

*Lampiran 1***PERNYATAAN KEASLIAN TULISAN**

Yang bertanda tangan di bawah ini saya:

Nama : Nurwasilah

NPM : 20700134

Program Studi : Pendidikan Dokter

Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya

menyatakan dengan sebenarnya bahwa Skripsi yang saya tulis dengan judul “Hubungan Antara Tingkat Pendidikan Ibu dan Pendapatan Keluarga Terhadap Kejadian Stunting Pada Balita di Puskesmas Kota Madiun”, benar-benar hasil karya saya sendiri, bukan merupakan pengambilalihan tulisan atau pikiran orang lain yang saya akui sebagai tulisan atau pikiran saya sendiri. Apabila di kemudian hari dapat dibuktikan bahwa Skripsi ini adalah hasil jiplakan, maka saya bersedia menerima sanksi atas perbuatan tersebut.

Surabaya, 15 Juli 2023

Yang membuat pernyataan,



**(Nurwasilah)**

NPM : 20700134

*Lampiran 2*

**KUESIONER DAN OBSERVASI PENELITIAN**  
**HUBUNGAN ANTARA TINGKAT PENDIDIKAN IBU DAN**  
**PENDAPATAN KELUARGA TERHADAP KEJADIAN *STUNTING* PADA**  
**BALITA DI PUSKESMAS KOTA MADIUN**

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**A. IDENTITAS RESPONDEN**

1. Kode :
2. Umur Orngtua :
3. Pekerjaan Orngtua :
4. Jenis Kelamin Balita :
5. Umur Balita :

**B. TINGKAT PENDAPATAN KELUARGA**

Pendapatan Keluarga perbulanan : Rp. ....

1. < Rp2.190.216
2.  $\geq$  Rp2.190.216

**C. TINGKAT PENDIDIKAN IBU**

Tingkat Pendidikan terakhir ibu : .....

1. Tidak Sekolah
2. SD
3. SMP / Sederajat
4. SMA / Sederajat
5. Diploma/Perguruan tinggi

## Lampiran 3

**PENGANTAR KUESIONER**

Judul penelitian : Hubungan antara Tingkat Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian *Stunting* pada Balita di Puskesmas Kota Madiun

Peneliti : Nurwasilah  
(Nomor telepon yang dapat dihubungi: 082157418818)

Pembimbing : Dr. dr. Sukma Sahadewa, M.Kes., S.H., M.H., S.Sos., CLA., FISPH., FISCM dan dr. Hj. Andiani, M.Kes

Ibu-ibu penduduk di Kota Madiun yang terhormat,

Saya adalah Mahasiswa Semester V Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya. Untuk menyelesaikan Skripsi, saya bermaksud untuk mengadakan penelitian dengan judul "Hubungan antara Tingkat Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian *Stunting* pada Balita di Puskesmas Kota Madiun".

Saya berkeyakinan bahwa penelitian ini memiliki manfaat yang sangat berguna untuk mengatasi kejadian *Stunting* yang diderita oleh balita di kota ini. Oleh sebab itu, saya berharap kesediaan ibu-ibu untuk menjadi responden dalam penelitian ini.

Apabila ibu sekalian bersedia kami mohon kesediaannya untuk menandatangani persetujuan menjadi subyek penelitian.

Atas perhatian dan kerjasama ibu-ibu saya ucapkan terima kasih.

Madiun, ..... 24 Maret 2023

Peneliti,



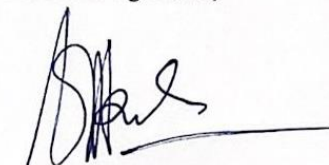
(Nurwasilah)

NPM : 20700134


Mengetahui :

Pembimbing Utama,

Pembimbing Pendamping,



(Dr. dr. Sukma Sahadewa, M.Kes., S.H., M.H., S.Sos., CLA., FISPH., FISCM)  
NIK. 10434-ET



dr. Hj. Andiani, M.Kes  
NIK. 12700-ET

*Lampiran 4***SURAT PERSETUJUAN MENJADI RESPONDEN/SUBYEK****PENELITIAN*****(Informed consent)***

Kami meminta persetujuan ibu untuk menjadi bagian sebagai subyek/responden dalam suatu penelitian berjudul “Hubungan antara Tingkat Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian *Stunting* pada Balita di Puskesmas Kota Madiun”. Penelitian ini bertujuan untuk mengetahui hubungan antara tingkat pendidikan ibu dan pendapatan keluarga terhadap kejadian *Stunting* pada balita di Puskesmas Kota Madiun. *Stunting* adalah salah satu jenis masalah kekurangan gizi kronis yang terjadi ketika makanan yang diberikan tidak cukup untuk memenuhi kebutuhan gizi seseorang dalam jangka waktu yang lama. Tingkat pendidikan ibu dapat mempengaruhi keputusan ibu untuk mengalokasikan sumber daya keluarga. Selain itu, pendapatan keluarga yang tinggi dapat memenuhi kebutuhan keluarga terutama kebutuhan pangan yang beragam sehingga asupan pangan untuk anak balita terpenuhi. Kondisi ini akan berpengaruh pada peningkatan kualitas konsumsi makanan anggota keluarga dan menjadi gambaran penilaian gizi yang baik.

Ibu akan diminta untuk mengisi lembar kuesioner yang berisi pertanyaan tentang pendidikan terakhir ibu dan pendapatan keluarga apabila ibu bersedia untuk terlibat dalam penelitian ini.

Catatan mengenai data penelitian akan dirahasiakan, dan kerahasiaannya akan dijamin. Informasi mengenai identitas Ibu tidak akan ditulis pada instrumen

penelitian atau tidak dipublikasikan dan akan tersimpan secara terpisah di tempat yang aman..

Untuk menjadi bagian dari penelitian ini adalah hak pribadi dan tidak ada unsur paksaan, karena Ibu berhak menolak untuk berperan sebagai responden atau mengundurkan diri setiap saat tanpa adanya sanksi atau kehilangan hak-hak Ibu. Penelitian ini tidak memungut biaya apapun dari Ibu.

Jika ada pertanyaan, masalah atau ketidakpuasan dalam pelaksanaan penelitian ini, Ibu dapat menghubungi Dr. dr. Sukma Sahadewa, M.Kes., S.H., M.H., S.Sos dan dr. Hj. Andiani, M.Kes. (Bagian Ilmu Kesehatan Masyarakat), Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya yang dengan senang hati akan menjawab pertanyaan dan permasalahan Anda. Nomor telepon yang bisa Anda hubungi adalah 082157418818

---

Saya telah membaca atau dibacakan apa yang tertera di atas dan saya telah diberi kesempatan untuk mengajukan pertanyaan berkaitan dengan proyek penelitian ini kepada anggota tim peneliti. Saya memahami tujuan, prosedur dan risiko penelitian ini. Dengan membubuhkan tanda tangan saya di bawah ini, saya menegaskan keikutsertaan saya secara sukarela dalam proyek penelitian ini. Saya menerima tembusan surat persetujuan ini.

Setelah mendengar dan memahami penjelasan tentang prosedur penelitian, dengan ini saya/ mewakili keluarga saya \*) menyatakan;

SETUJU/TIDAK SETUJU \*)

Untuk ikut sebagai responden/subyek penelitian.

Madiun, .....

Saksi :

Nama terang :..... Nama terang : .....

Alamat : ..... Alamat : .....

Tanda tangan : ..... Tanda tangan : .....

Keterangan:

\*) Coret salah satu (mewakili keluarga apabila subyek penelitian adalah ANAK)

\*\*\*) Coret salah satu

*Lampiran 5***PERNYATAAN TELAH MELAKSANAKAN INFORMED CONSENT**

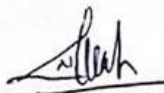
Yang bertanda tangan di bawah ini saya:

Nama : Nurwasilah  
 NPM : 20700134  
 Program Studi : Pendidikan Dokter  
 Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya

menyatakan bahwa saya telah melaksanakan proses pengambilan data penelitian sesuai dengan yang disetujui pembimbing dan telah memperoleh pernyataan kesediaan dan persetujuan dari responden sebagai sumber data.

Surabaya, 25 Maret 2023

Yang membuat pernyataan,



**(Nurwasilah)**  
 NPM : 20700134

Mengetahui:

Pembimbing Utama Penelitian      Pembimbing Pendamping Penelitian FK,



(Dr. dr. Sukma Sahadewa, M.Kes.,  
 S.H., M.H., S.Sos., CLA., FISPH.,  
 FISCM)  
 NIK. 10434-ET




(dr. Hj. Andiani, M.Kes)  
 NIK. 12700-ET



## Lampiran 6

**SURAT KETERANGAN LAIK ETIK**



**KOMISI ETIK PENELITIAN KESEHATAN**  
**FAKULTAS KEDOKTERAN**  
**UNIVERSITAS WIJAYA KUSUMA SURABAYA**

**KETERANGAN KELAIKAN ETIK**  
**"ETHICAL CLEARANCE"**

No. 31 /SLE/FK/UWKS/2023

**KOMISI ETIK PENELITIAN KESEHATAN**

**PENELITIAN BERJUDUL:**  
**HUBUNGAN ANTARA TINGKAT PENDIDIKAN IBU DAN PENDAPATAN**  
**KELUARGA TERHADAP KEJADIAN STUNTING PADA BALITA DI**  
**PUSKESMAS KOTA MADIUN**

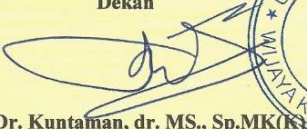
**PENELITI UTAMA:**  
**NURWASILAH**


**UNIT / LEMBAGA / TEMPAT PENELITIAN:**  
**KOTA MADIUN, MELIPUTI 3 PUSKESMAS YANG TERDIRI DARI**  
**PUSKESMAS NGEGONG, DEMANGAN, DAN MANGUNHARJO**


**MENYATAKAN:**  
**" LAIK ETIK "**

Surabaya, 28 Februari 2023

Mengetahui,  
 Dekan

  
 Prof. Dr. Kuntaman, dr. MS., Sp.MK(K)



Ketua Unit,  
  
 Dr. Erny, dr., Sp.A (K)



## Lampiran 7

## OUTPUT SPSS

## A. Hasil Analisis Univariat

## 1. Kejadian Stunting

## Kejadian Stunting PB/U

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stunting	17	50.0	50.0	50.0
	Tidak stunting	17	50.0	50.0	100.0
	Total	34	100.0	100.0	

## 2. Usia Balita

## Usia

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 12 bulan	23	67.6	67.6	67.6
	≥ 12 Bulan	11	32.4	32.4	100.0
	Total	34	100.0	100.0	

## 3. Jenis Kelamin Balita

## Jenis kelamin

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Perempuan	20	58.8	58.8	58.8
	Laki-laki	14	41.2	41.2	100.0
	Total	34	100.0	100.0	

## 4. Pekerjaan Ibu

		<b>Pekerjaan Ibu</b>		Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	Bekerja	12	35.3	35.3	35.3
	Tidak Bekerja	22	64.7	64.7	100.0
	Total	34	100.0	100.0	

## 5. Tingkat Pendidikan Ibu

		<b>Tingkat Pendidikan Ibu</b>		Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	Pendidikan rendah	13	38.2	38.2	38.2
	Pendidikan tinggi	21	61.8	61.8	100.0
	Total	34	100.0	100.0	

## 6. Tingkat Pendapatan Keluarga

		<b>Tingkat Pendapatan Keluarga</b>		Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	< UMK	5	14.7	14.7	14.7
	≥ UMK	29	85.3	85.3	100.0
	Total	34	100.0	100.0	

7. Tingkat Pendidikan dan Tingkat Pendapatan Keluarga Terhadap Kelompok *Stunting*

		Faktor Risiko			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	berisiko tinggi (<3)	3	8.8	8.8	8.8
	berisiko rendah ( $\geq 3$ )	31	91.2	91.2	100.0
	Total	34	100.0	100.0	

B. Hasil Analisis Bivariat

1. Hubungan antara tingkat pendidikan ibu dengan kejadian *Stunting*

**Crosstabs**

Case Processing Summary						
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Tingkat Pendidikan * Stunting	34	100.0%	0	0.0%	34	100.0%

**Tingkat Pendidikan \* Stunting Crosstabulation**

Count

		Stunting		Total
		Stunting	Tidak stunting	
Tingkat Pendidikan	Rendah	8	5	13
	Tinggi	9	12	21
	Total	17	17	34

### Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	1.121 <sup>a</sup>	1	.290		
Continuity Correction <sup>b</sup>	.498	1	.480		
Likelihood Ratio	1.129	1	.288		
Fisher's Exact Test				.481	.241
Linear-by-Linear Association	1.088	1	.297		
N of Valid Cases	34				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6,50.

b. Computed only for a 2x2 table

2. Hubungan antara tingkat pendapatan keluarga dengan kejadian *Stunting*

### Crosstabs

#### Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Tingkat Pendapatan * Stunting	34	100.0%	0	0.0%	34	100.0%

**Tingkat Pendapatan \* Stunting Crosstabulation**  
Count

		Stunting		Total
		Stunting	Tidak stunting	
Tingkat Pendapatan	< UMK	2	3	5
	>= UMK	15	14	29
Total		17	17	34

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.234 <sup>a</sup>	1	.628		
Continuity Correction <sup>b</sup>	.000	1	1.000		
Likelihood Ratio	.236	1	.627		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.228	1	.633		
N of Valid Cases	34				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 2,50.

b. Computed only for a 2x2 table

3. Hubungan antara tingkat pendidikan ibu dan pendapatan keluarga dengan kejadian *Stunting*

### Crosstabs

#### Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Faktor Risiko * Kejadian Stunting	34	100.0%	0	0.0%	34	100.0%



### Faktor Risiko \* Kejadian Stunting Crosstabulation

		Kejadian Stunting		Total	
		Stunting	Tidak Stunting		
Faktor Risiko	berisiko tinggi (<3)	Count	2	1	3
		% within Faktor Risiko	66.7%	33.3%	100.0%
		% within Kejadian Stunting	11.8%	5.9%	8.8%
		% of Total	5.9%	2.9%	8.8%
	berisiko rendah (>=3)	Count	15	16	31
		% within Faktor Risiko	48.4%	51.6%	100.0%
		% within Kejadian Stunting	88.2%	94.1%	91.2%
		% of Total	44.1%	47.1%	91.2%
	Total	Count	17	17	34
% within Faktor Risiko		50.0%	50.0%	100.0%	
% within Kejadian Stunting		100.0%	100.0%	100.0%	
% of Total		50.0%	50.0%	100.0%	

### Chi-Square Tests

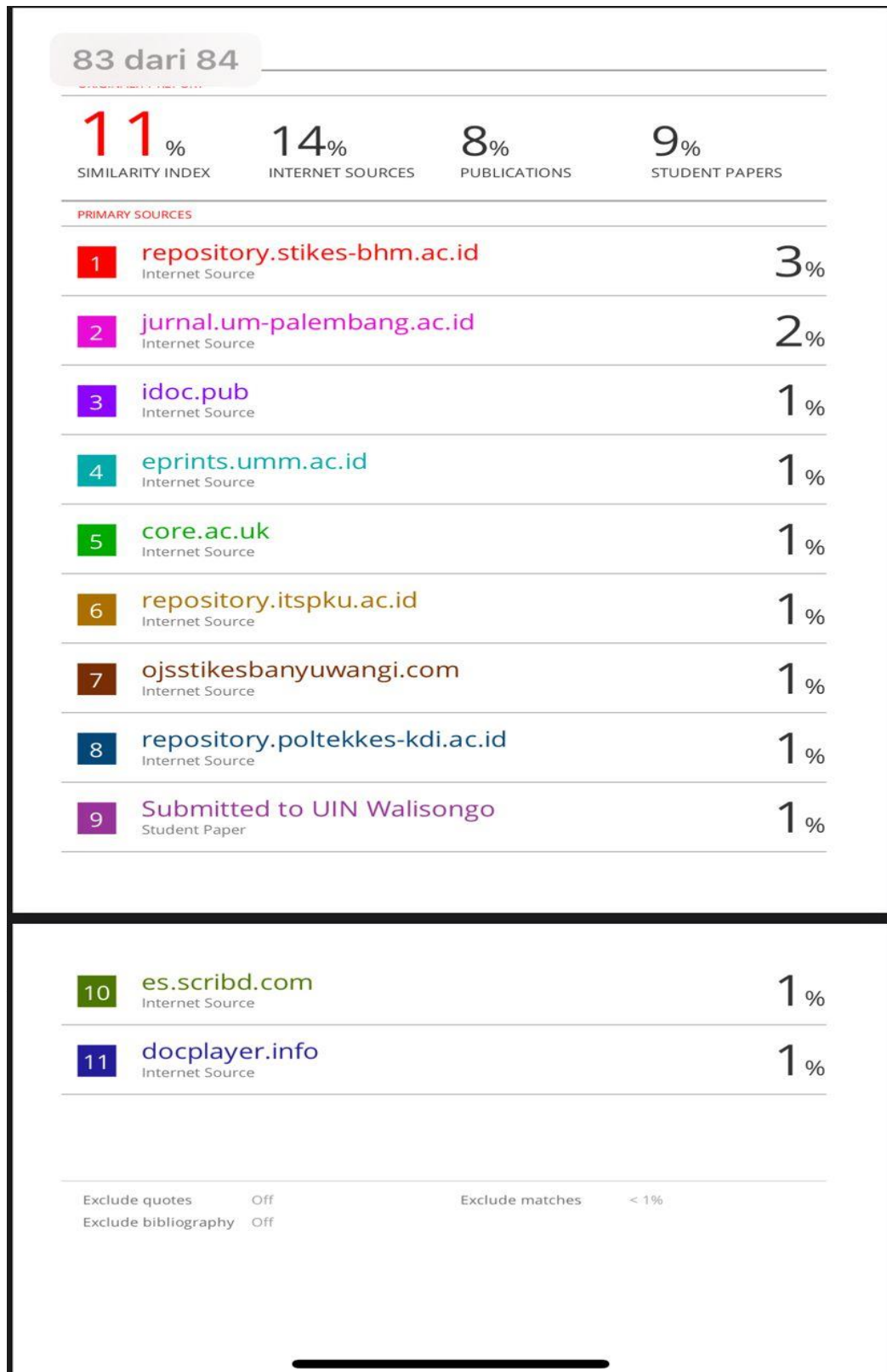
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.366 <sup>a</sup>	1	.545		
Continuity Correction <sup>b</sup>	.000	1	1.000		
Likelihood Ratio	.372	1	.542		
Fisher's Exact Test				1.000	.500

Linear-by-Linear Association	.355	1	.551		
N of Valid Cases	34				

- a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.50.
- b. Computed only for a 2x2 table

## Lampiran 8

## HASIL TES PLAGIASI



## Lampiran 9

## SURAT IJIN PENELITIAN



**YAYASAN WIJAYA KUSUMA**  
**UNIVERSITAS WIJAYA KUSUMA SURABAYA**  
**FAKULTAS KEDOKTERAN**  
 UNIT PENELITIAN, PENGABDIAN MASYARAKAT DAN PUBLIKASI  
 Sekretariat : Jln. Dukuh Kupang XXV/54, Surabaya Telp. (031) 5686531-5614001 Fax. (031) 5686531  
 Website : <http://www.uwks.ac.id> E-mail : [fk@fk.uwks.ac.id](mailto:fk@fk.uwks.ac.id)

Surabaya, 27 Februari 2023

No : 014/UP3/FK/UWKS/1/2023  
 Lampiran : -  
 Perihal : Permohonan Ijin permintaan data pendahuluan

Kepada:  
 Yth. Kepala Dinas Kesehatan Kota Madiun  
 Jl. Ringroad Barat, Kota Madiun,  
 Jawa Timur

Dengan hormat,  
 Sehubungan dengan pelaksanaan skripsi Tugas Akhir (TA) di Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya, maka dengan ini mohon bagi mahasiswa kami yaitu

Nama : Nurwasilah  
 NPM : 20700134  
 Tempat/Tanggal Lahir : Cianjur, 10 Maret 2002  
 Judul Proposal : Hubungan antara Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian Stunting pada Balita di Kota Madiun.

Waktu Penelitian : Februari – Maret 2023

Dijinkan untuk mendapatkan data di Dinas Kesehatan Kota Madiun, untuk menunjang kegiatan skripsi tugas akhir tersebut.

Demikian permohonan kami, dan atas perhatian dan bantuannya kami ucapkan terima kasih.

Hormat Kami,  
 a.n. Dekan,  
 Wakil Dekan Bidang Akademik



dr. Inawati, M.Kes

## SURAT IJIN PENELITIAN



**YAYASAN WIJAYA KUSUMA**  
**UNIVERSITAS WIJAYA KUSUMA SURABAYA**  
**FAKULTAS KEDOKTERAN**  
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 Website : <http://www.uwks.ac.id> E-mail : [fk@fk.uwks.ac.id](mailto:fk@fk.uwks.ac.id)

Surabaya, 27 Februari 2023

No : 014/UP3/FK/UWKS/I/2023  
 Lampiran : -  
 Perihal : Permohonan Ijin permintaan data pendahuluan

Kepada:

Yth. Kepala Bakesabangpol Kota Madiun  
 Jl. Mayor Jend. Di Panjaitan No.17, Banjarejo, Kec. Taman  
 Kota Madiun, Jawa Timur 63137

Dengan hormat,

Sehubungan dengan pelaksanaan skripsi Tugas Akhir (TA) di Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya, maka dengan ini mohon bagi mahasiswa kami yaitu

Nama : Nurwasilah  
 NPM : 20700134  
 Tempat/Tanggal Lahir : Cianjur, 10 Maret 2002  
 Judul Proposal : Hubungan antara Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian Stunting pada Balita di Kota Madiun.

Waktu Penelitian : Februari – Maret 2023

Dijinkan untuk mendapatkan data di Puskesmas Demangan, Puskesmas Manguharjo,  
 Puskesmas Ngegong, kota Madiun untuk menunjang kegiatan skripsi tugas akhir tersebut.

Demikian permohonan kami, dan atas perhatian dan bantuannya kami ucapkan terima kasih.

Hormat Kami,  
 a.n. Dekan,  
 Wakil Dekan Bidang Akademik



## SURAT IJIN PENELITIAN



**YAYASAN WIJAYA KUSUMA**  
**UNIVERSITAS WIJAYA KUSUMA SURABAYA**  
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 Website : <http://www.uwks.ac.id> E-mail : [flc@flc.uwks.ac.id](mailto:flc@flc.uwks.ac.id)

Surabaya, 27 Februari 2023

No : 014/UP3/FK/UWKS/I/2023  
 Lampiran : -  
 Perihal : Permohonan Ijin permintaan data pendahuluan

Kepada:  
 Yth. Kepala Puskesmas Ngegong  
 Jl. Keningar, Ngegong, Kec. Manguharjo,  
 Kota Madiun, Jawa Timur 63125

Dengan hormat,  
 Sehubungan dengan pelaksanaan skripsi Tugas Akhir (TA) di Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya, maka dengan ini mohon bagi mahasiswa kami yaitu

Nama : Nurwasilah  
 NPM : 20700134  
 Tempat/Tanggal Lahir : Cianjur, 10 Maret 2002  
 Judul Proposal : Hubungan antara Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian Stunting pada Balita di Kota Madiun.

Waktu Penelitian : Februari – Maret 2023

Dijijinkan untuk mendapatkan data di Puskesmas Ngegong kota Madiun, untuk menunjang kegiatan skripsi tugas akhir tersebut.

Demikian permohonan kami, dan atas perhatian dan bantuannya kami ucapkan terima kasih.

Hormat Kami,  
 a.n. Dekan,  
 Wakil Dekan Bidang Akademik





## SURAT IJIN PENELITIAN



**YAYASAN WIJAYA KUSUMA**  
**UNIVERSITAS WIJAYA KUSUMA SURABAYA**  
**FAKULTAS KEDOKTERAN**  
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 Website : <http://www.uwks.ac.id> E-mail : [flc@flc.uwks.ac.id](mailto:flc@flc.uwks.ac.id)

Surabaya, 27 Februari 2023

No : 014/UP3/FK/UWKS/I/2023  
 Lampiran : -  
 Perihal : Permohonan Ijin permintaan data pendahuluan

Kepada:  
 Yth. Kepala Puskesmas Manguharjo  
 Jl. Gajah Mada No.124, Manguharjo, Kec. Manguharjo,  
 Kota Madiun, Jawa Timur 63127

Dengan hormat,  
 Sehubungan dengan pelaksanaan skripsi Tugas Akhir (TA) di Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya, maka dengan ini mohon bagi mahasiswa kami yaitu

Nama : Nurwasilah  
 NPM : 20700134  
 Tempat/Tanggal Lahir : Cianjur, 10 Maret 2002  
 Judul Proposal : Hubungan antara Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian Stunting pada Balita di Kota Madiun.

Waktu Penelitian : Februari – Maret 2023

Dijinkan untuk mendapatkan data di Puskesmas Manguharjo kota Madiun, untuk menunjang kegiatan skripsi tugas akhir tersebut.

Demikian permohonan kami, dan atas perhatian dan bantuannya kami ucapkan terima kasih.

Hormat Kami,  
 a.n. Dekan,  
 Wakil Dekan Bidang Akademik



## SURAT IJIN PENELITIAN



**YAYASAN WIJAYA KUSUMA**  
**UNIVERSITAS WIJAYA KUSUMA SURABAYA**  
**FAKULTAS KEDOKTERAN**  
 UNIT PENELITIAN, PENGABDIAN MASYARAKAT DAN PUBLIKASI  
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Surabaya, 27 Februari 2023

No : 014/UP3/FK/UWKS/I/2023  
 Lampiran : -  
 Perihal : Permohonan Ijin permintaan data pendahuluan

Kepada:

Yth. Kepala Puskesmas Demangan  
 Jl. Raya Ponorogo - Madiun No.47, Nambangan Kidul, Kec. Madiun,  
 Kota Madiun, Jawa Timur 63128

Dengan hormat,

Sehubungan dengan pelaksanaan skripsi Tugas Akhir (TA) di Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya, maka dengan ini mohon bagi mahasiswa kami yaitu

Nama : Nurwasilah  
 NPM : 20700134  
 Tempat/Tanggal Lahir : Cianjur, 10 Maret 2002  
 Judul Proposal : Hubungan antara Pendidikan Ibu dan Pendapatan Keluarga terhadap Kejadian Stunting pada Balita di Kota Madiun.  
 Waktu Penelitian : Februari – Maret 2023

Dijijinkan untuk mendapatkan data di Puskesmas Demangan kota Madiun, untuk menunjang kegiatan skripsi tugas akhir tersebut.

Demikian permohonan kami, dan atas perhatian dan bantuannya kami ucapkan terima kasih.

Hormat Kami,  
 a.n. Dekan,  
 Wakil Dekan Bidang Akademik



## Lampiran 10

## DATA MENTAH HASIL PENELITIAN

Kode	Edukasi Ibu	Pekerjan Ibu	Pendapatan Keluarga	Gender	Usia (Bulan)	Tinggi Badan (cm)	Z-Score	Status Stunting
A001	Tamat SD/MI	bekerja	≥ UMK	P	6	63	-1,27	Tidak Stunting
A002	Tamat SLTA/MA	tidak	≥ UMK	P	7	65	-1	Tidak Stunting
A003	Tamat SLTP/MTSN	tidak	≥ UMK	p	10	67	-1,8	Tidak Stunting
A004	Tamat SLTP/MTSN	tidak	≥ UMK	P	12	74,5	0,19	Tidak Stunting
A005	Tamat PT	bekerja	≥ UMK	L	15	77	-0,84	Tidak Stunting
A006	Tamat SLTP/MTSN	tidak	<UMK	P	7	64	-1,43	Tidak Stunting
A007	Tamat SLTA/MA	tidak	≥ UMK	P	8	69	0,125	Tidak Stunting
A008	Tamat SLTP/MTSN	tidak	≥ UMK	L	7	71	0,85	Tidak Stunting
A009	Tamat SLTA/MA	bekerja	≥ UMK	P	9	70	-0,04	Tidak Stunting
A010	Tamat SLTA/MA	tidak	<UMK	L	10	74	0,3	Tidak Stunting
A011	Tamat PT	bekerja	≥ UMK	p	9	66	-1,7	Tidak Stunting
A012	Tamat PT	tidak	≥ UMK	P	7	65	-1	Tidak Stunting
A013	Tamat SLTA/MA	tidak	≥ UMK	P	6	64	-0,7	Tidak Stunting
A014	Tamat SLTA/MA	tidak	≥ UMK	P	7	66	-0,56	Tidak Stunting
A015	Tamat SLTA/MA	tidak	≥ UMK	L	4	64,5	0,28	Tidak Stunting
A016	Tamat SLTA/MA	tidak	<UMK	L	10	71	-1	Tidak Stunting
A017	Tamat SLTA/MA	tidak	≥ UMK	P	21	79,4	-1,29	Tidak Stunting
B001	Tamat SLTA/MA	bekerja	≥ UMK	L	12	70	-2,4	Stunting
B002	Tamat SLTA/MA	bekerja	≥ UMK	P	12	67	-2,69	Stunting
B003	Tamat SLTA/MA	tidak	≥ UMK	L	16	72	-3,34	Stunting
B004	Tamat SLTP/MTSN	tidak	≥ UMK	P	13	65	-3,92	Stunting
B005	Tamat SLTP/MTSN	tidak	<UMK	L	13	71	-2,45	Stunting
B006	Tamat SLTP/MTSN	tidak	≥ UMK	L	15	73	-2,44	Stunting
B007	Tidak Sekolah	tidak	≥ UMK	P	13	66	-3,5	Stunting
B008	Tidak Sekolah	tidak	≥ UMK	L	7	63,5	-2,59	Stunting
B009	Tamat SLTA/MA	tidak	≥ UMK	L	13	71,5	2,25	Stunting
B010	Tamat SLTP/MTSN	bekerja	≥ UMK	P	5	50	-6,36	Stunting
B011	Tamat SLTA/MA	tidak	≥ UMK	P	8	63	-2,47	Stunting
B012	Tamat SLTA/MA	bekerja	≥ UMK	L	5	49	-8,04	Stunting
B013	Tamat PT	bekerja	≥ UMK	L	6	62	-2,6	Stunting
B014	Tamat PT	bekerja	≥ UMK	L	4	59	-2,3	Stunting
B015	Tamat SLTA/MA	tidak	≥ UMK	P	8	63	-2,4	Stunting
B016	Tamat SLTP/MTSN	bekerja	≥ UMK	P	5	59	-2,27	Stunting
B017	Tamat SD/MI	bekerja	<UMK	P	11	67	-2,32	Stunting

*Lampiran 11***DOKUMENTASI**

Lembar Konsultasi



YAYASAN WIJAYA KUSUMA  
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LEMBAR KONSULTASI SKRIPSI

Form TA 05

Nama : KURNIASLAH  
 NPM : 201014  
 Judul Skripsi : HUBUNGAN ANTARA TINGKAT PENDIDIKAN IBU DAN PENDARAHAN KETURUNGAN  
 : PENGELOMPOKAN STUDI. DRG. BALITA DI KOTA MADIYAN

Dosen Pembimbing : (Mandiri/Umum/Pendamping)

Topik Pembahasan		Tanda Tangan Dosen Pembimbing	Alternatif Topik Pembahasan		Tanda Tangan Dosen Pembimbing
Bulan : Oktober Tanggal	Topik pembahasan I		Bulan : November Tanggal	Topik pembahasan I	
06 - 10 - 2022	Pengujian judul		10 - 11 - 2022		
09 - 10 - 2022	Pengujian judul				
Bulan : Oktober Tanggal	Topik pembahasan II		Bulan : November Tanggal	Topik pembahasan II	
19 - 10 - 2022	Pemilihan variabel penelitian/Studi Literatur		21 - 11 - 2022		
29 - 10 - 2022	Pemilihan variabel penelitian/Studi Literatur				
Bulan : November Tanggal	Topik pembahasan III		Bulan : Desember Tanggal	Topik pembahasan III	
04 - 11 - 2022	Latar belakang penelitian/Studi Literatur		25 - 11 - 2022		
	Latar belakang penelitian/Studi Literatur				
	Latar belakang penelitian/Studi Literatur		Bulan : Desember Tanggal	Topik pembahasan IV	
Bulan : Desember Tanggal	Topik pembahasan IV		23 - 11 - 2022		
03 - 11 - 2022	Tujuan pustaka				
	Tujuan pustaka		Bulan : Desember Tanggal	Topik pembahasan V	
	Tujuan pustaka		02 - 12 - 2022		
Bulan : Desember Tanggal	Topik pembahasan V				
14 - 11 - 2022	Kerangka konsep studi literatur/penelitian dan hipotesisnya				
	Kerangka konsep studi literatur/penelitian dan hipotesisnya				
	Kerangka konsep studi literatur/penelitian dan hipotesisnya				





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Bulan : Desember Tanggal	Topik pembahasan VI	Tanda Tangan Dosen Pembimbing
05-12-2022	Metode penelitian/Studi Literatur	
	Metode penelitian/Studi Literatur	
	Metode penelitian/Studi Literatur	
Bulan : Maret Tanggal	Topik pembahasan VII	Tanda Tangan Dosen Pembimbing
26-03-2023	Pengumpulan data	
	Pengumpulan data	
	Pengumpulan data	
Bulan : April Tanggal	Topik pembahasan VIII	Tanda Tangan Dosen Pembimbing
19-04-2023	Hasil penelitian/Studi Literatur dan pembahasan	
	Hasil penelitian/Studi Literatur dan pembahasan	
	Hasil penelitian/Studi Literatur dan pembahasan	
Bulan : Mei Tanggal	Topik pembahasan IX	Tanda Tangan Dosen Pembimbing
16-05-2022	Kesimpulan, saran dan daftar pustaka	
	Kesimpulan, saran dan daftar pustaka	
	Kesimpulan, saran dan daftar pustaka	
Bulan : Juli Tanggal	Topik pembahasan X	Tanda Tangan Dosen Pembimbing
14-06-2023	Artikel hasil penelitian/Studi Literatur untuk publikasi	
	Artikel hasil penelitian/Studi Literatur untuk publikasi	
	Artikel hasil penelitian/Studi Literatur untuk publikasi	
Bulan : Desember Tanggal	Topik pembahasan	Tanda Tangan Dosen Pembimbing
17-03-2023		
Bulan : April Tanggal	Topik pembahasan VII	Tanda Tangan Dosen Pembimbing
10-04-2023		
Bulan : Mei Tanggal	Topik pembahasan VIII	Tanda Tangan Dosen Pembimbing
14-05-2023		
Bulan : ..... Tanggal	Topik pembahasan IX	Tanda Tangan Dosen Pembimbing
Bulan : ..... Tanggal	Topik pembahasan X	Tanda Tangan Dosen Pembimbing



Lampiran 13 Surat Pernyataan Persetujuan Unggah E-Repository

**SURAT PERNYATAAN**

Yang bertanda tangan di bawah ini:

Nama : Nurwasilah

NPM : 20700134

Program Studi : Pendidikan Dokter

Menyatakan dengan sesungguhnya bahwa hasil penelitian saya dengan judul:

“Hubungan Antara Tingkat Pendidikan Ibu dan Pendapatan Keluarga Terhadap Kejadian Stunting Pada Balita di Puskesmas Kota Madiun”

Bersedia untuk diunggah dalam *e-repository* Universitas Wijaya Kusuma Surabaya dan dimanfaatkan untuk masyarakat luas.

Surat pernyataan Persetujuan ini digunakan sebagaimana diperlukan.

Surabaya, 15 Juli 2023

Yang membuat pernyataan,



(Nurwasilah)

NPM: 20700134

**Keterangan:**

Surat pernyataan ini harap diserahkan kepada perugas di Kesekretariatan Unit Penelitian, Pengabdian kepada Masyarakat, dan Publikasi (UPPP)

Lampiran 14 Surat Pernyataan Persetujuan Unggah Majalah/Jurnal

**SURAT PERNYATAAN**

Yang bertanda tangan di bawah ini:

Nama : Nurwasilah

NPM : 20700134

Program Studi : Pendidikan Dokter

Menyatakan dengan sesungguhnya bahwa hasil penelitian saya dengan judul:

“Hubungan Antara Tingkat Pendidikan Ibu dan Pendapatan Keluarga Terhadap Kejadian Stunting Pada Balita di Puskesmas Kota Madiun”

Bersedia untuk dimuat di dalam majalah atau jurnal ilmiah atas nama pembimbing dengan tetap mencantumkan nama saya sebagai peneliti.

Surabaya, 15 Juli 2023

Yang membuat pernyataan,



(Nurwasilah)

NPM: 20700134

**Keterangan:**

Surat pernyataan ini harap diserahkan kepada perugas di Kesekretariatan Unit Penelitian, Pengabdian kepada Masyarakat, dan Publikasi (UPPP)

***The Relationship between Maternal Education Level and Family Income on the Incidence of Stunting in Toddlers at the Madiun City Health Center***

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**Abstract**

*Stunting* is a condition that occurs in toddlers who experience growth failure due to chronic malnutrition based on a z-score (TB/U) value of less than -2 SD (Standard Deviation). *Stunting* can be caused by a low level of maternal knowledge. Family income is also a risk factor for *stunting*. The purpose of this study was to analyze the relationship between maternal education level and family income on the incidence of *stunting* in toddlers at the Madiun City Health Center. This study used an analytical observational method with a *case control* design. The population in this study was all mothers who had toddlers in Madiun City. Respondents in this study consisted of 34 people, obtained from questionnaires with the total sampling method. The results of *Chi-Square* analysis showed that there was no relationship between maternal education level ( $p = 0.290$ ), no relationship between family income level ( $p = 0.628$ ), maternal education level and family income level ( $p = 0.545$ ) greater than  $p$  value = 0.05; showed that there was no relationship between maternal education level and family income level with the incidence of stunting in toddlers at the Madiun City Health Center. There is no relationship between maternal education level and family income with the incidence of stunting in toddlers at the Madiun City Health Center.

**Keywords:** *Stunting*, maternal education, family income

Received: \_\_\_\_\_ Revised: \_\_\_\_\_ Accepted: \_\_\_\_\_

**INTRODUCTION**

*Stunting* is a condition that occurs in toddlers who experience growth failure due to chronic malnutrition based on a z-score (TB/U) value of less than -2 SD (Standard Deviation). Event *stunting* It can be caused by decreased cognitive function, decreased concentration, decreased learning power and school achievement, memory impairment, and impaired motor development of children, and has a long-term impact on decreased productivity that can hinder economic growth and cause intergenerational poverty. (Darmini et al., 2022; Rahmawati, 2020).

Number event *stunting* Currently it is still a nutritional problem in toddlers. The prevalence in the world is around 21.9% or 149 million toddlers experience *stunting* (Setyo et al., 2022). In Indonesia, the prevalence of children aged less than five years (toddlers) who suffer *stunting* is the second highest in Southeast Asia with an incidence rate of 31.8% in 2020. Incidence rate *stunting* The highest in Indonesia is in Timor Leste at 48.8%. In Southeast Asia, Laos is in position after Indonesia with a prevalence of 30.2%. Cambodia then ranks fourth by incidence figures *stunting* under-five by 29.9%. The Philippines follows with prevalence rates *stunting* by 28.7%. Meanwhile, Singapore is the prevalence rate of children sufferers *stunting* the lowest in Southeast Asia with a prevalence rate of only 2.8% (Asian Development Bank, 2021).

According to the results of the Indonesian Nutritional Status Study (SSGI) by the Ministry of Health, the incidence rate of toddlers *stunting* in 2021 it was 24.4%. These are *stunting* experienced by almost a quarter of Indonesian toddlers last year. In 2021, there were 23.5% of toddlers who experienced *stunting* in East Java Province (Ministry of Health of the Republic of Indonesia, 2021). Current prevalence *stunting* in Madiun City at 12.4%. Even though it is far below the 14% figure that is the national target in 2024, the Madiun City Government continues to reduce the incidence rate *stunting* with a target of reaching 0%. (Madiun City Health Office, 2019).

Some influencing factors *stunting* Among them are poverty, lack of awareness about health, poor nutrition and also improper parenting causing growth and development failure in toddlers. *Stunting* can also be caused by the factor of low maternal knowledge level (Agustin & Rahmawati, 2021). The level of education in a person can be affected when a person receives information. People with better education will be easier to receive information than people with less level of education. This information is used as a provision for mothers to take care of their children in everyday life. The maternal's education level usually affects the maternal's knowledge about toddler nutrition. Where the higher the education, it will be easy to absorb information about health, for example nutritional knowledge. The maternal's level of knowledge plays a significant role with the incidence *stunting*. (Sari & Zelharsandy, 2022; Husnaniyah et al., 2020).

Level Education of the population in Madiun City with elementary school graduates and below the percentage is 12.87%, junior high school is 14.05%, high school is 19.93%, the highest percentage is SMK graduates at 26.31%, Diploma I/II/III at 5.23%, while residents who graduated from higher education are S1/Diploma IV at 21.60% (Central Bureau of Statistics Madiun, 2022). Based on these data, it can be seen that the most education completed by residents in Madiun City in 2022 is SMK, which is 26.31%, while the least is Diploma I/II/III, which is 5.23% (Central Bureau of Statistics Madiun, 2022).

Family income factors are also risk factors of *stunting*. This is because parents are able to meet all the primary and secondary needs of their children, an adequate family income will support their growth and development (Soetjningsih, 2012). Families with incomes less than the Regional Minimum Wage are 6 times more likely to experience *stunting* (Agustin & Rahmawati, 2021). According to the Central Statistics Agency (BPS), the economy of Madiun City grew by 4.73% in 2021. The economic growth of Madiun City

in 2021 which reached 4.73 percent, increased 7% from 2020 which was minus 3.39 percent.

The purpose of this study was to analyze the relationship between maternal education level and family income on incidence *stunting* in toddlers at the Madiun City Health Center.

## METHODS

This study used an analytical observational method with a *case control* design. In this study to determine the relationship between maternal education level and family income on the incidence of stunting in toddlers at the Madiun City Health Center. The population in this study was all mothers who had toddlers in Madiun City. Respondents in this study consisted of 34 people, obtained from questionnaires with the total sampling method.

## RESULTS

### 1. Univariate Analysis Results

#### Figure 1. Distribution of Stunting Incidence

Respondents in this study consisted of 34 people (100%) who suffered from stunting as much as 50% (17 respondents) and those who did not suffer from stunting as much as 50% (17 respondents). The distribution of respondents based on the degree of Stunting Incidence can be seen in table 1 below.

**Table 1:** Distribution of respondent on stunting incidence

Stunting Events	No. of respondents	%
Stunting	17	50
No stunting	17	50
<b>Total</b>	<b>34</b>	<b>100</b>

Source: Research 2023

#### Figure 2. Distribution of Toddlers Age

The ages of respondents in this study were mostly aged  $\leq 10$  months is 67.6% (23 respondents), while the remaining 32.4% (11 respondents) are aged  $> 10$  months. The distribution of respondents by sex can be seen in table 2 below.

**Table 2:** Frequency Distribution of Respondents by Age

Age	No. of respondents	%
$\leq 10$ months	23	67,6
$> 10$	11	32,4
<b>Total</b>	<b>34</b>	<b>100</b>

Source: Research 2023

#### Figure 3. Distribution of Toddlers Gender

Most of the respondents in this study had a female gender, which was 58.8% (20 respondents), while the remaining 41.2% (14 respondents) had a male gender. The distribution of respondents by gender be seen in table 3 below.

**Table 3:** Frequency distribution of respondents by gender

Gender	No. of respondents	Percent
Woman	20	58,8
Man	14	41,2
<b>Total</b>	<b>34</b>	<b>100</b>

Source: Research 2023

**Figure 4.** Distribution of Maternal's Occupation

In this study, respondents who fell into the working category were 35.3% (12 respondents) and respondents who were included in the non-working category as many as 64.7% (22 respondents). The distribution of respondents based on maternal's occupation can be seen in table 4 below.

Category	No. of respondents	Percent
Work	12	35,3
Does not work	22	64,7
<b>Total</b>	<b>34</b>	<b>100</b>

**Table 4:** Frequency Distribution of Respondents by Maternal's Occupation

Source: Research 2023

**Figure 5.** Distribution of Maternal Education Level

In this study, respondents who had a low level of education were 38.2% (13 respondents) and respondents who had higher education as many as 61.8% (21 respondents). The distribution of respondents based on maternal education level can be seen in table 5 below.

**Table 5 :** Frequency distribution of respondents based on maternal education level

Category	No. of respondents	Percent
Lower education	13	38,2
Higher education	21	61,8
<b>Total</b>	<b>34</b>	<b>100</b>

Source: Research 2023

**Figure 6.** Distribution of Family Income Level

In this study, respondents who had income < MSEs in Madiun City were 14.7% (5 respondents) and respondents who had income  $\geq$  UMK Kota Madiun as much as 85.3% (29 respondents). The distribution of respondents based on family income level can be seen in table 6 below.

**Table 6 :** Distribution of respondents' frequency by family income level

Category	No. of respondents	Percent
< UMK Kota	5	14,7
$\geq$ UMK City	29	85,3
<b>Total</b>	<b>34</b>	<b>100</b>

Source: Research 2023

**Figure 7.** Distribution of Maternal Education Level and Family Income Level to Stunting Groups

In this study, respondents who had risk factors based on maternal education level and income were 8.8% (3 respondents), respondents who did not have risk factors based on maternal education level and income were 91.2% (31 respondents).

The distribution of respondents based on parental employment status can be seen in table 7 below.

**Table 7:** Distribution of respondents' frequency based on maternal's education level, family income level against stunting groups

Category	No. of respondents	Percent
High risk (<3)	3	8,8
Low risk ( $\geq 3$ )	31	91,2
<b>Total</b>	<b>34</b>	<b>100</b>

Source : Research 2023

## 2. Results of Bivariate Analysis

**Figure 8.** The relationship between the maternal's education level and the incidence of stunting that occurs in toddlers at the Madiun City Health Center.

**Table 8:** Results of Hypothesis Test Based on Maternal Education Level on Stunting Incidence

Maternal's Education Level	Stunting				P-Value
	Case		Control		
	N	%	N	%	
<b>Lower Education</b>	8	47%	5	29%	0,290
<b>Higher Education</b>	9	53%	12	71%	

Source : Research 2023

From the results of the analysis *Chi-Square* indicates that the significance value of 0.290 is greater than the value of p value = 0.05; showed that there was no relationship between the maternal's education level and the incidence of stunting in toddlers at the Madiun City Health Center.

**Figure 9.** The relationship between family income level and the incidence of stunting that occurs in toddlers at the Madiun City Health Center.

**Table 9:** Results of Hypothesis Test Based on Family Income Level on Stunting Incidence

Family Income Level	Stunting				P-Value
	Case		Control		
	N	%	N	%	
<b>&lt; MSEs</b>	2	12%	3	18%	0,628
<b><math>\geq</math> UMK</b>	15	88%	14	82%	

Research Source : 2023

From the results of the analysis *Chi-Square* indicates that the significance value of 0.628 is greater than the value of p value = 0.05; showed that there was no relationship between family income level and the incidence of stunting in toddlers at the Madiun City Health Center.

**Figure 10.** The relationship between the maternal's education level and family income level with the incidence of stunting that occurs in toddlers at the Madiun City Health Center.

**Table V.10: Hypothesis Test Results Based on Maternal Education Level and Family Income Level**

Risk Factors (Maternal's Education Level and Family Income Level)	Stunting				P-Value
	Case		Control		
	N	%	N	%	
<b>High Risk</b>	2	12%	1	6%	0,545
<b>Low Risk</b>	15	88%	16	94%	

Source: Research 2023

From the results of the analysis *Chi-Square* indicates that the significance value of 0.545 is greater than the value of p value = 0.05; showed that there was no relationship between maternal education level and family income level with the incidence of stunting in toddlers at the Madiun City Health Center.

## DISCUSSION

Figure 4 and 6 showed that respondents who had income < MSEs in Madiun City as much as 14.7% and respondents who had income in MSEs  $\geq$  in Madiun City as much as 85.3%. This shows that the majority of toddler families in the Madiun City Health Center have MSE income in Madiun City.  $\geq$

Both high and low income levels impact a family's ability to afford nutritious food. A family with sufficient money will be able to meet all the primary and secondary needs of its children. Families with good financial condition also have easier access to health services. Children from low-income families typically eat less, both in terms of quantity and variety. People with high socioeconomic levels tend to choose and buy a variety of healthy foods (Sutarto *et al.*, 2020).

Low family income has a direct impact on stunting because it forces families to choose less nutritious foods to meet their nutritional needs. In addition, due to poor food quality, more and more children are malnourished, which causes nutritional problems in toddlers (Yanti, 2021). Stunting is more prevalent in children from low-income families than children from well-off or high-income families (Habimana, 2019).

The results of Wati's research (2018) show that most toddlers with low nutritional status have low-income families. Families with low incomes will usually find it difficult to meet their nutritional needs. Families with middle to lower economic status have the possibility to consume food with low nutrition in toddlers, and this has an impact on the nutritional status of toddlers.

The results found that out of 100% of toddlers, there are 50% of toddlers who are stunted and 50% of toddlers who are not stunted. Some toddlers who are not stunted occur because their parents have provided them with all the essential nutrients for their growth and development, including minerals, vitamins, fats, carbohydrates, and proteins. While stunted toddlers are caused by mothers who do not pay enough attention to the food and health needs of their children, this problem can also be caused by infectious



infections that worsen children's health and interfere with their growth (Fakhma and Dhewi, 2020).

Figure 5 showed that a highly educated mother may have a better outcome for her child's health and nutrition. The maternal's level of education can ease the mother's ability to understand and absorb nutritional information. Education is needed so that there are more mothers who are able to solve nutrition and nutrition problems in the family and can act as soon as possible if they are not fulfilled (Sutarto *et al.*, 2020).

The function of maternal education is to increase children's insight into themselves and their environment. The length of education taken determines the level of education of the mother. Highly educated mothers are easier to digest health information, especially in educating toddlers every day. Toddler development can be influenced by a number of factors, especially those related to parenting and education. Children who have mothers who are poorly educated may find it difficult to get information, so children tend to experience delays in growth, due to parenting style (Nurmalasari *et al.*, 2020).

The level of education, especially the mother, affects the health of her family, including the nutritional condition of family members. Maternal education also affects parenting for children because mothers are the main food managers at home, so it has a great influence on the nutritional status of all family members (Noviyanti, Rachmawati, and Sutajo, 2020).

Stunting is a picture of chronic undernutrition status at the time most important for growth and development in infancy. Stunting is caused by various causes, not only malnutrition that experiences children under five and pregnant women (Ministry of Health of the Republic of Indonesia, Directorate General of Community Nutrition, 2018).

Figure 8 found that there was no relationship between the maternal's education level and the incidence of stunting in toddlers at the Madiun City Health Center, as evidenced by a significance value of 0.290 greater than 0.05. These results show that the level of maternal education is not a factor that causes stunting in toddlers at the Madiun City Health Center. This result is in accordance with research by Suharmianti and Agus (2018) which found no relationship between maternal education level and stunting status. Mothers who have a low level of education may or may not have knowledge about nutrition. Since a high level of education does not mean the mother has sufficient knowledge about healthy nutrition, a high level of maternal education does not guarantee that her child will not suffer from malnutrition. Mothers with low education diligently participate in posyandu and toddler nutrition counseling in order to gain the necessary knowledge and be able to take good care of their children (Suharmianti and Agus, 2018).

Based on research conducted by Satoto in 1997, this could be because the height/age indicator reflects previous nutritional history and is less sensitive to changes in nutritional inputs, where in this case the mother plays a role in the distribution of nutritional inputs. Height can only increase or stay at a certain moment, unlike weight, which can increase, decrease, or remain constant. Under normal circumstances, height grows with age. In addition, there is no relationship between maternal education and the incidence of stunting because the maternal's education level is not the only factor causing the problem of malnutrition because there are many other factors that can influence the occurrence of malnutrition problems.

Based on the data obtained by researchers, there are mothers who have a low level of education but have toddlers who are not stunted, and vice versa mothers who

have a high level of education but have toddlers who are stunted due to one factor, namely the sex of the toddler itself. Based on other data obtained, it is known that mothers who have a low level of education but have toddlers who are not stunted are more female than male. Conversely, mothers who have a high level of education but have stunted toddlers are more male than female.

Baby girls have less muscle and more fat than baby boys. Muscle burns more energy than fat so men and women of the same height, weight, and age have different body compositions, which means their energy and nutrient needs will also be different (Almatsier, 2004).

In general, male toddlers are more active than female toddlers. Male toddlers often engage in more outdoor activities, such as running around, which makes them more likely to come into contact with dirty environments and expend more energy when their intake is restricted (Christin Angelina F., Agung Aji Perdana, and Humairoh. 2019).

There is a relationship between nutritional status and sex because gender determines the amount of nutrition a person needs. The difference in body composition between women and men affects the large gap in nutritional needs so that it requires even greater intake needs (Febriani et al., 2018).

Figure 9 showed that there was no relationship between family income level and the incidence of stunting in toddlers at the Madiun City Health Center, as evidenced by a significance value of 0.628 greater than 0.05. The results of this study are the same as research conducted by Dakhi in 2019 which stated that family income is not a risk factor for stunting. This can be because the income collected is used for various other purposes, not only to buy food. Because high income does not necessarily indicate that the money set aside is sufficient for food needs and is not a guarantee that toddlers will have a good nutritional status (Dakhi, 2019).

Based on the data obtained by researchers, there are families with low education levels but have toddlers who are not stunted, and vice versa there are families with high income levels but have toddlers who are stunted due to one of the factors, namely the maternal's occupation. Based on other data obtained, it is known that families with low income levels but have toddlers who are not stunted mostly have mothers who do not work. In contrast, families with high income levels but stunted toddlers mostly have working mothers.

A number of articles discussing the characteristics of mothers' employment status state that 75% of working mothers have children who are stunted. The majority of mothers under five in mountainous areas are farmers, so more children are stunted. This is related to non-exclusive breastfeeding because wives who have farmer husbands will help to work in the garden, especially at the beginning of the growing season. As mothers work more in the garden, mothers will leave their children to the care of others while they work. Therefore, before the baby is 6 months old the majority of mothers stop breastfeeding their babies (Leo et al., 2018).

As many as 66% of unemployed mothers have normal children or are not stunted because mothers are always involved in the childcare process and are related to good parenting. Working mothers have a positive impact on income growth, but on the other hand have a negative impact on child development and maintenance (Syahida, 2019).

Figure 10 showed that there was no relationship between maternal education level and family income with the incidence of stunting in toddlers at the Madiun City

Health Center, as evidenced by a significance value of 0.545 greater than 0.05. As previously explained, the results of this study are in accordance with research conducted by Erfince and Minarni (2020) which found no relationship between maternal education level and stunting incidence and research conducted by Grace, et al (2019) which stated that there was no relationship between income level and stunting incidence.

There is no relationship between the maternal's education level and stunting nutritional status because maternal education is not a guarantee that mothers have more knowledge related to nutrition. From direct observation, mothers who have a low level of education tend not to work, thus giving more time in the morning to go to the posyandu every day to get additional food and nutrition and health counseling (Erfince & Minarni, 2020).

There is no relationship between family income level and stunting because families with income below MSEs can manage nutritious and healthy food with easy and affordable products so that during pregnancy mothers can meet nutritional needs and prevent stunting. High family income is not necessarily allocated enough for food needs so it is not a guarantee that the mother will have a good nutritional status. The study did not find any relationship between income and stunting prevention behavior during pregnancy because families with incomes below MSEs can still meet their family's food needs (Niswa, Joni, & Florentina, 2019).

Based on the data obtained by researchers, there are toddlers who have high risk factors (mothers who have low levels of education and income) but have toddlers who are not stunted, and vice versa toddlers who have either (high education level with low income levels or vice versa) or all high risk factors (mothers who have high levels of education and income) but have toddlers who are stunted due to several factors i.e. the sex of the toddler and the maternal's occupation.

Based on other data obtained, it is known that toddlers who have high risk factors (mothers who have low levels of education and income) but have toddlers who are not stunted are more female than men and mothers who are not working than working mothers. Conversely, toddlers who have either (higher education level with low income level or vice versa) or all high risk factors (mothers who have high education and income levels) but have stunted toddlers are more male than female and working mothers than non-working mothers.

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Working mothers are associated with non-exclusive breastfeeding because wives who have farmer husbands will help to work in the garden, especially at the beginning of the growing season. As mothers work more in the garden, mothers will leave

their children to the care of others while they work. Therefore, before the baby is 6 months old the majority of mothers stop breastfeeding their babies (Leo et al, . 2018).

As many as 66% of unemployed mothers have normal children or are not stunted because mothers are always involved in the childcare process and are related to good parenting. Working mothers have a positive impact on income growth, but on the other hand have a negative impact on child development and maintenance (Syahida, 2019).

## **CONCLUSION**

Based on the results of the research and discussion above, several things can be concluded as follows:

9. The results found that 50% of toddlers who suffer from stunting and those who do not suffer from stunting as much as 50%.
10. At the Madiun City Health Center, most toddlers have a female gender.
11. Most toddlers at Puskesmas Kota Madiun have working mothers.
12. At the Madiun City Health Center, most toddlers have mothers with higher education.
13. Most of the families under five in Puskesmas Kota Madiun have income from  $\geq$  MSEs in Madiun City.
14. From the results of the study, it was found that there was no relationship between the level of maternal education and the incidence of stunting in toddlers at the Madiun City Health Center.
15. From the results of the study, it was found that there was no relationship between the level of family income and the incidence of stunting in toddlers at the Madiun City Health Center.
16. From the results of the study, it was found that there was no relationship between the level of maternal education and family income with the incidence of stunting in toddlers at the Madiun City Health Center.

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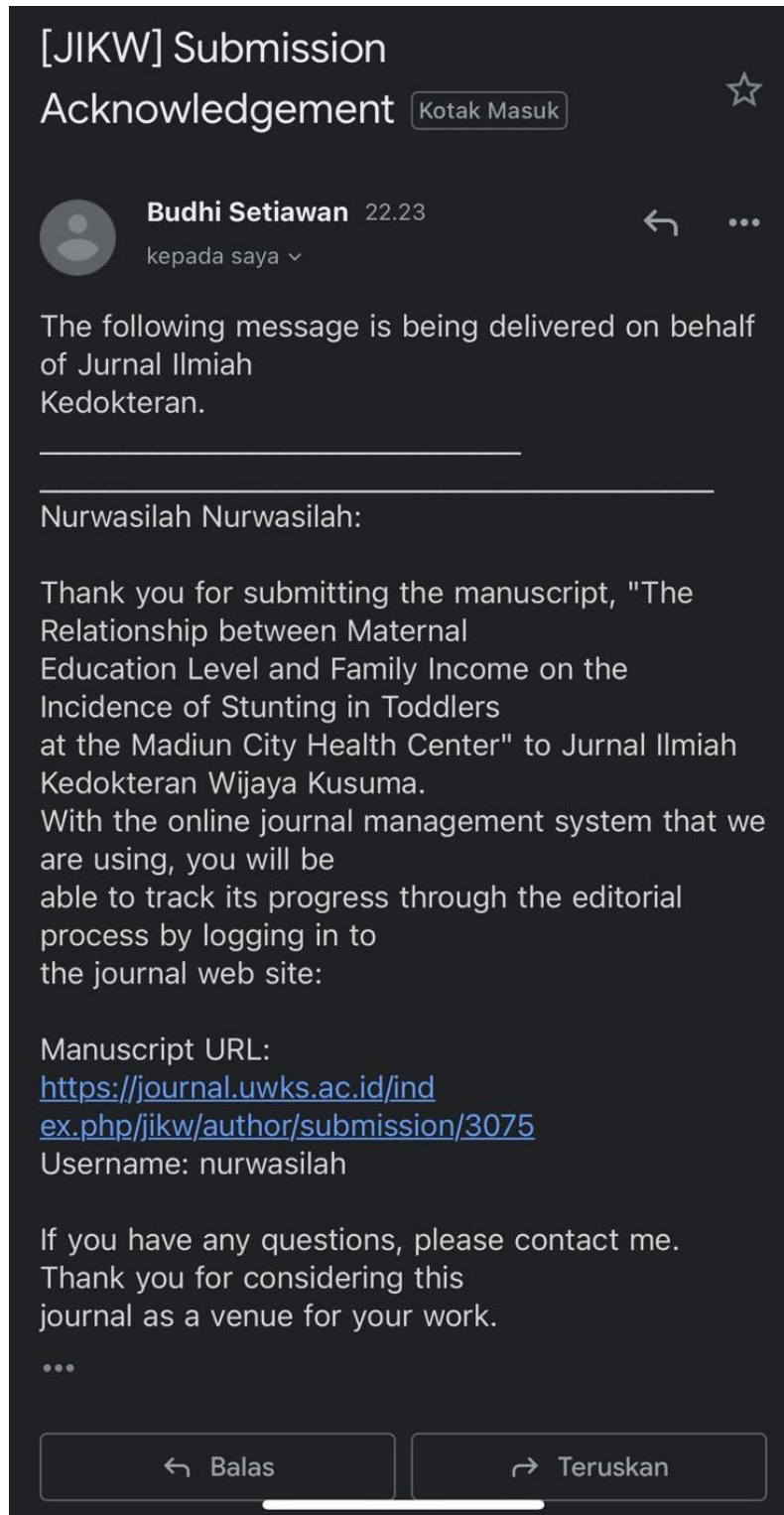
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*Lampiran 16***Bukti submit/publikasi jurnal**

## Lampiran 17 Pernyataan Publikasi

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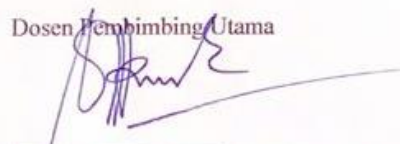
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