



Universitas Sriwijaya
Faculty of Public Health

PROCEEDING BOOK

**THE 3rd SRIWIJAYA INTERNATIONAL
CONFERENCE OF PUBLIC HEALTH**

Theme :

**“ The workplace Initiative : Health, Safety and
Wellbeing Regarding COVID - 19 ”**

ISBN 978-623-399-020-2



GRAND ATYASA PALEMBANG
21st - 22nd OCTOBER 2021

**PROCEEDING
THE 3rd SRIWIJAYA INTERNATIONAL
CONFERENCE ON PUBLIC HEALTH**

*The Work Place Initiative: Health, Safety and Wellbeing
Regarding COVID-19*

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Grand Atyasa Palembang, 21st – 22nd October 2021
Publication Year : March 2022

This proceeding is published by:
Public Health Faculty Universitas Sriwijaya
Kampus FKM Unsri Indralaya, Jl. Raya Palembang-
Prabumulih KM.32 Indralaya, Ogan Ilir, Sumatera Selatan, 30662
Hotline : +62711580068
Fax : +62711580089

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ISBN : 978-623-399-020-2

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THE 3rd SRIWIJAYA INTERNATIONAL
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*The Work Place Initiative: Health, Safety and Wellbeing
Regarding COVID-19*

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EDITOR:

Dr. Rico Januar Sitorus, S.KM, M.Kes (Epid)

Dr. Haerawati Idris S.KM, M.Kes

Indah Purnama Sari, S.KM, M.KM

Inoy Trisnainy, S.KM, M.KL

Feranita Utama, S.KM., M.Kes

Fenny Etrawati, S.KM., M.KM

Ima Fransiska, S.Sos

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Inoy Trisnainy, S.KM, M.KL

Feranita Utama, S.KM., M.Kes

Fenny Etrawati, S.KM., M.KM

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PREFACE

On behalf of the organizing committee, I am delighted to welcome you to the 3rd Sriwijaya International Conference on public Health (SICPH 2021) during 21th October 2021 at Palembang South Sumatera, Indonesia. The SICPH 2021 is international conference organized by Faculty of Public Health, Sriwijaya University (UNSRI). I would like to extend my warmest welcome to all the participant of The SICPH 2021 under the theme ***“The Impact of Climate Change on Infectious Disease Transmission”***.

The SICPH 2021 consists of keynote sessions from well known expert speakers in the field of public health, and academic paper sessions (oral presentations) who are coming from several region. This conference seeks to bring together academics, public health professionals, researchers, scientists, students and health stakeholders from a wide range of disciplines to present their latest research experience and further development in all areas of public health. We hoped that this conference will be usefull platform for researchers to present their finding in the areas on multidisciplinary realted to public health and health system issues.

This conference will provide opportunities to exchange ideas, knowledge, and development of the latest research among the participants. We will publish the paper as output from the SICPH 2021 in proceeding book with ISBN and selected paper will be published in Jurnal ilmu kesehatan masyarakat- SINTA 3 (a nationally-accredited journal). The SICPH 2021 is being attended by about 50 participants. I hope you enjoy the conference.

With regard to considerable conference agenda, we greatly appreciate any support and sponshorship derived from any governmental as well as private institutions for the success of the conference. Great appreciation is also handed to organizing committe of the conference for any voluntarily effort that bring to the succes of the conference.

The conference committee expresses its gratitude towards all the keynote speakers, authors, reviewers, and participanst for the great contribution to enssure the succes of this event. Finnally, I sincerely thank all the members of the organizing committee who have worked hard to prepare this conference.

Palembang, October 2021

Chair,

Anita Camelia, SKM., MKKK.

PREFACE



First of all, let us thank God, the Almighty, who has given His grace and guidance so that the 3rd Sriwijaya International Conference of Public Health (SICPH) with the theme of The Workplace Initiative: Health, Safety and Wellbeing Regarding Covid:19 can be held successfully. I welcome all of you to this seminar which has received great attention not only from university, but also other communities to submit papers to be presented in this seminar. I express my highest gratitude and appreciation the presenters.

The conference is divided in two session, the first session is speeches and the second session is round table discussion. In the first session, the invited keynote speakers were Prof. Dr. Tan Malaka, MOH, DrPH, SpOk, HIU (A Professor from Medical Faculty Universitas Sriwijaya), Prof. Dr. Retneswari Masilamani (University Tunku Abdul Rahman, Malaysia), Prof.Dr.Joselito L. Gapaz MD, M.PH(University of the Philippines) and Prof. Dr Tjandra Yoga Aditama, MHA,DTM&H, DTCE,SpP(C).FIRS (Professor from Griffith University, Australia)

Of course, this conference activity would not have succeeded without the support of all parties involved, as well as the presence of all participants in all regions in Indonesia and internationally. I especially thank to all the organizing committees for their hard work, perseverance, and patience in preparing and organizing this conference so that it can go well, smoothly and successfully.

Finally, through this conference let us extend the network and cooperation among all stakeholders of the public health sector, especially in Indonesia and in the world in general, to build a better public health world in Indonesia

Thank you for participating in this conference.

**Dean of Public Health Faculty,
Universitas Sriwijaya**

Dr. Misnianti, S.K.M, M.K.M

TABLE OF CONTENTS

PREFACE	i
ORGANIZING COMMITTEE	iii
SCIENTIFIC COMMITTEE	iv
MAIN SPEAKERS	v
TIME SCHEDULE	vi
LIST OF ORAL PRESENTATIONS	viii
TABLE OF CONTENTS	xiv

1. Analysis of Occupational Health and Safety Requirements From Fuel Daily Storage Tank Fires at Diesel Power Plant X Maududi farabi	1
2. Correlation Between Household Expenditure and Nutritional Status of Toddlers in Padang City During Covid-19 Pandemic Deni Elnovriza1, Risti Kurnia Dewi, Rahmania Adrianus	12
3. Prevention and Control of Infections in Health Personnel in Facing the COVID-19 Pandemic in Health Service Facilities of Musi Rawas District Catherine Dwi Augusthi Putri	20
4. Prevalence and Risk Factors for Preeclampsia In Pregnant Women in RSUD (Regional Public Hospital) Ajibarang in 2019-2020 Dealita Aulia, Wilis Dwi Pangesti	39
5. Water, Sanitation and Hygiene in Farm Area and Industrial Area of Citarum Watershed Zahra, Lely Indrawati	53
6. Analysis of Deworming Program Implementation in Elementary School Students in Work Region of Puskesmas Air Beliti Muhammad Prima Cakra Randana, Misnaniarti, Rostika Flora, Benedictus Widodo	62
7. A Year and A Half Trend Analysis and Spatial Distribution of COVID-19 Cases In Palembang Ahmad Ghiffari, Hamzah Hasyim, Iskhaq Iskandar, Muhammad Totong Kamaluddin	78
8. Analysis of Public Search Interest in Hoax and Conspiracy Towards Increasing of COVID-19 Confirmed Cases in Indonesia: Study Google Trends Adela Nadya Letissia, Angela Irene, Chandra Wahyudi, Naomi Winny Tioline, Rizka Samira Batubara, Rizma Adlia Syakurah	87
9. Analysis of Public Search Interests Regarding Treatment and Prevention of New Cases of COVID-19 in Indonesia Desi Mawarni, Iza Netiasa Haris, Rizka Dwi Patriawati, Mutiara Tri Florettira, Clarisya Resky Vania, Rizma Adlia Syakurah	97
10. Food Security in Families of Stunting and Non-stunting Toddlers During he COVID-19 Pandemic In Palembang, Indonesia Indah Purnama Sari, Windi Indah Fajar Ningsih, Desri Maulina Sari	110
11. Natural Factors and Wetland Fires in the District of Ogan Ilir, bSouth Sumatera	118

	Province in 2019	
	Nyayu Zaskia Faturrahma, Mona Lestari, Novrikasari1, Dwi Septiawati1, Desheila Andarini	
12.	Implementation of the National Health Insurance Program (JKN) at Sei Baung Public Health Center Through the Evaluation Criteria of Equity Farah Fadhillah, Dian Safriantini, Asmaripa Ainy, Haerawati Idris, Misnaniarti	133
13.	Self-Efficacy Men Who Have Sex With Men (Msm) People Living With Hiv/Aids Rico Januar Sitorus, Miftaqulia Era Khairia, Elisna Wulandari, Merry Natalia Panjaitan, Yeni Indriyani	145
14.	Association Between Membership of Health Insurance and Inpatient Utilization: Analysis of The National Socioeconomic Survey (SUSENAS) 2019 Royhana Afifa , Asmaripa Ainy	152
15.	Diarrhea, Water Quality and Wasting Among Children in Riverside Settlement of Ogan Ilir District, South Sumatera Indonesia Imelda G Purba , Anggun Budiastuti, Rico Januar Sitorus	165
16.	Determinant Factors of Fruit and Vegetable Consumption in Pre-School Children in Babat Village, Penukal Abab Lematang Ilir Regency (PALI) Syartika Dinanti, Yuliarti	174
17.	Distribution of Environmental Factor to Malaria Incidence In Muara Enim Regency Elvi Sunarsih, Muhammad Zulkarnain, Laila Hanum, Rostika Flora	195
18.	The Effect of Seminars Online on Community Knowledge About New Habits Adaptation in Children During the COVID-19 Pandemic Mariatul Fadilah, Pariyana, Rifka Purnama Sari, Rizka Dwi Patriawati, Rizma Adlia Syakurah	210
19.	Online Nutrition Education Class to Improve Knowledge and Wellness of Well-Being Windi Indah Fajar Ningsih, Fatmalina Febry, Indah Purnama Sari, Jovita Octa Melinda	221
20.	Analysis of Sanitation Hygiene Risk Factor With the Incident of Diarrhea in Wet Land Settlements of Pulutan District Inoy Trisnaini, Imelda Gernauli Purba, Rahmatillah Razak	232
21.	Advanced Formula Feeding and Overweight in Toddlers: A Review of Mother's Perception in Palembang Manda Sari Ulina, Fatmalina Febry	248
22.	Relationship of Sleep Quality, Eating Habits and Physical Activity With Nutritional Status In Night Shift Workers At Pltmh Niagara South OKU Regency Rahma Zahara, Indah Yuliana, Yuliarti, Amrina Rosyada, Windi Indah Fajar Ningsih	258
23.	Analysis of Antiglare Screen Use With the Incident Computer Vision Syndrome (Cvs) In Communications and Informatics Department of The City of Palembang Mona Sherti Agusti, Yuanita Windusari	267
24.	Analysis of the Cause of Work Accident at Palm Oil Harvesters Devi Afriani, Mona Lestari, Anita Camelia, Desheila Andarini, Novrikasari, Titi Nurhaliza	277
25.	Exposure Residuals of Cigarette Smoke to Acute Respiratory Infection on Children in the Work Area of Boombaru Health Center Palembang Nila Afifah, Amrina Rosyada	294
26.	Hazard implementation and operability study (hazops) in the process of risk analysis on boiler unit pembangkit tenaga gas dan uap (pltgu) keramasan Palembang Sandra Apriliana LTC, Anita Camelia, Dini Arista Putri, Novrikasari, Desheila Andarini, Mona Lestari, Poppy Fujianti	301
27.	Trafic Accident in Palembang City 2020	312

- Nora Agustina, Desheila Andarini, Anita Camellia, Mona Lestari, Novrikasari**
28. Analysis of Medical Record Folder Design At Toto Kbila Hospital In 2021 327
Hartati Inaku, Faradilah Djibran
29. Morphology and Dominant Factors of Personal Hygiene Behavior Affecting the 340
Incidence of Pediculosis Capitis at Orphanages in Palembang City,Indonesia
Jhonriswanda, Chairil Anwar, Mohammad Zulkarnain, Rico Januar Sitorus
30. University Students Awareness Of Implementing Health Protocol During COVID- 348
19 Pandemic in Indonesia
**Windi Indah Fajar Ningsih, Andi Eka Yunianto, Dominikus Raditya Atmaka,
Hasmar Fajriana, Manik Nur Hidayati, Eliza, Alifah Asyarin**
31. Factors Related to the Selection of Snack Food in School Students at SDN 33 360
Lubuklinggau City
Ike Yunilamsari, Yuliarti
32. Sarcoptes Scabiei Mite Morphology And Environmental Factors Affecting Scabies 374
Incidence (Case Study: Islamic Boarding School “X In Ogan Ilir Regency, South
Sumatra Province)
Yesi Arisandi, Dewi Ruri
33. The Correlation of Environmental Tobacco Exposure During Pregnancy 382
(Passive Smoker) With The Happened of Low Birth Weight (LBW) at
Prabumulih Public Hospitals
Dian Puspasari, Dwi Septiawati* , Hamzah Hasyim, Rahmatillah Razak

ADVANCED FORMULA FEEDING AND OVERWEIGHT IN TODDLERS: A REVIEW OF MOTHER'S PERCEPTION IN PALEMBANG

Manda Sari Ulina, Fatmalina Febry*

Nutrition Department Public Health Faculty Universitas Sriwijaya, Jl. Palembang Prabumulih KM 32, Ogan Ilir
30662 Sumatera Selatan Indonesia

Correspondece Email : fatmalina@fkm.unsri.ac.id

ABSTRACT

Obesity in toddlers has not been considered a problem, as long as the toddler is having fun and happy and has a good appetite. This inaccurate perception can put toddlers at risk for medical and psychosocial problems during childhood and long-term impacts on quality of life in the future. The risk of obesity in toddlers can be caused by advanced formula feeding. Most mothers considered formula feeding more convenient, practical, and more nutritious. This study aims to determine the provision of advanced formula milk and obesity in toddlers as seen from mothers' perception in Palembang City. This study uses a cross-sectional method conducted in the city of Palembang. Samples were determined using Cluster-Random Sampling and sampling by Purposive Sampling. Research respondents are mothers who have toddlers aged 2-5 years, as many as 84 respondents. From the study results, it was found that the mother's perception of advanced formula feeding and obesity, as well as exposure to mass media, was significantly related to advanced formula feeding but still as a protective factor. It can be said that mothers provide more significant opportunities to offer advanced formula milk to toddlers.

Keyword: Mothers' preception, Advanced Formula Feeding, Toddler

ABSTRAK

Kegemukan pada balita dianggap bukan masalah selama balita tersebut menyenangkan dan bahagia serta memiliki nafsu makan yang baik. Persepsi yang kurang tepat ini dapat menyebabkan balita beresiko terhadap masalah medis dan psikososial selama masa kanak-kanak serta dampak jangka panjang terhadap kualitas hidup di masa yang akan datang. Resiko kegemukan pada balita dapat disebabkan salah satunya karena pemberian susu formula lanjutan. Sebagian besar Ibu menganggap pemberian susu formula lebih nyaman, praktis, dan lebih bergizi. Penelitian ini bertujuan untuk mengetahui pemberian susu formula lanjutan dan kegemukan pada balita yang dilihat dari persepsi ibu di Kota Palembang. Penelitian ini menggunakan metode *cross sectional* yang dilakukan di Kota Palembang. Sampel ditentukan menggunakan *Cluster-Random Sampling* dan pengambilan sampel dengan cara *Purposive Sampling*. Responden penelitian adalah ibu yang memiliki balita usia 2-5 tahun sebanyak 84 responden. Dari hasil penelitian didapat data bahwa persepsi ibu mengenai pemberian susu formula lanjutan dan kegemukan serta paparan media massa berhubungan secara signifikan dengan pemberian susu formula lanjutan sedangkan variabel pendidikan ibu dan pekerjaan ibu tidak berhubungan dengan pemberian susu formula lanjutan namun tetap sebagai faktor protektif. Dapat disimpulkan bahwa persepsi ibu memberikan peluang lebih besar terhadap pemberian susu formula lanjutan pada balita.

Kata Kunci : Persepsi Ibu, Susu Formula Lanjutan, Balita

Introduction

Obesity, commonly called overweight is one of the nutritional problems often found in today's society. The risk of being overweight will be 1,15 times higher with increasing age until 50 years⁽¹⁾. However, at this time, the case of overweight has been found at an early age, starting from the age of 0-5 years. Most mothers in Indonesia feel happy if their toddler is fat because they have the perception that their toddler is very healthy. This perception can be formed due to various things such as education level, mother's employment status, and exposure to mass media. Mothers do not mark if their toddler is in the overweight category frequently⁽²⁾. In fact, being obese or overweight can actually indicate an accumulation of fat that will increase the risk of non-communicable diseases, and fat does not necessarily mean a toddler is in a healthy situation⁽³⁾.

According to the 2018 Global Nutrition Report, in four countries, more than a fifth of all toddlers are overweight, there are Ukraine, Albania, Libya, and Montenegro. There are also countries that have more than 1 million obese toddlers; there are China, Indonesia, India, Egypt, the US, Brazil, and Pakistan⁽⁴⁾. Changes in the prevalence of nutritional status of obese toddlers based on the BB/TB index in Indonesia from time to time (trend) can be said to be decreasing, this is evidenced in the 2010 Riskesdas, which was 14.0%, then in the 2013 Riskesdas it was 11.9%, and in the 2018 Riskesdas, it was 8.0%. Likewise, with South Sumatra Province, the prevalence of obese toddlers has decreased, in Riskesdas in 2010 by 16.8%, then in Riskesdas in 2013 to 16.7%, and in Riskesdas 2018 to 10.8%⁽⁵⁾. From the results of the Riskesdas report in Figures for the Province of South Sumatra in 2013, it is known that the prevalence of nutritional status of toddlers based on the BB/TB index belonging to the fat category in Palembang City is 13.6%⁽⁶⁾. The Ministry of Health Indonesia (1996) sets the standard as a cut-off point to determine the magnitude of the problem that occurs, for the issue of obesity in the Riskesdas data that has been described previously, for the problem of obesity in the Riskesdas data that has been described previously. Currently, obesity in Indonesia is categorized as a mild problem. However, for the Province of South Sumatra, especially the city of Palembang, it is still above the national figure and is in the category of moderate problem.

The incidence of obesity in toddlers has various risks. Obesity in toddlers can increase the risk of medical and psychosocial problems during childhood⁽⁷⁾. The risk of obesity in toddlers can occur due to various causes; one of them is formula feeding. One of the causes of obesity in toddlers is the mother's parenting pattern in providing food intake, for example, in formula feeding⁽⁸⁾. In the Minister of Health

Regulation Number 39 of 2013, it is stated that the provision of infant formula milk and other baby products must be adjusted to the age, condition of the baby and by the recommended serving sizes and/or standards set out in the packaging. Most mothers find formula feeding more convenient, less tiring, and more nutritious⁽⁹⁾.

Toddlers who fed formula milk had 1.2 to 9.5 times higher energy intake and 1.2 to 4.8 times higher protein intake than toddlers who were not fed formula. This is due to the higher energy and protein content of the formula and the higher volume of consumption, which can lead to greater weight gain in formula-fed toddlers⁽¹⁰⁾. Children who were fed high-volume formula were heavier⁽¹¹⁾. There is also a study that states that giving formula milk with an average weight of >100 g/day has a 7.0 times risk of becoming obese⁽¹²⁾. Based on the description of the background above, the researcher is interested in researching the relationship between mothers' perception of the provision of advanced formula milk and obesity with the provision of advanced formula milk to toddlers aged 2-5 years in the city of Palembang.

Method

This study uses a cross-sectional method that uses primary data. Variables, including risk factors and effects, are observed at the same time⁽¹³⁾. The population in this study were all mothers who had toddlers aged 2-5 years in Palembang City, with a total sample of 84 toddlers calculated by using the two-proportion hypothesis test formula. The sampling technique was random cluster sampling by determining 4 of the 18 sub-districts in Palembang City that would be the research sample, namely Plaju District, Ilir Timur I District, Kertapati District, and Sako District. Then the sample is determined using purposive sampling, and the sample is selected by the researcher, who is adjusted to the criteria that have been established.

The researcher variables consisted of independent variables, namely mother's perception of advanced formula feeding and obesity in toddlers, confounding variables were mother's education, mother's occupation, and exposure to mass media, and the dependent variable, which is the provision of advanced formula milk. This variable is stated in the form of a questionnaire using a google form and distributed online through social media.

The data processing applied in this research is as follows⁽¹⁴⁾: editing, coding, processing, cleaning, and data transformation. The research questionnaire was tested for validity and reliability. Validity is used to indicate whether the measuring instrument used (questionnaire) is appropriate to measure what

the researcher wants to measure in the study. states that the instrument is said to be valid if each item on the instrument has a value of $r \text{ count} > r \text{ table}$ or $\text{sig.} <$. The research instrument is said to be reliable if it has a Cronbach alpha value > 0.60 . The testing of validity and reliability of the questionnaire was carried out with a total of 30 respondents⁽¹⁵⁾. The analyzes used in this study include univariate analysis, bivariate analysis, and multivariate analysis. Bivariate analysis used chi-square test and fisher's exact, while multivariate analysis used logistic regression. Then the data is presented in the form of tabulations and graphs.

Results

Based on the univariate analysis approach, the results obtained from data analysis are shown in Table 1. Meanwhile, based on bivariate and multivariate analysis the results are shown in Table 2 and Table 3.

Table 1. Univariate Analysis

Variable	Frequency (n)	Percentage (%)
Mother' s Preception		
Deficient	42	50
Good	42	50
Mother' s Education		
Low	14	16,7
High	70	83,3
Mother' s Job		
Work	28	33,3
Not Work	56	66,7
Mass Media Exposure		
Exposure	51	60,7
Not Exposed	33	39,3
Advanced Formula Feeding		
Yes	65	77,4
No	19	22,6

From the distribution table above, the information is obtained that from a total of 84 respondents, there are 50% of mothers have poor perceptions, and the remaining 50% of mothers have good perceptions. Then for the mother's education variable, the majority of mothers have higher education (83.3%). Based on the distribution table above, the information is also obtained that most mothers do not have jobs (66.7%). In the variable of mass media exposure, the majority of mothers were exposed to information about advanced formula milk from the mass media (60.7%). In this study, 71 out of 84 respondents claimed to have received information about advanced formula milk from electronic mass media (such as television, audio/video recordings, etc.). Electronic media is at the top of this study. The

second is the new media such as the internet; 46 out of 84 respondents claimed to get information about advanced formula milk from the internet. Based on 46 respondents who received information about advanced formula milk from the internet, the internet was referred to Google, Facebook, and WhatsApp. From the 84 respondents, the majority of mothers who gave advanced formula milk to toddlers amounted to 77.4%.

Table 2. Bivariate Analysis

Variable	Advanced Formula Feeding				<i>p-value</i>	<i>PR</i> (<i>CI</i> 95%)
	Yes		No			
	n	%	n	%		
Mother' s Preception						
Deficient	37	88,1	5	11,9	0,037	1,321 (1,038-1,682)
Good	28	67,7	14	33,3		
Mother' s Education						
Low	10	71,4	4	28,6	0,727	0,909 (0,639-1,294)
High	55	78,6	15	21,4		
Mother' s Job						
Work	19	67,9	9	32,1	0,231	0,826 (0,623-1,096)
Not Work	46	82,1	10	17,9		
Mass Media Exposure						
Exposed	44	86,3	7	13,7	0,031	1,356 (1,024-1,794)
Not Exposed	21	63,6	12	36,4		

Based on the results of statistical calculations on the relationship between mother's perception of advanced formula feeding and obesity with advanced formula feeding to toddlers aged 2-5 years in Palembang City in 2020 shows that there is a relationship between mother's perception of advanced formula feeding and obesity with advanced formula feeding to toddlers (p -value = 0,037; PR = 1,321; 95% CI = 1,038 - 1,682). Furthermore, the results of statistical calculations show that there is no relationship between mothers' education on advanced formula feeding and obesity with advanced formula feeding to toddlers. (p -value = 0,727; PR= 0,909; 95% CI= 0,639-1,294). Based on the results of statistical calculations indicate that there is no relationship between a mother's education on the provision of advanced formula milk and obesity with the provision of advanced formula milk to toddlers (p -value = 0,231; PR= 0,826; 95% CI =0,623-1,096). Then on the last variable based on the results of statistical calculations, it was found that there was a relationship between mass media exposure about advanced formula milk to advanced formula feeding and obesity with advanced formula feeding to toddlers. (p -value = 0,031; PR = 1,356; 95% CI = 1,024 - 1,794).

Table 3. Multivariate Analysis

Variable	Odds Ratio			
	M1	M2	M3	Last M
Preception	37.491	46.121	3.414	37.491
Education	-	-	-	-
Job	6.784	6.240	0.437	6.784
Media Exposure	2.410	3.262	3.693	2.410
Preception*Job	0.201	0.210	-	0.201
Preception*Media Exposure	1.199	-	-	1.149

Description : (M) = Model

The conclusion is that there is no interaction that occurs in the independent variable perception of formula feeding in the dependent variable; it is also concluded that mothers who have poor perceptions have a risk of 37 (OR = 37,49) times greater to give advanced formula milk to toddlers, while the confounding variable has a smaller risk compared to the independent variable, namely the work variable where working mothers have a risk of 7 (OR = 6,78) times greater to give advanced formula milk to toddlers, and the variable of media exposure where mothers who are exposed to mass media have a risk of 2 (OR = 2,41) times more likely to provide follow-up formula milk to toddlers.

Discussion

The perception affects memory, concept formation, attitude development. Therefore, if someone's perception is different, then the resulting behavior and attitude patterns will be different ⁽¹⁶⁾. In this study, the mother's perception of advanced formula milk and obesity in toddlers can affect the provision of advanced formula milk. Mothers with a poor perception of the condition of advanced formula milk and obesity in toddlers can influence to give advanced formula milk to toddlers. Differences in perceptions about advanced formula feeding and obesity in toddlers can occur because a person experiences a process of receiving, organizing to interpreting, or translating different objects/stimulus so as to produce different views. It is the different views or perceptions of each individual that can affect the provision of advanced formula milk to toddlers aged 2-5 years.

Education is the process of changing the attitudes and behavior of a person or group of people to mature humans through teaching and training efforts, action processes, and ways of educating. Education is an essential benchmark in influencing the mother's mindset to determine whether it is beneficial or not, which in this case is the provision of advanced formula milk⁽¹⁷⁾. The absence of a relationship between a mother's education and advanced formula feeding proves that a mother's

education cannot fully be used as a benchmark for mothers to act to determine what is good and bad. Although in this study, the mother's education did not have a relationship with the provision of advanced formula milk, the mother's education must still be noticed.

Mothers who have jobs are 2,485 times more likely to give formula milk ⁽¹⁸⁾. The absence of a relationship between mothers' work and the provision of advanced formula milk in this study could be caused by mothers who are unemployed more giving advanced formula milk to their toddlers because they have more time at home with their toddlers ⁽¹⁹⁾. The absence of a relationship between mother's job and advanced formula feeding in this study can also be caused because the respondents of this study, both working mothers and non-working mothers, had the same great opportunity to give formula milk. Although in this study, the mother's occupation did not have a relationship with the provision of advanced formula milk, the variable of the mother's job was still a protective factor against the provision of advanced formula milk, which means that working mothers still have the potential to provide advanced formula milk to their toddlers.

The mass media have many ways to do persuasion, which means influencing the attitudes or other's opinions; from there, the mass media can make individuals choose a product that is considered better. The mass media can influence mothers in giving advanced formula milk to toddlers because the mass media has a lot of information about advanced formula milk, which is very easy for mothers to access. Availability of information about advanced formula milk, which is increasingly easy to find in the mass media following current developments such as electronic mass media (television, audio/video recordings), new mass media in the form of the internet (google, Facebook, and WhatsApp) can also cause mothers to be more interested in giving continued formula milk to their toddlers, and this is in line with the theory stated by Melvin L. De Fleur and Sandra Ballrokeock that the formation of attitudes and actions depends on the mass media news material that follows world developments ⁽²⁰⁾.

Conclusion

Based on the results of univariate analysis of 84 respondents, there are 50% of mothers who have a poor perception and the remaining 50% of mothers who have a good perception. Then for the mother's education variable, the majority of mothers have higher education (83,3%). The majority of mothers do not have jobs (66,7%), and the majority of mothers are exposed to information about advanced formula milk from the mass media (60,7%). Of the 84 respondents, the majority of mothers who gave advanced formula milk to toddlers were 77,4%. The results of the bivariate analysis stated that there was a

relationship between mother's perception and advanced formula feeding, and there was a relationship between mass media exposure and continued formula feeding. The variables of education and mother's occupation have no relationship with advanced formula feeding. Based on the results of multivariate analysis, it was concluded that the mother's perception had the most significant influence on advanced formula feeding, having an OR of 37,49.

The suggestions that can be given to mothers of toddlers in order to increase knowledge and understanding of advanced formula milk, both in terms of benefits and impacts. It is also about the causes and effects of childhood obesity that can occur at the time of the toddler and in the future. In addition, advanced formula feeding must be carried out on time and in the right amount; it is when the child is more than one year old with an amount of no more than 100 grams in one day. It is hoped that the nutrition section of the Puskesmas can further disseminate information to mothers about the pros and cons of giving advanced formula milk and the causes effects of obesity at the age of 2-5 years so that there are no misperceptions in the future.

Acknowledgment

We would like to thank to all respondents who have provided assistance and support for this research.

Funding

The authors should state that they have no funding for the research.

Conflict of Interest

The authors declare that they have no conflict of interest.

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ISBN 978-623-399-020-2

