم الإجابة في المكان المخصص:

أعتقد أن التعقيم جزء أساسي من مسؤوليات وظيفتي 1. نعم 2. لا	1.AW	
أعتقد أن مسؤولية جميع العاملين في المقصف هي التأكد من أن الطعام المقدم آمن 1. نعم 2. لا	2. AW	
أعتقد أنه على من يحضرون الطعام في المقاصف فقط تلقي تدريبات حول سلامة الغذاء المقدم 1. نعم 2. لا	3. AW	
أعتقد أن معرفتي بالسلامة الغذائية تفيدني في حياتي الشخصية وليس فقط في مجال عملي 1. نعم 2. لا	4. AW	
أعتقد أن معرفتي بسياسة المقاصف المدرسية ستجعلني أكثر ثقة بعلمي 1. نعم 2. لا	5.AW	
أعتقد أنه لا مشكلة من بيع الشيبس والذرة المنفوشة (البمبة) في المقصف 1. نعم 2. لا	6.AW	
قائمة الأصناف الممنوع بيعها في المقصف غير ملزمة لي 1. نعم 2. لا	7. AW	
وجود رقابة للصحة المدرسية يقيد من حرية عملي 1. نعم 2. لا	8. AW	
تقديم أطعمة صحية آمنة ونظيفة جزء مهم من مسؤوليات وظيفتي 1. نعم 2. لا	9. AW	

أؤمن أن النظافة جزء أساسي من مسؤوليات وظيفتي 1. نعم 2. لا	10. AW	_____
التأكد من درجة حرارة الطعام المحضر ضروري ومهم 1. نعم 2. لا	11. AW	_____
التأكد من درجة حرارة الثلاجة مهم لمنع تسمم الأغذية 1. نعم 2. لا	12. AW	_____
يجب الأطعمة النيئة بعيداً عن الأطعمة الجاهزة أو المطبوخة 1. نعم 2. لا	13. AW	_____
الحصول على طعام ذو مذاق جيد أهم من سلامته 1. نعم 2. لا	14. AW	_____
الأظافر الطويلة بإمكانها تلويث الطعام بالميكروبات الضارة 1. نعم 2. لا	15. AW	_____
غسل اليدين بالماء البارد قبل تحضير الطعام كافي للتخلص من البكتيريا 1. نعم 2. لا	16. AW	_____
أرغب في تغيير عاداتي في تحضير الطعام عندما أعلم أن سلوكياتي خاطئة 1. نعم 2. لا	17. AW	_____
أرغب بالحصول على المزيد من المعرفة في مجال سلامة الغذاء 1. نعم 2. لا	18. AW	_____
أرغب بحضور والتسجيل في دورات تدريبية حول سلامة الغذاء 1. نعم 2. لا	19. AW	_____
على مسؤولي الصحة المدرسية تدريب وتعليم موظفي المقاصف حول سياسة المقاصف المدرسية 1. نعم 2. لا	20. AW	_____
سياسة المقاصف المدرسية تزودني بالتغذية الراجعة لتطوير المقصف 1. نعم 2. لا	21. AW	_____
من الصعب علي تطبيق كل ما يتعلق بسياسة المقاصف المدرسية 1. نعم 2. لا	22. AW	_____

رابعاً: الممارسات:

الرجاء الإجابة عن العبارات في هذا القسم بوضع رقم الإجابة في المكان المخصص:

أغسل يدي بالماء والصابون بعد إمساكي للنقود 1. نعم 2. لا	1. PW	_____
أغسل يدي بالماء والصابون بعد تناول الطعام 1. نعم 2. لا	2. PW	_____
أغسل يدي بالماء والصابون أيضاً عندما ألمس طعاماً آخر 1. نعم 2. لا	3. PW	_____
أغسل يدي بالماء والصابون بعد تنظيف الطاولات 1. نعم 2. لا	4. PW	_____
أغسل يدي بالماء والصابون قبل تحضير الوجبات 1. نعم 2. لا	5. PW	_____
أغسل يدي بالماء والصابون بعد التخلص من النفايات 1. نعم 2. لا	6. PW	_____
أغسل يدي بالماء والصابون بعد لمس أنفي للتخلص من المخاط 1. نعم 2. لا	7. PW	_____
أستخدم منشفة خاصة لتجفيف يدي بعد غسلهما 1. نعم 2. لا	8. PW	_____
أغطي رأسي بغطاء خاص مثل القبعة عند العمل في المقصف 1. نعم 2. لا	9. PW	_____
أرتدي غطاء للفم أثناء التعامل مع الطعام 1. نعم 2. لا	10. PW	_____
ألبس قفازات قبل لمس الطعام الجاهز للأكل 1. نعم 2. لا	11. PW	_____
ألبس مريول خاص أثناء تجهيز الطعام 1. نعم 2. لا	12. PW	_____
ألبس مريول خاص أثناء بيع الطعام 1. نعم 2. لا	13. PW	_____

أعمل وأنا أرثدي قفازات جديدة ونظيفة 1. نعم 2. لا	14. PW	
أقدم الساندويشات والطعام وأنا أرثدي قفازات جديدة 1. نعم 2. لا	15. PW	
أجهز الساندويشات والطعام وابععها في نفس الوقت 1. نعم 2. لا	16. PW	
أجهز الساندويشات والطعام قبل بيعها بساعتين 1. نعم 2. لا	17. PW	
أعطي الساندويشات والطعام بعد تحضيرها بغطاء بلاستيكي أو ورقي 1. نعم 2. لا	18. PW	
أخزن المواد اللازمة لتجهيز الساندويشات والطعام بطريقة آمنة وسليمة 1. نعم 2. لا	19. PW	
أنظف الأسطح قبل تحضير الطعام وبعده 1. نعم 2. لا	20. PW	
أتأكد دوماً من أن أطافري مقصوصة 1. نعم 2. لا	21. PW	
ألتزم بقائمة الممنوع والمسموح بيعه في المقاصف المعمول بها في وزارة التربية والتعليم 1. نعم 2. لا	22. PW	
في حال وجود مفتش من الصحة المدرسية التزم بالقوانين على غير العادة في حال عدم وجودهم 1. نعم 2. لا	23. PW	
أعمل في المقصف في حال إصابتي بالإنفلونزا 1. نعم 2. لا	24. PW	
أعمل في المقصف في حال إصابتي بالإسهال 1. نعم 2. لا	25. PW	
أثناء تحضير الطعام أعمل جاهداً أن لا أسعل 1. نعم 2. لا	26. PW	
أحياناً أستقبل زواراً أثناء عملي في المقصف 1. نعم 2. لا	27. PW	
في حال كنت مدخناً ، أجب عن السؤالين التاليين:		
أدخن عندما أعمل في المقصف 1. نعم 2. لا	28. PW	
أغسل يدي بعد التدخين	29. PW	



جامعة القدس
Al-Quds University

كلية الصحة العامة

برنامج ماجستير الصحة العامة

استبانة موظف الصحة (H)

تحية طيبة وبعد،

تقوم الباحثة نسيبة خضر صلاح من كلية الصحة العامة بإجراء بحث استكمالاً لمتطلبات الحصول على درجة الماجستير بعنوان " تقييم مدى تطبيق سياسة المقاصف المدرسية في محافظة بيت لحم " ، وقد وقع عليكم الاختيار للدراسة عشوائياً، فأرجو من حضرتكم التعاون في الإجابة عن أسئلة الاستبانة، علماً بأن الدراسة لأغراض البحث العلمي والأكاديمي فقط، وسيتم المحافظة على السرية الكاملة، والحرية الكاملة في المشاركة أو عدمها أو الانسحاب من الدراسة في أي وقت، لكنني أطمح لمشاركتكم ودوركم الكبير في إنجاح هذه الدراسة، ولكم جزيل الشكر.

نسيبة صلاح

أولاً : المتغيرات الاجتماعية:

الرجاء الإجابة عن الأسئلة التالية حسب المطلوب:

رقم الاستثمار	1. SDH	_____
العمر 1. (أقل من 20) 2. (30 – 20) 3. (40 – 31) 4. (50 – 41) 5. (أكبر من 50)	2. SDH	_____
الجنس 1. ذكر 2. أنثى	3. SDH	_____
الحالة الاجتماعية 1. أعزب/عزباء 2. متزوج/ة 3. مطلق/ة 4. أرمل/ة	4. SDH	_____
مكان السكن 1. قرية 2. مدينة 3. مخيم	5. SDH	_____
المستوى التعليمي 1. أساسي 2. ثانوي 3. دبلوم 4. بكالوريوس 5. دراسات عليا	6. SDH	_____
الوظيفة 1. معلم/ة 2. مديرة المدرسة 3. نائب/ة المدير/ة	7. SDH	_____
مستوى الدخل (بالشيكل) 1. (أقل من 1500) 2. (2500-1500) 3. (2501- 3500) 4. (4500-3501) 5. (أكثر من 4500)	8. SDH	_____
سنوات الخبرة 1. أقل من سنة 2. 2-4 سنوات 3. 5-7 سنوات 4. 8-10 سنوات 5. أكثر من 11 سنة	9. SDH	_____
هل تلقيت دورات تدريبية في مجال ادارة المقاصف المدرسية؟ 1. نعم 2. لا	10. SDH	_____
إذا كانت الإجابة نعم، حدد موضوع الدورة	11. SDH	_____

هل تلقيت تطعيمات خاصة فيما يتعلق بالمقاصف المدرسية؟ 1. نعم 2. لا	12. SDH	_____
إذا كانت الإجابة نعم، حدد نوع المطعم _____	13. SDH	_____

ثانياً: المعرفة:

الرجاء الإجابة عن العبارات في هذا القسم بوضع رقم الإجابة في المكان المخصص :

يجب على العاملين في المقصف تجنب لمس شعرهم عند التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	1.KH	_____
يجب على العاملين في المقصف ارتداء غطاء للرأس مثل القبعة عند التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	2. KH	_____
يجب على العاملين في المقصف لبس القفازات عند التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	3. KH	_____
يجب على العاملين في المقصف تغيير القفازات بشكل مستمر حين التعامل مع الطعام 1. نعم 2. لا 3. لا أعرف	4. KH	_____
من الممكن أن يكون موظفي المقاصف مصدراً للتلوث بالميكروبات الضارة من خلال ممارساتهم غير الصحية 1. نعم 2. لا 3. لا أعرف	5. KH	_____
أهم قاعدة في النظافة الشخصية لموظفي المقاصف هي أن على موظفي المقاصف غسل أيديهم بشكل متكرر (على الأقل كل ساعة) 1. نعم 2. لا 3. لا أعرف	6. KH	_____
الخضراوات واللحوم يجب أن لا تقطع بنفس السكين 1. نعم 2. لا 3. لا أعرف	7. KH	_____
الخضراوات واللحوم يجب أن لا تقطع على نفس لوح تقطيع الطعام 1. نعم 2. لا 3. لا أعرف	8. KH	_____
يجب حفظ الأطعمة في الثلاجة على درجة حرارة لا تزيد عن 4 درجة مئوية 1. نعم 2. لا 3. لا أعرف	9. KH	_____

يجب حفظ الأطعمة في الفريزر على درجة حرارة لا تزيد عن 18- درجة مئوية 1. نعم 2. لا 3. لا أعرف	10. KH	_____
الاحتفاظ بالساندويشات الجاهزة والأغذية على درجة حرارة الثلاجة يمنع تلوثها 1. نعم 2. لا 3. لا أعرف	11. KH	_____
ملامسة الساندويشات الجاهزة والأغذية باليدين العاريتين تسبب تلوث الغذاء بالميكروبات الضارة 1. نعم 2. لا 3. لا أعرف	12. KH	_____
الأمراض المنقولة عن طريق الغذاء هي التي تنتقل بواسطة الطعام غير النظيف 1. نعم 2. لا 3. لا أعرف	13. KH	_____
التلوث المنقول هو نقل المواد الضارة أو الكائنات الحية الدقيقة من الغذاء إلى غذاء آخر أو من سطح ملامس مثل المعدات والأدوات واليدين إلى الغذاء 1. نعم 2. لا 3. لا أعرف	14. KH	_____
تسمم الغذاء يكون بسبب الميكروبات الممرضة 1. نعم 2. لا 3. لا أعرف	15. KH	_____
التسمم الغذائي من الممكن ان يسبب امراض خطيرة تؤدي للعلاج 1. نعم 2. لا 3. لا أعرف	16. KH	_____
تناول الخضراوات والفواكه غير المغسولة تسبب التسمم الغذائي 1. نعم 2. لا 3. لا أعرف	17. KH	_____
أهم العوامل لنمو البكتيريا في الطعام هو أن تكون درجة الحرارة أكثر من 4 درجات مئوية 1. نعم 2. لا 3. لا أعرف	18. KH	_____
البكتيريا الضارة تتكاثر بسرعة على درجة حرارة الغرفة 1. نعم 2. لا 3. لا أعرف	19. KH	_____
بإمكاننا رؤية الميكروبات الضارة الملوثة للغذاء بواسطة العين 1. نعم 2. لا 3. لا أعرف	20. KH	_____
الحشرات والصراصير والذباب بإمكانها نقل الميكروبات الممرضة الملوثة للغذاء 1. نعم 2. لا 3. لا أعرف	21. KH	_____
لا مشكلة من تواجد المقصف بالقرب من دورات المياه 1. نعم 2. لا 3. لا أعرف	22. KH	_____

23. KH	_____	الالتزام بتطبيق سياسة المقاصف المدرسية سيققل احتمالية حدوث تلوث الطعام 1. نعم 2. لا 3. لا أعرف
24. KH	_____	الالتزام بتطبيق سياسة المقاصف المدرسية سيعود بالنفع على صحة الطلاب 1. نعم 2. لا 3. لا أعرف
25. KH	_____	البزر المملح من المواد المسموح بيعها في المقصف 1. نعم 2. لا 3. لا أعرف
26. KW	_____	رأس العبد من المواد الممنوع بيعها في المقصف 1. نعم 2. لا 3. لا أعرف
27. KW	_____	يجب تغطية جميع الفتحات والشبابيك والأبواب في المقصف بالمنخل 1. نعم 2. لا 3. لا أعرف
28. KW	_____	يجب توفر مصدر مياه نظيفة في المقصف 1. نعم 2. لا 3. لا أعرف

ثالثاً: الاتجاهات:

الرجاء الإجابة عن العبارات في هذا القسم بوضع رقم الإجابة في المكان المخصص:

أعتقد أن الاشراف على تعقيم المقصف جزء أساسي من مسؤوليات وظيفتي 1. نعم 2. لا	1.AH	_____
الاشراف على تقديم أطعمة صحية آمنة ونظيفة جزء مهم من مسؤوليات وظيفتي 1. نعم 2. لا	2. AH	_____
أؤمن أن الاشراف على النظافة جزء أساسي من مسؤوليات وظيفتي 1. نعم 2. لا	3. AH	_____
أعتقد أن مسؤولية جميع العاملين في المقصف هي التأكد من أن الطعام المقدم آمن 1. نعم 2. لا	4. AH	_____
سياسة المقاصف المدرسية تزودني بالتغذية الراجعة لتطوير المقصف في مدرستي 1. نعم 2. لا	5.AH	_____
الالتزام بتطبيق سياسة المقاصف المدرسية سيقفل احتمالية حدوث تلوث الطعام 1. نعم 2. لا	6.AH	_____
الالتزام بتطبيق سياسة المقاصف المدرسية سيعود بالنفع على صحة الطلاب 1. نعم 2. لا	7. AH	_____
من الصعب علي تطبيق كل ما يتعلق بسياسة المقاصف المدرسية 1. نعم 2. لا	8. AH	_____
أعتقد أنه على موظفي المقاصف فقط تلقي تدريبات حول سلامة الغذاء 1. نعم 2. لا	9. AH	_____
أرغب بالحصول على المزيد من المعرفة في مجال سلامة الغذاء 1. نعم 2. لا	10. AH	_____

أرغب بحضور والتسجيل في دورات تدريبية حول سلامة الغذاء 1. نعم 2. لا	11. AH	_____
أعتقد أن معرفتي بالسلامة الغذائية تفيدني في حياتي الشخصية وليس فقط في مجال عملي 1. نعم 2. لا	12. AH	_____
أعتقد أن معرفتي بالسلامة الغذائية ستجعلني أكثر ثقة بعلمي 1. نعم 2. لا	13. AH	_____
على مسؤولي الصحة المدرسية تدريب وتعليم منسقي الصحة حول سياسة المقاصف المدرسية 1. نعم 2. لا	14. AH	_____
التأكد من درجة حرارة الطعام المحضر ضروري ومهم 1. نعم 2. لا	15. AH	_____
التأكد من درجة حرارة الثلاجة مهم لمنع تسمم الأغذية 1. نعم 2. لا	16. AH	_____
يجب حفظ الأطعمة النيئة بعيداً عن الأطعمة الجاهزة أو المطبوخة 1. نعم 2. لا	17. AH	_____
الحصول على طعام ذو مذاق جيد أهم من سلامته 1. نعم 2. لا	18. AH	_____
الأظافر الطويلة بإمكانها تلويث الطعام بالميكروبات الضارة 1. نعم 2. لا	19. AH	_____
غسل اليدين بالماء البارد قبل تحضير الطعام كافي للتخلص من البكتيريا 1. نعم 2. لا	20. AH	_____

رابعاً: الممارسات:

الرجاء الإجابة عن العبارات في هذا القسم بوضع رقم الإجابة في المكان المخصص:

أزود موظفي المقصف بالمعلومات اللازمة لإدارة المقصف بطريقة صحية 1. نعم 2. لا	1.PH	
أنشر الوعي الغذائي خلال الإذاعة المدرسية 1. نعم 2. لا	2. PH	
أتابع نظافة مياه الشرب بشكل دوري 1. نعم 2. لا	3. PH	
أراقب الأطعمة والمشروبات التي تباع في المقصف من حيث مطابقتها لسياسة المقاصف المدرسية 1. نعم 2. لا	4. PH	
أراقب الأطعمة والمشروبات التي تباع في المقصف من حيث ملائمتها للطلبة 1. نعم 2. لا	5. PH	
أتأكد من صلاحية الأغذية والمشروبات في المقصف 1. نعم 2. لا	6. PH	
ساهمت في تجهيز مكان مناسب للمقصف 1. نعم 2. لا	7. PH	
أعمل على توفير وجبات صحية متوازنة تغذوياً 1. نعم 2. لا	8. PH	
أراقب نوعية الأطعمة المتوفرة في المقصف 1. نعم 2. لا	9. PH	
أشدد على وجود خضراوات وفواكه في المقصف 1. نعم 2. لا	10. PH	
أعمل على وجود بدائل صحية في المقصف مثل الترمس، اللبن، الزبيب، البشار... 1. نعم 2. لا	11. PH	
أعمل على وجود الحليب ومشتقاته في المقصف	12. PH	

1. نعم 2. لا		
أعمل على تزويد المقصف بتجهيزات ومعدات مطابقة لمواصفات الصحة المدرسية 1. نعم 2. لا	13. PH	
أقيم يوم صحي تغذوي للطلبة بالتنسيق مع المجتمع المحلي 1. نعم 2. لا	14. PH	
أشرك الطلبة بإفطارات جماعية بالتنسيق مع المجتمع المحلي 1. نعم 2. لا	15. PH	
أشرك الطلبة في تقديم وجبات ساخنة للطلبة بالتعاون مع المجتمع المحلي 1. نعم 2. لا	16. PH	
أعفى التقارير الدورية للصحة المدرسية بمصادقية بما يتناسب مع ما تم تطبيقه على أرض الواقع 1. نعم 2. لا	17. PH	
أنبه التلاميذ على ضرورة التأكد من صلاحية الأغذية المباعة 1. نعم 2. لا	18. PH	
أنبه التلاميذ على ضرورة غسل الفواكه قبل الأكل 1. نعم 2. لا	19. PH	
أنبه التلاميذ على ضرورة غسل الأيدي قبل الأكل 1. نعم 2. لا	20. PH	
أعقد جلسات توعية حول الطعام الصحي مع الطلبة 1. نعم 2. لا	21. PH	
أعقد جلسات توعية حول الطعام الصحي مع الأهالي 1. نعم 2. لا	22. PH	
أوضح للطلبة أهمية الغذاء الصحي ومكوناته 1. نعم 2. لا	23. PH	
أحث الطلبة على تناول الغذاء الصحي 1. نعم 2. لا	24. PH	
أتابع نظافة المقصف وفق برنامج محدد 1. نعم 2. لا	25. PH	
أتأكد من التزام العاملين في المقصف بالزي والممارسات الصحية في تحضير الطعام وبيعه 1. نعم 2. لا	26. PH	

Appendix (3):



الرقم : ١١١٩ / ٢٠١٨

التاريخ : 2018/11/26 م

الموافق : 1440/ 3 / 18 هـ

مديري ومديرات المدارس الحكومية و الخاصة المحترمين،

تحية طيبة وبعد ،،،

الموضوع: تسهيل مهمة الطالبة نسبية خضر داود صلاح

لهديككم أطيب تحياتنا، نرجو منكم تسهيل مهمة الطالبة نسبية خضر داود صلاح برنامج ماجستير الصحة العامة / جامعة القدس ، حيث تقوم بأجراء بحث دراسي لرسالة بعنوان :
" مدى تطبيق معايير المقصف المدرسي في مدارس بيت لحم الحكومية و الخاصة للعام الدراسي 2019 /2018 دراسة مقارنة "
و عليه نرجو منكم التعاون معها و تزويدها بالمعلومات المطلوبة لدراسة مدى تطبيق معايير المقصف المدرسي من خلال قائمة رصد لهذه المعايير . علماً بأن الدراسة ستكون لأغراض البحث العلمي فقط.

مع الاحترام،،،

أ. سامي كامل مروة

بمعية

مدير التربية والتعليم العالي



- نسخة المدير الإداري للتربية والتعليم العالي المحترم

- نسخة ر. ق قسم متابعة الميدان المحترم

- نسخة ر. ق قسم التعليم العام المحترم.

الصحة المدرسية / ن. ع



➤ الأغذية الممنوع بيعها داخل المقصف المدرسي:

المادة الغذائية	مبررات التصنيف
المشروبات الغازية بمختلف أنواعها	محتواها عال من السكر و حمض الفسفوريك، و خلوها من أية مغذيات مفيدة للجسم.
مشروبات الطاقة	محتواها عال من السكر و الكافيين.
مشروبات الكافيين (نسكافيه، كابتشينو، قهوه بكافة أنواعها)	لاحتوائها على نسبة عالية من الكافيين و خلوها من أية مغذيات مفيدة للجسم
جميع العصائر والمشروبات ماعدا النكتار	لاحتوائها على نسبة عالية من السكر، والمواد المضافه (كالصبغات، والمواد الحافظة،...)
منتجات الذرة المنفوشة ورقائق شيبس البطاطا والبسلي بكافة أنواعها	محتواها عال من الدهون.
- المارشملو وراس العبد والجلي - قراطيس الكريما - الساكر المصنعة من الماء والسكر والجيلاتين أو النشا وتشمل (حبايا، سوس ، توفي سمارتز، حبوب ملونة، المصاص، نوجا...) - بوظة الاسكيმო - العلكة - البزر بكافة أنواعه - بودرة العصائر المطحونة الملونة وغير الملونة	- محتواها عالٍ من : ✓ السكر ✓ الطاقة ✓ المواد الملونة (من حيث الكمية والنوعية والمواد المسموح بإضافتها) ✓ الملح ✓ المواد الحافظة
الاندومي	✓ محتواها عال من الاملاح، والسعرات الحرارية الفارغة من الكربوهيدرات والدهون (دون اية عناصر غذائية مفيدة)
اللحوم المصنعة بكافة أشكالها والسماح ببيعها فقط يوم الخميس	✓ محتواها من الدهون و الاملاح والمواد الحافظة

	• أية منتجات غير مطابقة للمواصفات الفلسطينية الخاصة بها • أية منتجات اسرائيلية.
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➤ الأغذية المسموح ببيعها داخل المقصف المدرسي ضمن عبوات صغيرة بحجم 25-30 غم، وبما لا يزيد عن 200 سعر حراري كحد أقصى في العبوة الواحدة:

المادة الغذائية	مبررات التصنيف
• كيك سادة أو بالفواكه أو بالمكسرات بيغلا. • كروسون سادة أو محشي بمختلف الحشوات. • كعك بعجوة، بسكويت بأطعمة مختلفة، كعك بسمسم (برازق)، غريبة، حلبة، كرات الشوكولاتة، ... • معجنات مصنوعة من الطحين أبيض (80-160 غم). • الخبز المحمص .	محتواها عالي من : ✓ السكر ✓ الدهون ✓ الطاقة - محتواها قليل من : ✓ الألياف ✓ العناصر المعدنية
• شوكولاته بوزن 15-30 غم بالأنواع التالية: ✓ شوكولاته سادة أو بالمكسرات ✓ الشوكولاته السائلة والمحضرة من الحليب ✓ كسترد • الفاكهة المعلبة بعصير فاكهة (حجم صغير).	- محتواها من: ✓ الكالسيوم ✓ مضادات الأكسدة ✓ فيتامينات A، E ✓ دهون مفيدة مثل أوميغا 3 - مبررات وضعها في علب صغيرة لأن محتواها عالي من: ✓ السكر ✓ الدهون ✓ الطاقة
• المسليات المحمصة (وزن 15-30 غم): (فستق، بندق، لوز، جوز) - يفضل غير مملحة	- محتواها عالي من: ✓ الدهون المفيدة غير المشبعة ✓ العناصر المعدنية مثل الكالسيوم، المغنيسيوم، الفسفور ✓ الفيتامينات مثل فيتامين E - مبررات وضعها في علب صغيرة لأن تناولها بشكل مفرط يؤدي إلى إستهلاك:

- كمية كبيرة من الطاقة	
- كمية كبيرة من الملح	



➤ الأغذية المسموح بيعها داخل المقصف المدرسي دون شروط

المادة الغذائية	مبررات التصنيف
• الفاكهة الطازجة • الفاكهة المجففة بشكل طبيعي • العصائر الطبيعية • أي نوع من الخضراوات الطازجة أو المطبوخة (سلق، شوي)، السلطة بأنواعها ويفضل عدم إضافة المايونيز والكاتشب لأي نوع من السلطة أو الساندويشات .	✓ محتواها من: • الحديد • البوتاسيوم • فيتامينات مثل A، E، C، B3، B9 • الألياف • مضادات الاكسدة
• شوربة خضار، عدس، فريكة	محتواها عالي من الفيتامينات والمعادن والطاقة بالإضافة الى الحديد والبروتين والألياف.
• ساندويشات محضرة من الحبوب لكاملة مثل القمح والشوفان لرفع القيمة الغذائية و بأنواع مختلفة (لبن، جبنة بيضاء، حمص ،) ويوضع فيها خضراوات مثل خيار وبندورة. • معجنات (جبنة بيضاء، زعتر أخضر ،سبانخ، لحم، دجاج، بيتزا، صفيحة). • ساندويشات فلافل بالحمص والخضار ويفضل يومين في الأسبوع، على أن يقلل الفلافل بزيت يتم تغييره يوميا.	✓ محتواها عالٍ من: ✓ الألياف ✓ البروتينات ✓ العناصر المعدنية ✓ الفيتامينات ✓ الطاقة ملاحظة: مع الالتزام بمواصفات الأطعمة المقدمة في المقاصف كما ورد في كتاب رقم 8830/3/11 بتاريخ 2014/9/21
✓ منتجات الألبان (حليب، حليب محلى بالفاكهة لبن، لبن محلى بالفاكهة). ✓ البقوليات المسلوقة مثل (الترمس، الفول، الحمص، الذرة المسلوقة) البشار بكافة الأطعمة. ✓ الأطباق التقليدية ذات قيمة غذائية عالية : (المجدرة، أرز بالخضار، سمبوسك خضار، كبة، ورق ووالي، معكرونة بالخضار والجبنة البيضاء، مهلبية، رز بالحليب	• البروتينات • العناصر المعدنية (كالسيوم، فسفور، حديد، مغنيسيوم...) • الفيتامينات (فيتامين A، فيتامين D، فيتامين B المركب)
✓ عبوات مياه معدنية	

Appendix (5):

المخالفات الوارد حدوثها في المقاصف المدرسية والإجراءات القانونية بحقها

الرقم	المخالفة	الاجراء
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1-	عدم الالتزام بقائمة المسموح والممنوع (شيبس، بمبا، مشروبات غازية، مشروبات طاقة، السكاكر المصنوعة من الجلوتين، وكل ما ورد في القائمة و التعليمات المستجدة في هذا الخصوص) <u>أ- مخالفه للمرة الاولى</u>	أ- يُوجه له إنذار، والتحرز على المواد الغذائيةالمخالفة في غرفة مدير/ة المدرسة مؤقتا.
	<u>ب- مخالفه للمرة الثانية</u>	ب- يوجه له إنذار ويُغلق المقصف لمدة 3 أيام، مع التحرز المؤقت على المواد الغذائيةالمخالفة في غرفة مدير/ة المدرسة ، وعلى مدير المدرسة اعلام الطلبةباغلاق المقصف.
	<u>ج- مخالفه للمرة الثالثة</u>	ج- فسخ العقد، و يُسحب منه ضمان المقصف دون تعويض ويطرح الضمان لشخص آخر.
2-	بيع منتجات اسرائيلية او مستوطنات	- المرة الأولى : يوجه له إنذار. - المرة الثانية: يوجه له إنذار ويُغلق المقصف لمدة 3 أيام. - المرة الثالثة: يفسخ العقد. * ملاحظة : في كل مرة يتم التحرز على المواد الغذائية المخالفة في غرفة مدير/ة المدرسة.
3-	بيع مواد غذائية منتهية الصلاحية أو أغذية فاسدة (كالحلويات و السندويشات و الترمس التي لا تحمل تاريخ صلاحية...)	يوجه له إنذار أو يغلق المقصف لمدة أسبوع أو يفسخ العقد
4-	إذا حدثت أي مخالفة أخلاقية من ضامن المقصف (مثل التحرش بالطلبة، استخدام ألفاظ نابية، شتم الذات الإلهية ، الاعتداء على الموظفين من الهيئة التدريسية أو طاقم الصحة المدرسية ..)	<u>حيث تتخذ اللجنة المختصة (أقسام الصحة المدرسية والرقابة والمالية) الإجراءات المناسب دون الالتزام بالتدرج.</u>
5-	بيع الدخان أو التدخين داخل المقصف	
6-	ارتفاع الأسعار أكثر من سعر السوق المحلي	- المرة الأولى : يُوجه له تنبيه . - المرة الثانية: يوجه له إنذار ويُغلق المقصف ليومين. - المرة الثالثة: يفسخ العقد.
7-	البائع شخص اخر غير صاحب العقد. (يستثنى من ذلك الضامن صاحب العقد في حالة مرضية او وجود ظرف طارئ ، على أن يقوم بأخذ موافقة خطية من مدير المدرسة بشرط أن لا يزيد عدد أيام الغياب عن 3 أيام، وإلا توجب عليه الحصول على موافقة قسم الصحة المدرسية، على أن يقوم أحد من أقربائه من الدرجة الأولى بعمله مؤقتا لحين عودته. <u>ملاحظة:</u> على مدير المدرسة توثيق غياب الضامن وإعلام قسم الصحة المدرسية.	- المرة الأولى : يُوجّه انذار للضامن (صاحب العقد) . - المرة الثانية: يوجه له إنذار ويُغلق المقصف لمدة أسبوع. - المرة الثالثة: يُفسخ العقد.
8-	مخالفات تتعلق بالأمن والسلامة العامة (مثل وجود اسطوانة غاز داخل المقصف، وجود مواد كيميائية خطيرة..).	- المرة الأولى: يُوجّه للضامن تنبيه مع قرار بإزالة الضرر. - المرة الثانية: يوجه له إنذار. - المرة الثالثة: يوجه له إنذار ويُغلق المقصف لمدة يومين .

9-	الإخلال بالنظافة الشخصية او نظافة المقصف او نظافة الغذاء	- المرة الأولى: يُوجّه للضامن تنبيه . - المرة الثانية: يوجه له إنذار. - المرة الثالثة : يوجه له إنذار ويُغلق المقصف لمدة 3 أيام.
10-	الضامنين الحاصلين على إنذارين فأكثر أو إغلاق مقصف أو فسخ عقد ، يُسجّل ضمن قائمة (Black List).	لا يحق لهم التقدم لضمان المقاصف لمدة سنتين حتى لو حصلوا على أعلى سعر. في حال بعد سنتين حصل الضامن على ضمان مقصف مرة أخرى وتكررت المخالفة، لا يحق لهم التقدم لضمان المقاصف لمدة 5 سنوات.

Appendix (6): The list of referee's names:

Number	Name	Working Place
1.	Dr. Hazem Agha	Al-Quds University
2.	Dr. Nuha El-Sharif	Al-Quds University
3.	Dr. AmraAmro	Al-Quds University

