

### DAFTAR PUSTAKA

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## LAMPIRAN

## Lampiran 1. Surat Izin Observasi



KEMENTERIAN PENDIDIKAN KEBUDAYAAN,  
RISET DAN TEKNOLOGI  
UNIVERSITAS HASANUDDIN  
FAKULTAS KEPERAWATAN  
JL. PERINTIS KEMERDEKAAN KM. 10, MAKASSAR 90245  
TELEPON (0411) 586200, (6 SALURAN), 584200, FAX (0411) 585188  
Laman: www.unhas.ac.id

Nomor : 00450/UN4.18/DL.16/2024

15 Februari 2024

Lampiran: -

Hal : Permintaan Izin Observasi/Pengambilan Data Awal

Yth. Kepala Dinas Kesehatan  
Kota Makassar

Dengan hormat disampaikan bahwa dalam rangka penyelesaian studi/penyusunan skripsi bagi Mahasiswa Program Studi Fisioterapi Fakultas Keperawatan Universitas Hasanuddin, maka dengan ini mohon kiranya mahasiswa yang tersebut namanya dibawah ini :

Nama : Andi Eka Mutiara  
NIM : R021201022  
Program Studi : Fisioterapi  
Rencana Judul : Pengaruh Hold Relax Exercise terhadap Intensitas Nyeri dan Stiffness pada Lansia Osteoarthritis Knee di Wilayah Puskesmas Kecamatan Biringkanaya Kota Makassar.

Dapat diberikan izin untuk melakukan observasi dalam rangka pengambilan data awal di Instansi yang Bapak/Ibu/Sdr(i) Pimpin, yang akan dilaksanakan pada bulan **Februari s.d Maret 2024**. Adapun metode yang digunakan dalam Pengumpulan data awal tersebut adalah **Purposive Sampling**.

Demikian permohonan kami, atas bantuan dan kerjasama yang baik disampaikan terima kasih.

a.n Dekan  
Wakil Dekan Bidang Akademik dan  
Kemahasiswaan Fakultas  
Keperawatan



Syahrul, S.Kep., Ns., M.Kes., Ph.D  
NIP. 19820419 200604 1 002

Tembusan:

1. Dekan "sebagai laporan".
2. Ketua Program Studi Ilmu Keperawatan.
3. Kepala UPT Puskesmas Paccerakkang.
4. Arsip





## Lampiran 2. Surat Izin PTSP Provinsi



**PEMERINTAH PROVINSI SULAWESI SELATAN**  
**DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU SATU PINTU**  
 Jl. Bougenville No.5 Telp. (0411) 441077 Fax. (0411) 448936  
 Website : <http://simap-new.sulseiprov.go.id> Email : [ptsp@sulseiprov.go.id](mailto:ptsp@sulseiprov.go.id)  
 Makassar 90231

---

Nomor	: 8215/S.01/PTSP/2024	<b>Kepada Yth.</b>
Lampiran	: -	Walikota Makassar
Perihal	: <u>Izin penelitian</u>	

di-  
**Tempat**

Berdasarkan surat Dekan Fak Keperawatan UNHAS Makassar Nomor : 01037/UN4.18/PT.01.04/2024 tanggal 02 April 2024 perihal tersebut diatas, mahasiswa/peneliti dibawah ini:

N a m a	: <b>ANDI EKA MUTIARA</b>
Nomor Pokok	: R021201022
Program Studi	: Fisioterapi
Pekerjaan/Lembaga	: Mahasiswa (S1)
Alamat	: Jl. P. Kemerdekaan Km., 10 Makassar



**PROVINSI SULAWESI SELATAN**

Bermaksud untuk melakukan penelitian di daerah/kantor saudara dalam rangka menyusun SKRIPSI, dengan judul :

**\* Pengaruh Hold relax Exercise terhadap Perubahan Intensitas Nyeri, Stiffness dan Aktivitas Fungsional pada Lansia Suspect Osteoarthritis Knee di Puskesmas Paccerakkang Kota Makassar \***

Yang akan dilaksanakan dari : Tgl. **03 April s/d 03 Mei 2024**

Sehubungan dengan hal tersebut diatas, pada prinsipnya kami **menyetujui** kegiatan dimaksud dengan ketentuan yang tertera di belakang surat izin penelitian.

Demikian Surat Keterangan ini diberikan agar dipergunakan sebagaimana mestinya.

Diterbitkan di Makassar  
Pada Tanggal 03 April 2024

**KEPALA DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU  
SATU PINTU PROVINSI SULAWESI SELATAN**



**ASRUL SANI, S.H., M.Si.**  
 Pangkat : PEMBINA TINGKAT I  
 Nip : 19750321 200312 1 008

Tembusan Yth

1. Dekan Fak Keperawatan UNHAS Makassar di Makassar;
2. Peringgal.

## Lampiran 3. Surat Keterangan Lulus Kaji Etik



**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,  
RISET DAN TEKNOLOGI  
UNIVERSITAS HASANUDDIN  
FAKULTAS KEPERAWATAN  
KOMITE ETIK PENELITIAN KESEHATAN**

Sekretariat : Lantai 2 Fakultas Keperawatan UNHAS  
Jl. Perintis Kemerdekaan Kampus Tamalanrea Km.10 Makassar 90245  
Laman : kep\_k\_repuh@unhas.ac.id

**REKOMENDASI PERSETUJUAN ETIK**

Nomor : 830/UN4.18.3/TP.01.02/2024

Tanggal: 06 Mei 2024

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH2404068	No Sponsor Protokol	
Peneliti Utama	<b>Andi Eka Mutiara</b>	Sponsor	
Judul Peneliti	Pengaruh <i>Hold Relax Exercise</i> terhadap Perubahan Intensitas Nyeri, <i>Stiffness</i> , dan Aktivitas Fungsional pada Lansia <i>Suspect Osteoarthritis Knee</i> di Puskesmas Paccerakkang Kota Makassar		
No Versi Protokol	1	Tanggal Versi	<b>23 April 2024</b>
No Versi PSP	1	Tanggal Versi	<b>23 April 2024</b>
Tempat Penelitian	Puskesmas Paccerakkang Kota Makassar		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard	Masa berlaku <b>06 Mei 2024</b> sampai <b>06 Mei 2025</b>	Frekuensi review lanjutan
Ketua KEPK	Nama : <b>Dr. Kadek Ayu Erika, S.Kep., Ns., M.Kes</b>	Tanda Tangan 	
Sekretaris KEPK	Nama : <b>Dr. Hastuti, S.Kep., Ns., M.Kes</b>	Tanda Tangan 	

Kewajiban Peneliti Utama :

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komite Etik dalam 24 jam dan dilengkapi dalam 7 hari dan Laporan *Suspected Unexpected Serious Adverse Reaction (SUSAR)* dalam 72 jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko ringgi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah penelitian berakhir
- Melaporkan penyimpangan dari protokol yang disetujui (*protocol deviation/violation*)
- Mematuhi semua peraturan yang ditentukan

## Lampiran 4. Surat Keterangan Meneliti



PEMERINTAH KOTA MAKASSAR  
DINAS KESEHATAN  
UPT. PUSKESMAS PACCERAKKANG  
BTN Mangga Tiga Permai Jl. Mangga Raya Blok B.1 No.40A  
Kel Paccerakkang, Kec Biringkanaya, Makassar. Kode Pos:90241  
Telepon (0411) 8991102, e-mail : pkmpaccerakkang@gmail.com

**SURAT KETERANGAN**

Nomor : 198 /PKM-PAC/445/VI/2024

Yang bertandatangan di bawah ini:

Nama : drg. Hj. Rafiqah  
NIP : 19670904 200212 2 001  
Pangkat / Gol. Ruang : Pembina / IV.a  
Jabatan : PIt. Kepala UPT.Puskesmas Paccerakkang

Dengan ini menerangkan bahwa yang tersebut namanya dibawah ini :

Nama : Andi Eka Mutiara  
NIM / Jurusan : R021201022 / S1 Fisioterapi  
Instansi : Universitas Hasanudddin (UNHAS) Makassar

Benar telah melaksanakan penelitian di Puskesmas Paccerakkang pada tanggal 03 April 2024 s/d 03 Mei 2024 dengan judul "Pengaruh Hold Relax Exercise terhadap perubahan Insensitas Nyeri, Stiffness dan Aktifitas Fungsional pada lansia Suspect Osteoarthritis Knee di Puskesmas Pacerakkang Kota Makassar".

Demikian surat keterangan ini dibuat untuk dipergunakan seperlunya.

Makassar, 15 Mei 2024

PIt. Kepala UPT. Puskesmas Paccerakkang







## Lampiran 5. *Informed Consent*

### LEMBAR PERSETUJUAN MENJADI RESPONDEN PENELITIAN *INFORMED CONSENT*

Yang bertanda tangan di bawah ini:

Nama :   
 Alamat : BTN Mangga Tiga   
 Usia : 60  
 Jenis kelamin : Perempuan

Setelah mendapatkan penjelasan dari peneliti terkait penelitian yang akan dilakukan, saya bersedia menjadi responden penelitian yang berjudul "Pengaruh *Hold Relax Exercise* terhadap Intensitas Nyeri, *Stiffness* dan Aktivitas Fungsional pada Lansia *Suspect Osteoarthritis Knee* di Puskesmas Paccerakkang Kota Makassar" yang akan dilakukan oleh Andi Eka Mutiara (R021201022) mahasiswa Program Studi S1 Fisioterapi Fakultas Keperawatan Universitas Hasanuddin Makassar.

Demikian lembar persetujuan ini dibuat dengan penuh kesadaran dan tanpa paksaan dari pihak lain, untuk dipergunakan sebagaimana mestinya.

Makassar, 22 Maret 2024

Yang menyatakan

(  )

#### Penanggung jawab penelitian:

Nama : Andi Eka Mutiara  
 Alamat: BTN Harmoni Pao-Pao No.10, Kabupaten Gowa  
 Tlp/Hp: 0878-1099-2760  
 E-mail : andiekamutiara29@gmail.com

## Lampiran 6. Formulir Data Diri Responden

## FORMULIR DATA LANSIA

## Petunjuk Pengisian :

Berilah tanda (✓) pada jawaban pilihan

1. Nama (Inisial) : ██████████
2. No. Tlp : ██████████
3. Umur : 65 tahun
4. Pekerjaan  
 Petani  IRT  Swasta  Buruh  Lainnya : *Pensiunan*
5. Keluarga yang tinggal serumah  
 Suami  Anak (s)  Ipar  
 Cucu  Tidak Ada
6. Riwayat Penyakit
  - Apakah memiliki riwayat cedera ekstremitas bawah pada salah satu/kedua ekstremitas selama 3 bulan terakhir?  
 Ya  Tidak
  - Apakah memiliki riwayat *bed rest* selama 1 minggu selama 3 bulan terakhir?  
 Ya  Tidak
  - Apakah memiliki riwayat penyakit lain? : .....
  - Tekanan Darah : ...*90/70*.....
7. Hasil Pengukuran
  - ROM Pre Test : *Ek : 8°*  
*Flakr : 115°*
  - ROM Post Test : *ⓐ Ek : 7°, Flakr : 115° | ⓑ Ek : 7°, Flakr : 115°*
  - VAS Pre Test : 3
  - VAS Post Test : *ⓐ 3 | ⓑ 1*

## Lampiran 7. Instrumen Penilaian WOMAC

## The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)

Nama/Inisial : ██████████

Usia : 60

Petunjuk:

Silahkan pilih setiap kategori sesuai dengan skala kesulitan yang dirasakan dalam aktivitas: 0 = none/tidak ada nyeri, 1 = slight/ringan, 2 = moderate/sedang, 3 = very/berat, 4 = extremely/sangat nyeri

Lingkari satu angka pada setiap aktivitas dibawah ini:

Nyeri	1. Berjalan	0	1	2	3	4
	2. Menaiki tangga	0	1	2	3	4
	3. Kegiatan di malam hari	0	1	2	3	4
	4. Istirahat	0	1	2	3	4
	5. Berdiri statis	0	1	2	3	4
Stiffness	1. Kaku di pagi hari	0	1	2	3	4
	2. Kaku pada hari berikutnya	0	1	2	3	4
Aktivitas Fungsional	1. Menuruni tangga	0	1	2	3	4
	2. Menaiki tangga	0	1	2	3	4
	3. Bangkit dari duduk	0	1	2	3	4
	4. Berdiri	0	1	2	3	4
	5. Membungkuk ke lantai	0	1	2	3	4
	6. Berjalan di atas permukaan	0	1	2	3	4
	7. Masuk/keluar mobil	0	1	2	3	4
	8. Pergi berbelanja	0	1	2	3	4
	9. Memakai kaos kaki	0	1	2	3	4
	10. Berbaring di atas tempat tidur	0	1	2	3	4
	11. Melepaskan kaos kaki	0	1	2	3	4
	12. Bangun dari tempat tidur	0	1	2	3	4
	13. Masuk/keluar kamar mandi	0	1	2	3	4
	14. Duduk	0	1	2	3	4
	15. Masuk/keluar toilet	0	1	2	3	4
	16. Pekerjaan rumah yang berat	0	1	2	3	4
	17. Pekerjaan rumah yang ringan	0	1	2	3	4

40



## Lampiran 8. Data Responden

## LOG BOOK RESPONDEN KELOMPOK EKSPERIMEN

Inisial	Usia	Pre Test				Pertemuan (Tanggal)						Post Test 1				Pertemuan (Tanggal)						Post Test 2			
		N	SE	SF	AF	1	2	3	4	5	6	N	SE	SF	AF	7	8	9	10	11	12	N	SE	SF	AF
SA	62	5	17	130	19	15/4	16/4	17/4	18/4	19/4	20/4	3	16	132	15	22/4	23/4	25/4	26/4	27/4	28/4	4	16	132	16
F	66	4	7	110	36	15/4	16/4	17/4	18/4	19/4	20/4	3	7	115	32	22/4	23/4	24/4	25/4	26/4	27/4	1	7	118	30
D	60	6	17	130	30	25/3	26/3	27/3	28/3	29/3	30/3	5	17	130	24	1/4	2/4	3/4	4/4	5/4	6/4	3	15	130	22
R	65	7	18	125	52	15/4	16/4	17/4	18/4	19/4	20/4	5	16	130	38	21/4	23/4	24/4	25/4	26/4	27/4	5	16	130	40
M	66	6	18	120	32	25/3	26/3	27/3	28/3	29/3	30/3	6	17	122	24	1/4	2/4	3/4	4/4	5/4	6/4	7	17	123	26
L	60	4	18	120	27	25/3	26/3	27/3	28/3	29/3	30/3	4	18	120	18	1/4	2/4	3/4	4/4	5/4	6/4	2	16	122	19
A	76	6	17	130	52	15/4	16/4	17/4	18/4	19/4	20/4	4	14	130	43	22/4	23/4	24/4	25/4	26/4	27/4	2	10	130	44
SI	64	3	17	120	30	15/4	16/4	17/4	19/4	20/4	22/4	1	18	122	22	24/4	25/4	26/4	27/4	28/4	29/4	1	16	125	24
NI	69	6	7	120	40	15/4	16/4	17/4	18/4	19/4	20/4	4	7	122	32	1/4	2/4	3/4	4/4	5/4	6/4	5	7	125	34
NH	63	4	19	122	33	25/3	26/3	27/3	28/3	29/3	30/3	4	12	127	25	22/4	23/4	24/4	26/4	27/4	28/4	2	14	125	26
E	63	9	17	120	58	15/4	16/4	17/4	18/4	19/4	20/4	7	16	122	47	22/4	23/4	24/4	25/4	26/4	27/4	7	18	125	43
IA	60	5	17	110	40	15/4	16/4	17/4	19/4	20/4	21/4	4	17	118	28	22/4	23/4	24/4	25/4	27/4	28/4	2	14	118	32
SM	60	4	13	120	40	25/3	26/3	27/3	28/3	29/3	30/3	2	13	120	37	1/4	2/4	3/4	4/4	5/4	7/4	2	11	122	34

## LOG BOOK RESPONDEN KELOMPOK KONTROL

Inisial	Usia	Pre Test				Pertemuan (Tanggal)						Post Test 1				Pertemuan (Tanggal)						Post Test 2			
		N	SE	SF	AF	1	2	3	4	5	6	N	SE	SF	AF	7	8	9	10	11	12	N	SE	SF	AF
FI	60	5	17	116	42	26/4	28/4	30/4	2/4	4/4	6/4	4	5	118	38	16/4	17/4	20/4	22/4	24/4	27/4	3	5	117	34
MH	63	5	7	113	56	26/4	28/4	30/4	1/4	4/4	6/4	3	9	118	54	16/4	18/4	20/4	23/4	25/4	27/4	3	9	120	42
SN	60	5	17	118	62	25/3	27/3	29/3	1/4	3/4	5/4	4	18	120	56	15/4	17/4	19/4	22/4	24/4	25/4	5	14	120	39
H	65	4	18	115	46	25/3	27/3	29/3	1/4	3/4	5/4	3	7	119	43	16/4	17/4	19/4	22/4	24/4	26/4	3	7	120	37
RA	67	8	18	97	54	26/4	28/4	30/4	1/4	3/4	6/4	4	9	110	52	16/4	18/4	20/4	23/4	25/4	28/4	6	9	105	43
AI	60	3	18	118	30	26/4	28/4	30/4	2/4	4/4	6/4	3	7	118	30	15/4	19/4	20/4	23/4	26/4	27/4	3	7	120	22
HH	80	5	17	107	40	26/4	28/4	30/4	2/4	4/4	6/4	3	10	107	38	16/4	18/4	20/4	23/4	25/4	28/4	2	10	114	42
SJ	60	6	17	120	23	26/4	28/4	30/4	2/4	4/4	6/4	4	14	122	20	16/4	19/4	20/4	23/4	24/4	27/4	3	14	125	21
MI	65	3	7	115	39	25/3	27/3	29/3	1/4	3/4	5/4	3	8	115	42	15/4	17/4	18/4	22/4	24/4	26/4	1	7	118	40
NJ	65	6	19	110	33	25/3	27/3	29/3	1/4	3/4	5/4	4	17	113	30	15/4	16/4	18/4	23/4	24/4	26/4	3	16	119	26
LN	64	7	17	105	55	26/4	28/4	30/4	3/4	4/4	6/4	5	18	114	52	16/4	18/4	20/4	23/4	25/4	27/4	6	15	114	45
NU	67	8	17	95	75	25/3	27/3	29/3	1/4	3/4	5/4	6	10	97	70	15/4	17/4	19/4	22/4	24/4	26/4	5	10	100	58
SU	60	6	13	115	55	26/4	28/4	30/4	3/4	4/4	6/4	4	10	116	54	16/4	18/4	20/4	23/4	25/4	27/4	2	10	120	41

## Lampiran 9. Hasil Olah Data SPSS

**Statistik Karakteristik Responden**

## 1. Kelompok Eksperimen

**Usia**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elderly (60-74)	12	92.3	92.3	92.3
	Old (75-90)	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

**Pekerjaan**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IRT	9	69.2	69.2	69.2
	Pensiunan	4	30.8	30.8	100.0
	Total	13	100.0	100.0	

## 2. Kelompok Kontrol

**Usia**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elderly (60-74)	12	92.3	92.3	92.3
	Old (75-90)	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

**Pekerjaan**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IRT	9	69.2	69.2	69.2
	Pensiunan	4	30.8	30.8	100.0
	Total	13	100.0	100.0	



### Distribusi Nyeri

#### 1. Kelompok Eksperimen

##### **Nyeri Pre Test**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-4)	5	38.5	38.5	38.5
	Sedang (5-7)	7	53.8	53.8	92.3
	Berat (8-10)	1	7.7	7.7	100.0
Total		13	100.0	100.0	

##### **Nyeri Post Test 1**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-4)	9	69.2	69.2	69.2
	Sedang (5-7)	4	30.8	30.8	100.0
	Total	13	100.0	100.0	

##### **Nyeri Post Test 2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-4)	9	69.2	69.2	69.2
	Sedang (5-7)	4	30.8	30.8	100.0
	Total	13	100.0	100.0	

#### 2. Kelompok Kontrol

##### **Nyeri Pre Test**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-4)	5	38.5	38.5	38.5
	Sedang (5-7)	7	53.8	53.8	92.3
	Berat (8-10)	1	7.7	7.7	100.0
Total		13	100.0	100.0	

### Nyeri Post Test 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-4)	9	69.2	69.2	69.2
	Sedang (5-7)	4	30.8	30.8	100.0
Total		13	100.0	100.0	

### Nyeri Post Test 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-4)	9	69.2	69.2	69.2
	Sedang (5-7)	4	30.8	30.8	100.0
Total		13	100.0	100.0	

### Distribusi Stiffness Ekstensi Knee

#### 1. Kelompok Eksperimen

### Stiffness Ekstensi Pre Test

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (5-10)	3	23.1	23.1	23.1
	Limitasi (>10)	10	76.9	76.9	100.0
Total		13	100.0	100.0	

### Stiffness Ekstensi Post Test 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (5-10)	5	38.5	38.5	38.5
	Limitasi (>10)	8	61.5	61.5	100.0
Total		13	100.0	100.0	

### Stiffness Ekstensi Post Test 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (5-10)	7	53.8	53.8	53.8
	Limitasi (>10)	6	46.2	46.2	100.0
	Total	13	100.0	100.0	

#### 2. Kelompok Kontrol

### Stiffness Ekstensi Pre Test

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (5-10)	3	23.1	23.1	23.1
	Limitasi (>10)	10	76.9	76.9	100.0
	Total	13	100.0	100.0	

### Stiffness Ekstensi Post Test 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (5-10)	5	38.5	38.5	38.5
	Limitasi (>10)	8	61.5	61.5	100.0
	Total	13	100.0	100.0	

### Stiffness Ekstensi Post Test 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (5-10)	7	53.8	53.8	53.8
	Limitasi (>10)	6	46.2	46.2	100.0
	Total	13	100.0	100.0	



### Distribusi Stiffness Fleksi Knee

#### 1. Kelompok Eksperimen

##### **Stiffness Fleksi Pre Test**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (120-140)	11	84.6	84.6	84.6
	Limitasi (<120)	2	15.4	15.4	100.0
Total		13	100.0	100.0	

##### **Stiffness Fleksi Post Test 1**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (120-140)	11	84.6	84.6	84.6
	Limitasi (<120)	2	15.4	15.4	100.0
Total		13	100.0	100.0	

##### **Stiffness Fleksi Post Test 2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (120-140)	11	84.6	84.6	84.6
	Limitasi (<120)	2	15.4	15.4	100.0
Total		13	100.0	100.0	

#### 2. Kelompok Kontrol

##### **Stiffness Fleksi Pre Test**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (120-140)	11	84.6	84.6	84.6
	Limitasi (<120)	2	15.4	15.4	100.0
Total		13	100.0	100.0	

### Stiffness Fleksi Post Test 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (120-140)	11	84.6	84.6	84.6
	Limitas (<120)	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

### Stiffness Fleksi Post Test 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal (120-140)	11	84.6	84.6	84.6
	Limitasi (<120)	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

### Distribusi Aktivitas Fungsional

#### 1. Kelompok Eksperimen

#### Aktivitas Fungsional Pre Test

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-40)	10	76.9	76.9	76.9
	Sedang (41-70)	3	23.1	23.1	100.0
	Total	13	100.0	100.0	

#### Aktivitas Fungsional Post Test 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-40)	11	84.6	84.6	84.6
	Sedang (41-70)	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

### Aktivitas Fungsional Post Test 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-40)	11	84.6	84.6	84.6
	Sedang (41-70)	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

#### 2. Kelompok Kontrol

### Aktivitas Fungsional Pre Test

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-40)	10	76.9	76.9	76.9
	Sedang (41-70)	3	23.1	23.1	100.0
	Total	13	100.0	100.0	

### Aktivitas Fungsional Post Test 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-40)	11	84.6	84.6	84.6
	Sedang (41-70)	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

### Aktivitas Fungsional Post Test 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ringan (0-40)	11	84.6	84.6	84.6
	Sedang (41-70)	2	15.4	15.4	100.0
	Total	13	100.0	100.0	



### Distribusi Nyeri Berdasarkan Karakteristik Usia

#### 1. Kelompok Eksperimen

##### Usia \* Nyeri Pre Test Crosstabulation

		Nyeri Pre Test			Total	
		Ringan (0-4)	Sedang (5-7)	Berat (8-10)		
Usia	Elderly (60-74)	Count	5	6	1	12
		Expected Count	4.6	6.5	.9	12.0
		% within Usia	41.7%	50.0%	8.3%	100.0%
		% within Nyeri Pre Test	100.0%	85.7%	100.0%	92.3%
		% of Total	38.5%	46.2%	7.7%	92.3%
	Old (75-90)	Count	0	1	0	1
		Expected Count	.4	.5	.1	1.0
		% within Usia	0.0%	100.0%	0.0%	100.0%
		% within Nyeri Pre Test	0.0%	14.3%	0.0%	7.7%
		% of Total	0.0%	7.7%	0.0%	7.7%
Total	Count	5	7	1	13	
	Expected Count	5.0	7.0	1.0	13.0	
	% within Usia	38.5%	53.8%	7.7%	100.0%	
	% within Nyeri Pre Test	100.0%	100.0%	100.0%	100.0%	
	% of Total	38.5%	53.8%	7.7%	100.0%	

##### Usia \* Nyeri Post Test 1 Crosstabulation

		Nyeri Post Test 1		Total	
		Ringan (0-4)	Sedang (5-7)		
Usia	Elderly (60-74)	Count	8	4	12
		Expected Count	8.3	3.7	12.0
		% within Usia	66.7%	33.3%	100.0%
		% within Nyeri Post Test 1	88.9%	100.0%	92.3%
		% of Total	61.5%	30.8%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.7	.3	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Nyeri Post Test 1	11.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Usia	69.2%	30.8%	100.0%	
	% within Nyeri Post Test 1	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

### Usia \* Nyeri Post Test 2 Crosstabulation

Usia			Nyeri Post Test 2		Total
			Ringan (0-4)	Sedang (5-7)	
Elderly (60-74)	Count	Count	8	4	12
		Expected Count	8.3	3.7	12.0
		% within Usia	66.7%	33.3%	100.0%
		% within Nyeri Post Test 2	88.9%	100.0%	92.3%
		% of Total	61.5%	30.8%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.7	.3	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Nyeri Post Test 2	11.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Usia	69.2%	30.8%	100.0%	
	% within Nyeri Post Test 2	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

## 2. Kelompok Kontrol

### Usia \* Nyeri Pre Test Crosstabulation

Usia			Nyeri Pre Test			Total
			Ringan (0-4)	Sedang (5-7)	Berat (8-10)	
Elderly (60-74)	Count	Count	3	7	2	12
		Expected Count	2.8	7.4	1.8	12.0
		% within Usia	25.0%	58.3%	16.7%	100.0%
		% within Nyeri Pre Test	100.0%	87.5%	100.0%	92.3%
		% of Total	23.1%	53.8%	15.4%	92.3%
	Old (75-90)	Count	0	1	0	1
		Expected Count	.2	.6	.2	1.0
		% within Usia	0.0%	100.0%	0.0%	100.0%
		% within Nyeri Pre Test	0.0%	12.5%	0.0%	7.7%
		% of Total	0.0%	7.7%	0.0%	7.7%
Total	Count	3	8	2	13	
	Expected Count	3.0	8.0	2.0	13.0	
	% within Usia	23.1%	61.5%	15.4%	100.0%	
	% within Nyeri Pre Test	100.0%	100.0%	100.0%	100.0%	
	% of Total	23.1%	61.5%	15.4%	100.0%	

## Usia \* Nyeri Post Test 1 Crosstabulation

			Nyeri Post Test 1		Total
			Ringan (0-4)	Sedang (5-7)	
Usia	Elderly (60-74)	Count	10	2	12
		Expected Count	10.2	1.8	12.0
		% within Usia	83.3%	16.7%	100.0%
		% within Nyeri Post Test 1	90.9%	100.0%	92.3%
		% of Total	76.9%	15.4%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.8	.2	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Nyeri Post Test 1	9.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Usia	84.6%	15.4%	100.0%	
	% within Nyeri Post Test 1	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

## Usia \* Nyeri Post Test 2 Crosstabulation

			Nyeri Post Test 2		Total
			Ringan (0-4)	Sedang (5-7)	
Usia	Elderly (60-74)	Count	8	4	12
		Expected Count	8.3	3.7	12.0
		% within Usia	66.7%	33.3%	100.0%
		% within Nyeri Post Test 2	88.9%	100.0%	92.3%
		% of Total	61.5%	30.8%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.7	.3	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Nyeri Post Test 2	11.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Usia	69.2%	30.8%	100.0%	
	% within Nyeri Post Test 2	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	



### Distribusi Nyeri Berdasarkan Karakteristik Pekerjaan

#### 1. Kelompok Eksperimen

##### **Pekerjaan \* Nyeri Pre Test Crosstabulation**

Pekerjaan	IRT		Nyeri Pre Test			Total
			Ringan (0-4)	Sedang (5-7)	Berat (8-10)	
	IRT	Count	4	5	0	9
		Expected Count	3.5	4.8	.7	9.0
		% within Pekerjaan	44.4%	55.6%	0.0%	100.0%
		% within Nyeri Pre Test	80.0%	71.4%	0.0%	69.2%
		% of Total	30.8%	38.5%	0.0%	69.2%
	Pensiunan	Count	1	2	1	4
		Expected Count	1.5	2.2	.3	4.0
		% within Pekerjaan	25.0%	50.0%	25.0%	100.0%
		% within Nyeri Pre Test	20.0%	28.6%	100.0%	30.8%
		% of Total	7.7%	15.4%	7.7%	30.8%
Total	Count	5	7	1	13	
	Expected Count	5.0	7.0	1.0	13.0	
	% within Pekerjaan	38.5%	53.8%	7.7%	100.0%	
	% within Nyeri Pre Test	100.0%	100.0%	100.0%	100.0%	
	% of Total	38.5%	53.8%	7.7%	100.0%	

##### **Pekerjaan \* Nyeri Post Test 1 Crosstabulation**

Pekerjaan	IRT		Nyeri Post Test 1		Total
			Ringan (0-4)	Sedang (5-7)	
	IRT	Count	6	3	9
		Expected Count	6.2	2.8	9.0
		% within Pekerjaan	66.7%	33.3%	100.0%
		% within Nyeri Post Test 1	66.7%	75.0%	69.2%
		% of Total	46.2%	23.1%	69.2%
	Pensiunan	Count	3	1	4
		Expected Count	2.8	1.2	4.0
		% within Pekerjaan	75.0%	25.0%	100.0%
		% within Nyeri Post Test 1	33.3%	25.0%	30.8%
		% of Total	23.1%	7.7%	30.8%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Pekerjaan	69.2%	30.8%	100.0%	
	% within Nyeri Post Test 1	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

### Pekerjaan \* Nyeri Post Test 2 Crosstabulation

		Nyeri Post Test 2		Total	
		Ringan (0-4)	Sedang (5-7)		
Pekerjaan	IRT	Count	6	3	9
		Expected Count	6.2	2.8	9.0
		% within Pekerjaan	66.7%	33.3%	100.0%
		% within Nyeri Post Test 2	66.7%	75.0%	69.2%
		% of Total	46.2%	23.1%	69.2%
	Pensiunan	Count	3	1	4
		Expected Count	2.8	1.2	4.0
		% within Pekerjaan	75.0%	25.0%	100.0%
		% within Nyeri Post Test 2	33.3%	25.0%	30.8%
		% of Total	23.1%	7.7%	30.8%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Pekerjaan	69.2%	30.8%	100.0%	
	% within Nyeri Post Test 2	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

## 2. Kelompok Kontrol

### Pekerjaan \* Nyeri Pre Test Crosstabulation

		Nyeri Pre Test			Total	
		Ringan (0-4)	Sedang (5-7)	Berat (8-10)		
Pekerjaan	IRT	Count	1	3	2	6
		Expected Count	1.4	3.7	.9	6.0
		% within Pekerjaan	16.7%	50.0%	33.3%	100.0%
		% within Nyeri Pre Test	33.3%	37.5%	100.0%	46.2%
		% of Total	7.7%	23.1%	15.4%	46.2%
	Pensiunan	Count	2	5	0	7
		Expected Count	1.6	4.3	1.1	7.0
		% within Pekerjaan	28.6%	71.4%	0.0%	100.0%
		% within Nyeri Pre Test	66.7%	62.5%	0.0%	53.8%
		% of Total	15.4%	38.5%	0.0%	53.8%
Total	Count	3	8	2	13	
	Expected Count	3.0	8.0	2.0	13.0	
	% within Pekerjaan	23.1%	61.5%	15.4%	100.0%	
	% within Nyeri Pre Test	100.0%	100.0%	100.0%	100.0%	
	% of Total	23.1%	61.5%	15.4%	100.0%	

### Pekerjaan \* Nyeri Post Test 1 Crosstabulation

		Nyeri Post Test 1		Total	
		Ringan (0-4)	Sedang (5-7)		
Pekerjaan	IRT	Count	5	1	6
		Expected Count	5.1	.9	6.0
		% within Pekerjaan	83.3%	16.7%	100.0%
		% within Nyeri Post Test 1	45.5%	50.0%	46.2%
		% of Total	38.5%	7.7%	46.2%
	Pensiunan	Count	6	1	7
		Expected Count	5.9	1.1	7.0
		% within Pekerjaan	85.7%	14.3%	100.0%
		% within Nyeri Post Test 1	54.5%	50.0%	53.8%
		% of Total	46.2%	7.7%	53.8%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Pekerjaan	84.6%	15.4%	100.0%	
	% within Nyeri Post Test 1	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

### Pekerjaan \* Nyeri Post Test 2 Crosstabulation

		Nyeri Post Test 2		Total	
		Ringan (0-4)	Sedang (5-7)		
Pekerjaan	IRT	Count	3	3	6
		Expected Count	4.2	1.8	6.0
		% within Pekerjaan	50.0%	50.0%	100.0%
		% within Nyeri Post Test 2	33.3%	75.0%	46.2%
		% of Total	23.1%	23.1%	46.2%
	Pensiunan	Count	6	1	7
		Expected Count	4.8	2.2	7.0
		% within Pekerjaan	85.7%	14.3%	100.0%
		% within Nyeri Post Test 2	66.7%	25.0%	53.8%
		% of Total	46.2%	7.7%	53.8%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Pekerjaan	69.2%	30.8%	100.0%	
	% within Nyeri Post Test 2	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

### **Distribusi Stiffness Ekstensi Knee Berdasarkan Usia**

#### 1. Kelompok Eksperimen

##### **Usia \* Stiffness Ekstensi Pre Test Crosstabulation**

Usia			Stiffness Ekstensi Pre Test		Total
			Normal (5-10)	Limitasi (>10)	
Elderly (60-74)	Count	Count	3	9	12
		Expected Count	2.8	9.2	12.0
		% within Usia	25.0%	75.0%	100.0%
		% within Stiffness Ekstensi Pre Test	100.0%	90.0%	92.3%
		% of Total	23.1%	69.2%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.2	.8	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Stiffness Ekstensi Pre Test	0.0%	10.0%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	3	10	13	
	Expected Count	3.0	10.0	13.0	
	% within Usia	23.1%	76.9%	100.0%	
	% within Stiffness Ekstensi Pre Test	100.0%	100.0%	100.0%	
	% of Total	23.1%	76.9%	100.0%	

##### **Usia \* Stiffness Ekstensi Post Test 1 Crosstabulation**

Usia			Stiffness Ekstensi Post Test 1		Total
			Normal (5-10)	Limitasi (>10)	
Elderly (60-74)	Count	Count	4	8	12
		Expected Count	4.6	7.4	12.0
		% within Usia	33.3%	66.7%	100.0%
		% within Stiffness Ekstensi Post Test 1	80.0%	100.0%	92.3%
		% of Total	30.8%	61.5%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.4	.6	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Ekstensi Post Test 1	20.0%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	5	8	13	
	Expected Count	5.0	8.0	13.0	
	% within Usia	38.5%	61.5%	100.0%	
	% within Stiffness Ekstensi Post Test 1	100.0%	100.0%	100.0%	
	% of Total	38.5%	61.5%	100.0%	



### Usia \* Stiffness Ekstensi Post Test 2 Crosstabulation

Usia			Stiffness Ekstensi Post Test 2		Total
			Normal (5-10)	Limitasi (>10)	
Usia	Elderly (60-74)	Count	6	6	12
		Expected Count	6.5	5.5	12.0
		% within Usia	50.0%	50.0%	100.0%
		% within Stiffness Ekstensi Post Test 2	85.7%	100.0%	92.3%
		% of Total	46.2%	46.2%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.5	.5	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Ekstensi Post Test 2	14.3%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	7	6	13	
	Expected Count	7.0	6.0	13.0	
	% within Usia	53.8%	46.2%	100.0%	
	% within Stiffness Ekstensi Post Test 2	100.0%	100.0%	100.0%	
	% of Total	53.8%	46.2%	100.0%	

## 2. Kelompok Kontrol

### Usia \* Stiffness Ekstensi Pre Test Crosstabulation

Usia			Stiffness Ekstensi Pre Test		Total
			Normal (5-10)	Limitasi (>10)	
Usia	Elderly (60-74)	Count	8	4	12
		Expected Count	8.3	3.7	12.0
		% within Usia	66.7%	33.3%	100.0%
		% within Stiffness Ekstensi Pre Test	88.9%	100.0%	92.3%
		% of Total	61.5%	30.8%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.7	.3	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Ekstensi Pre Test	11.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Usia	69.2%	30.8%	100.0%	
	% within Stiffness Ekstensi Pre Test	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

### Usia \* Stiffness Ekstensi Post Test 1 Crosstabulation

		Stiffness Ekstensi Post Test 1		Total	
		Normal (5-10)	Limitasi (>10)		
Usia	Elderly (60-74)	Count	8	4	12
		Expected Count	8.3	3.7	12.0
		% within Usia	66.7%	33.3%	100.0%
		% within Stiffness Ekstensi Post Test 1	88.9%	100.0%	92.3%
		% of Total	61.5%	30.8%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.7	.3	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Ekstensi Post Test 1	11.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Usia	69.2%	30.8%	100.0%	
	% within Stiffness Ekstensi Post Test 1	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

### Usia \* Stiffness Ekstensi Post Test 2 Crosstabulation

		Stiffness Ekstensi Post Test 2		Total	
		Normal (5-10)	Limitasi (>10)		
Usia	Elderly (60-74)	Count	8	4	12
		Expected Count	8.3	3.7	12.0
		% within Usia	66.7%	33.3%	100.0%
		% within Stiffness Ekstensi Post Test 2	88.9%	100.0%	92.3%
		% of Total	61.5%	30.8%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.7	.3	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Ekstensi Post Test 2	11.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Usia	69.2%	30.8%	100.0%	
	% within Stiffness Ekstensi Post Test 2	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

### Distribusi Stiffness Ekstensi Knee Berdasarkan Pekerjaan

#### 1. Kelompok Eksperimen

##### **Pekerjaan \* Stiffness Ekstensi Pre Test Crosstabulation**

Pekerjaan	IRT		Stiffness Ekstensi Pre Test		Total
			Normal (5-10)	Limitasi (>10)	
Pekerjaan	IRT	Count	3	6	9
		Expected Count	2.1	6.9	9.0
		% within Pekerjaan	33.3%	66.7%	100.0%
		% within Stiffness Ekstensi Pre Test	100.0%	60.0%	69.2%
		% of Total	23.1%	46.2%	69.2%
	Pensiunan	Count	0	4	4
		Expected Count	.9	3.1	4.0
		% within Pekerjaan	0.0%	100.0%	100.0%
		% within Stiffness Ekstensi Pre Test	0.0%	40.0%	30.8%
		% of Total	0.0%	30.8%	30.8%
Total	Count	3	10	13	
	Expected Count	3.0	10.0	13.0	
	% within Pekerjaan	23.1%	76.9%	100.0%	
	% within Stiffness Ekstensi Pre Test	100.0%	100.0%	100.0%	
	% of Total	23.1%	76.9%	100.0%	

##### **Pekerjaan \* Stiffness Ekstensi Post Test 1 Crosstabulation**

Pekerjaan	IRT		Stiffness Ekstensi Post Test 1		Total
			Normal (5-10)	Limitasi (>10)	
Pekerjaan	IRT	Count	3	6	9
		Expected Count	3.5	5.5	9.0
		% within Pekerjaan	33.3%	66.7%	100.0%
		% within Stiffness Ekstensi Post Test 1	60.0%	75.0%	69.2%
		% of Total	23.1%	46.2%	69.2%
	Pensiunan	Count	2	2	4
		Expected Count	1.5	2.5	4.0
		% within Pekerjaan	50.0%	50.0%	100.0%
		% within Stiffness Ekstensi Post Test 1	40.0%	25.0%	30.8%
		% of Total	15.4%	15.4%	30.8%
Total	Count	5	8	13	
	Expected Count	5.0	8.0	13.0	
	% within Pekerjaan	38.5%	61.5%	100.0%	
	% within Stiffness Ekstensi Post Test 1	100.0%	100.0%	100.0%	
	% of Total	38.5%	61.5%	100.0%	



### Pekerjaan \* Stiffness Ekstensi Post Test 2 Crosstabulation

		Stiffness Ekstensi Post Test 2		Total	
		Normal (5-10)	Limitasi (>10)		
Pekerjaan	IRT	Count	4	5	9
		Expected Count	4.8	4.2	9.0
		% within Pekerjaan	44.4%	55.6%	100.0%
		% within Stiffness Ekstensi Post Test 2	57.1%	83.3%	69.2%
		% of Total	30.8%	38.5%	69.2%
	Pensiunan	Count	3	1	4
		Expected Count	2.2	1.8	4.0
		% within Pekerjaan	75.0%	25.0%	100.0%
		% within Stiffness Ekstensi Post Test 2	42.9%	16.7%	30.8%
		% of Total	23.1%	7.7%	30.8%
Total	Count	7	6	13	
	Expected Count	7.0	6.0	13.0	
	% within Pekerjaan	53.8%	46.2%	100.0%	
	% within Stiffness Ekstensi Post Test 2	100.0%	100.0%	100.0%	
	% of Total	53.8%	46.2%	100.0%	

## 2. Kelompok Kontrol

### Pekerjaan \* Stiffness Ekstensi Pre Test Crosstabulation

		Stiffness Ekstensi Pre Test		Total	
		Normal (5-10)	Limitasi (>10)		
Pekerjaan	IRT	Count	5	1	6
		Expected Count	4.2	1.8	6.0
		% within Pekerjaan	83.3%	16.7%	100.0%
		% within Stiffness Ekstensi Pre Test	55.6%	25.0%	46.2%
		% of Total	38.5%	7.7%	46.2%
	Pensiunan	Count	4	3	7
		Expected Count	4.8	2.2	7.0
		% within Pekerjaan	57.1%	42.9%	100.0%
		% within Stiffness Ekstensi Pre Test	44.4%	75.0%	53.8%
		% of Total	30.8%	23.1%	53.8%
Total	Count	9	4	13	
	Expected Count	9.0	4.0	13.0	
	% within Pekerjaan	69.2%	30.8%	100.0%	
	% within Stiffness Ekstensi Pre Test	100.0%	100.0%	100.0%	
	% of Total	69.2%	30.8%	100.0%	

### Pekerjaan \* Stiffness Ekstensi Post Test 1 Crosstabulation

	Pekerjaan	IRT	Count	Stiffness Ekstensi Post Test 1		Total
				Normal (5-10)	Limitasi (>10)	
	Pekerjaan	IRT	Count	5	1	6
			Expected Count	4.2	1.8	6.0
			% within Pekerjaan	83.3%	16.7%	100.0%
			% within Stiffness Ekstensi Post Test 1	55.6%	25.0%	46.2%
			% of Total	38.5%	7.7%	46.2%
		Pensiunan	Count	4	3	7
			Expected Count	4.8	2.2	7.0
			% within Pekerjaan	57.1%	42.9%	100.0%
			% within Stiffness Ekstensi Post Test 1	44.4%	75.0%	53.8%
			% of Total	30.8%	23.1%	53.8%
	Total	Count	9	4	13	
		Expected Count	9.0	4.0	13.0	
		% within Pekerjaan	69.2%	30.8%	100.0%	
		% within Stiffness Ekstensi Post Test 1	100.0%	100.0%	100.0%	
		% of Total	69.2%	30.8%	100.0%	

### Pekerjaan \* Stiffness Ekstensi Post Test 2 Crosstabulation

	Pekerjaan	IRT	Count	Stiffness Ekstensi Post Test 2		Total
				Normal (5-10)	Limitasi (>10)	
	Pekerjaan	IRT	Count	5	1	6
			Expected Count	4.2	1.8	6.0
			% within Pekerjaan	83.3%	16.7%	100.0%
			% within Stiffness Ekstensi Post Test 2	55.6%	25.0%	46.2%
			% of Total	38.5%	7.7%	46.2%
		Pensiunan	Count	4	3	7
			Expected Count	4.8	2.2	7.0
			% within Pekerjaan	57.1%	42.9%	100.0%
			% within Stiffness Ekstensi Post Test 2	44.4%	75.0%	53.8%
			% of Total	30.8%	23.1%	53.8%
	Total	Count	9	4	13	
		Expected Count	9.0	4.0	13.0	
		% within Pekerjaan	69.2%	30.8%	100.0%	
		% within Stiffness Ekstensi Post Test 2	100.0%	100.0%	100.0%	
		% of Total	69.2%	30.8%	100.0%	

### Distribusi Stiffness Fleksi Knee Berdasarkan Usia

#### 1. Kelompok Eksperimen

##### Usia \* Stiffness Fleksi Pre Test Crosstabulation

Usia			Stiffness Fleksi Pre Test		Total
			Normal (120-140)	Limitasi (<120)	
Usia	Elderly (60-74)	Count	10	2	12
		Expected Count	10.2	1.8	12.0
		% within Usia	83.3%	16.7%	100.0%
		% within Stiffness Fleksi Pre Test	90.9%	100.0%	92.3%
		% of Total	76.9%	15.4%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.8	.2	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Fleksi Pre Test	9.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Usia	84.6%	15.4%	100.0%	
	% within Stiffness Fleksi Pre Test	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

##### Usia \* Stiffness Fleksi Post Test 1 Crosstabulation

Usia			Stiffness Fleksi Post Test 1		Total
			Normal (120-140)	Limitas (<120)	
Usia	Elderly (60-74)	Count	10	2	12
		Expected Count	10.2	1.8	12.0
		% within Usia	83.3%	16.7%	100.0%
		% within Stiffness Fleksi Post Test 1	90.9%	100.0%	92.3%
		% of Total	76.9%	15.4%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.8	.2	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Fleksi Post Test 1	9.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Usia	84.6%	15.4%	100.0%	
	% within Stiffness Fleksi Post Test 1	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

### Usia \* Stiffness Fleksi Post Test 2 Crosstabulation

		Stiffness Fleksi Post Test 2		Total	
		Normal (120-140)	Limitasi (<120)		
Usia	Elderly (60-74)	Count	10	2	12
		Expected Count	10.2	1.8	12.0
		% within Usia	83.3%	16.7%	100.0%
		% within Stiffness Fleksi Post Test 2	90.9%	100.0%	92.3%
		% of Total	76.9%	15.4%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.8	.2	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Stiffness Fleksi Post Test 2	9.1%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Usia	84.6%	15.4%	100.0%	
	% within Stiffness Fleksi Post Test 2	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

## 2. Kelompok Kontrol

### Usia \* Stiffness Fleksi Pre Test Crosstabulation

		Stiffness Fleksi Pre Test		Total	
		Normal (120-140)	Limitasi (<120)		
Usia	Elderly (60-74)	Count	1	11	12
		Expected Count	.9	11.1	12.0
		% within Usia	8.3%	91.7%	100.0%
		% within Stiffness Fleksi Pre Test	100.0%	91.7%	92.3%
		% of Total	7.7%	84.6%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.1	.9	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Stiffness Fleksi Pre Test	0.0%	8.3%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	1	12	13	
	Expected Count	1.0	12.0	13.0	
	% within Usia	7.7%	92.3%	100.0%	
	% within Stiffness Fleksi Pre Test	100.0%	100.0%	100.0%	
	% of Total	7.7%	92.3%	100.0%	



### Usia \* Stiffness Fleksi Post Test 1 Crosstabulation

Usia			Stiffness Fleksi Post Test 1		Total
			Normal (120-140)	Limitas (<120)	
Usia	Elderly (60-74)	Count	2	10	12
		Expected Count	1.8	10.2	12.0
		% within Usia	16.7%	83.3%	100.0%
		% within Stiffness Fleksi Post Test 1	100.0%	90.9%	92.3%
		% of Total	15.4%	76.9%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.2	.8	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Stiffness Fleksi Post Test 1	0.0%	9.1%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	2	11	13	
	Expected Count	2.0	11.0	13.0	
	% within Usia	15.4%	84.6%	100.0%	
	% within Stiffness Fleksi Post Test 1	100.0%	100.0%	100.0%	
	% of Total	15.4%	84.6%	100.0%	

### Usia \* Stiffness Fleksi Post Test 2 Crosstabulation

Usia			Stiffness Fleksi Post Test 2		Total
			Normal (120-140)	Limitasi (<120)	
Usia	Elderly (60-74)	Count	6	6	12
		Expected Count	5.5	6.5	12.0
		% within Usia	50.0%	50.0%	100.0%
		% within Stiffness Fleksi Post Test 2	100.0%	85.7%	92.3%
		% of Total	46.2%	46.2%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.5	.5	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Stiffness Fleksi Post Test 2	0.0%	14.3%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	6	7	13	
	Expected Count	6.0	7.0	13.0	
	% within Usia	46.2%	53.8%	100.0%	
	% within Stiffness Fleksi Post Test 2	100.0%	100.0%	100.0%	
	% of Total	46.2%	53.8%	100.0%	

### Distribusi Stiffness Fleksi Knee Berdasarkan Pekerjaan

#### 1. Kelompok Eksperimen

**Pekerjaan \* Stiffness Fleksi Pre Test Crosstabulation**

Pekerjaan	IRT	Count	Stiffness Fleksi Pre Test		Total
			Normal (120-140)	Limitasi (<120)	
		Count	8	1	9
		Expected Count	7.6	1.4	9.0
		% within Pekerjaan	88.9%	11.1%	100.0%
		% within Stiffness Fleksi Pre Test	72.7%	50.0%	69.2%
		% of Total	61.5%	7.7%	69.2%
	Pensiunan	Count	3	1	4
		Expected Count	3.4	.6	4.0
		% within Pekerjaan	75.0%	25.0%	100.0%
		% within Stiffness Fleksi Pre Test	27.3%	50.0%	30.8%
		% of Total	23.1%	7.7%	30.8%
Total		Count	11	2	13
		Expected Count	11.0	2.0	13.0
		% within Pekerjaan	84.6%	15.4%	100.0%
		% within Stiffness Fleksi Pre Test	100.0%	100.0%	100.0%
		% of Total	84.6%	15.4%	100.0%

**Pekerjaan \* Stiffness Fleksi Post Test 1 Crosstabulation**

Pekerjaan	IRT	Count	Stiffness Fleksi Post Test 1		Total
			Normal (120-140)	Limitas (<120)	
		Count	8	1	9
		Expected Count	7.6	1.4	9.0
		% within Pekerjaan	88.9%	11.1%	100.0%
		% within Stiffness Fleksi Post Test 1	72.7%	50.0%	69.2%
		% of Total	61.5%	7.7%	69.2%
	Pensiunan	Count	3	1	4
		Expected Count	3.4	.6	4.0
		% within Pekerjaan	75.0%	25.0%	100.0%
		% within Stiffness Fleksi Post Test 1	27.3%	50.0%	30.8%
		% of Total	23.1%	7.7%	30.8%
Total		Count	11	2	13
		Expected Count	11.0	2.0	13.0
		% within Pekerjaan	84.6%	15.4%	100.0%
		% within Stiffness Fleksi Post Test 1	100.0%	100.0%	100.0%
		% of Total	84.6%	15.4%	100.0%

### Pekerjaan \* Stiffness Fleksi Post Test 2 Crosstabulation

			Stiffness Fleksi Post Test 2		Total
			Normal (120-140)	Limitasi (<120)	
Pekerjaan	IRT	Count	8	1	9
		Expected Count	7.6	1.4	9.0
		% within Pekerjaan	88.9%	11.1%	100.0%
		% within Stiffness Fleksi Post Test 2	72.7%	50.0%	69.2%
		% of Total	61.5%	7.7%	69.2%
	Pensiunan	Count	3	1	4
		Expected Count	3.4	.6	4.0
		% within Pekerjaan	75.0%	25.0%	100.0%
		% within Stiffness Fleksi Post Test 2	27.3%	50.0%	30.8%
		% of Total	23.1%	7.7%	30.8%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Pekerjaan	84.6%	15.4%	100.0%	
	% within Stiffness Fleksi Post Test 2	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

## 2. Kelompok Kontrol

### Pekerjaan \* Stiffness Fleksi Pre Test Crosstabulation

			Stiffness Fleksi Pre Test		Total
			Normal (120-140)	Limitasi (<120)	
Pekerjaan	IRT	Count	0	6	6
		Expected Count	.5	5.5	6.0
		% within Pekerjaan	0.0%	100.0%	100.0%
		% within Stiffness Fleksi Pre Test	0.0%	50.0%	46.2%
		% of Total	0.0%	46.2%	46.2%
	Pensiunan	Count	1	6	7
		Expected Count	.5	6.5	7.0
		% within Pekerjaan	14.3%	85.7%	100.0%
		% within Stiffness Fleksi Pre Test	100.0%	50.0%	53.8%
		% of Total	7.7%	46.2%	53.8%
Total	Count	1	12	13	
	Expected Count	1.0	12.0	13.0	
	% within Pekerjaan	7.7%	92.3%	100.0%	
	% within Stiffness Fleksi Pre Test	100.0%	100.0%	100.0%	
	% of Total	7.7%	92.3%	100.0%	

**Pekerjaan \* Stiffness Fleksi Post Test 1 Crosstabulation**

		Stiffness Fleksi Post Test 1		Total	
		Normal (120-140)	Limitas (<120)		
Pekerjaan	IRT	Count	1	5	6
		Expected Count	.9	5.1	6.0
		% within Pekerjaan	16.7%	83.3%	100.0%
		% within Stiffness Fleksi Post Test 1	50.0%	45.5%	46.2%
		% of Total	7.7%	38.5%	46.2%
	Pensiunan	Count	1	6	7
		Expected Count	1.1	5.9	7.0
		% within Pekerjaan	14.3%	85.7%	100.0%
		% within Stiffness Fleksi Post Test 1	50.0%	54.5%	53.8%
		% of Total	7.7%	46.2%	53.8%
Total	Count	2	11	13	
	Expected Count	2.0	11.0	13.0	
	% within Pekerjaan	15.4%	84.6%	100.0%	
	% within Stiffness Fleksi Post Test 1	100.0%	100.0%	100.0%	
	% of Total	15.4%	84.6%	100.0%	

**Pekerjaan \* Stiffness Fleksi Post Test 2 Crosstabulation**

		Stiffness Fleksi Post Test 2		Total	
		Normal (120-140)	Limitasi (<120)		
Pekerjaan	IRT	Count	3	3	6
		Expected Count	2.8	3.2	6.0
		% within Pekerjaan	50.0%	50.0%	100.0%
		% within Stiffness Fleksi Post Test 2	50.0%	42.9%	46.2%
		% of Total	23.1%	23.1%	46.2%
	Pensiunan	Count	3	4	7
		Expected Count	3.2	3.8	7.0
		% within Pekerjaan	42.9%	57.1%	100.0%
		% within Stiffness Fleksi Post Test 2	50.0%	57.1%	53.8%
		% of Total	23.1%	30.8%	53.8%
Total	Count	6	7	13	
	Expected Count	6.0	7.0	13.0	
	% within Pekerjaan	46.2%	53.8%	100.0%	
	% within Stiffness Fleksi Post Test 2	100.0%	100.0%	100.0%	
	% of Total	46.2%	53.8%	100.0%	



## Distribusi Aktivitas Fungsional Berdasarkan Usia

### 1. Kelompok Eksperimen

#### Usia \* Aktivitas Fungsional Pre Test Crosstabulation

		Aktivitas Fungsional Pre Test		Total	
		Ringan (0-40)	Sedang (41-70)		
Usia	Elderly (60-74)	Count	10	2	12
		Expected Count	9.2	2.8	12.0
		% within Usia	83.3%	16.7%	100.0%
		% within Aktivitas Fungsional Pre Test	100.0%	66.7%	92.3%
		% of Total	76.9%	15.4%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.8	2	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Aktivitas Fungsional Pre Test	0.0%	33.3%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	10	3	13	
	Expected Count	10.0	3.0	13.0	
	% within Usia	76.9%	23.1%	100.0%	
	% within Aktivitas Fungsional Pre Test	100.0%	100.0%	100.0%	
	% of Total	76.9%	23.1%	100.0%	

#### Usia \* Aktivitas Fungsional Post Test 1 Crosstabulation

		Aktivitas Fungsional Post Test 1		Total	
		Ringan (0-40)	Sedang (41-70)		
Usia	Elderly (60-74)	Count	11	1	12
		Expected Count	10.2	1.8	12.0
		% within Usia	91.7%	8.3%	100.0%
		% within Aktivitas Fungsional Post Test 1	100.0%	50.0%	92.3%
		% of Total	84.6%	7.7%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.8	.2	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Aktivitas Fungsional Post Test 1	0.0%	50.0%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Usia	84.6%	15.4%	100.0%	
	% within Aktivitas Fungsional Post Test 1	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

## Usia \* Aktivitas Fungsional Post Test 2 Crosstabulation

		Aktivitas Fungsional Post Test 2			
			Ringan (0-40)	Sedang (41-70)	Total
Usia	Elderly (60-74)	Count	11	1	12
		Expected Count	10.2	1.8	12.0
		% within Usia	91.7%	8.3%	100.0%
		% within Aktivitas Fungsional Post Test 2	100.0%	50.0%	92.3%
		% of Total	84.6%	7.7%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.8	.2	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Aktivitas Fungsional Post Test 2	0.0%	50.0%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Usia	84.6%	15.4%	100.0%	
	% within Aktivitas Fungsional Post Test 2	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

## 2. Kelompok Kontrol

## Usia \* Aktivitas Fungsional Pre Test Crosstabulation

		Aktivitas Fungsional Pre Test				
			Ringan (0-40)	Sedang (41-70)	Berat (>70)	Total
Usia	Elderly (60-74)	Count	4	7	1	12
		Expected Count	4.6	6.5	.9	12.0
		% within Usia	33.3%	58.3%	8.3%	100.0%
		% within Aktivitas Fungsional Pre Test	80.0%	100.0%	100.0%	92.3%
		% of Total	30.8%	53.8%	7.7%	92.3%
	Old (75-90)	Count	1	0	0	1
		Expected Count	.4	.5	.1	1.0
		% within Usia	100.0%	0.0%	0.0%	100.0%
		% within Aktivitas Fungsional Pre Test	20.0%	0.0%	0.0%	7.7%
		% of Total	7.7%	0.0%	0.0%	7.7%
Total	Count	5	7	1	13	
	Expected Count	5.0	7.0	1.0	13.0	
	% within Usia	38.5%	53.8%	7.7%	100.0%	
	% within Aktivitas Fungsional Pre Test	100.0%	100.0%	100.0%	100.0%	
	% of Total	38.5%	53.8%	7.7%	100.0%	

### Usia \* Aktivitas Fungsional Post Test 1 Crosstabulation

		Aktivitas Fungsional Post Test 1		Total	
		Ringan (0-40)	Sedang (41-70)		
Usia	Elderly (60-74)	Count	4	8	12
		Expected Count	4.6	7.4	12.0
		% within Usia	33.3%	66.7%	100.0%
		% within Aktivitas Fungsional Post Test 1	80.0%	100.0%	92.3%
		% of Total	30.8%	61.5%	92.3%
	Old (75-90)	Count	1	0	1
		Expected Count	.4	.6	1.0
		% within Usia	100.0%	0.0%	100.0%
		% within Aktivitas Fungsional Post Test 1	20.0%	0.0%	7.7%
		% of Total	7.7%	0.0%	7.7%
Total	Count	5	8	13	
	Expected Count	5.0	8.0	13.0	
	% within Usia	38.5%	61.5%	100.0%	
	% within Aktivitas Fungsional Post Test 1	100.0%	100.0%	100.0%	
	% of Total	38.5%	61.5%	100.0%	

### Usia \* Aktivitas Fungsional Post Test 2 Crosstabulation

		Aktivitas Fungsional Post Test 2		Total	
		Ringan (0-40)	Sedang (41-70)		
Usia	Elderly (60-74)	Count	7	5	12
		Expected Count	6.5	5.5	12.0
		% within Usia	58.3%	41.7%	100.0%
		% within Aktivitas Fungsional Post Test 2	100.0%	83.3%	92.3%
		% of Total	53.8%	38.5%	92.3%
	Old (75-90)	Count	0	1	1
		Expected Count	.5	.5	1.0
		% within Usia	0.0%	100.0%	100.0%
		% within Aktivitas Fungsional Post Test 2	0.0%	16.7%	7.7%
		% of Total	0.0%	7.7%	7.7%
Total	Count	7	6	13	
	Expected Count	7.0	6.0	13.0	
	% within Usia	53.8%	46.2%	100.0%	
	% within Aktivitas Fungsional Post Test 2	100.0%	100.0%	100.0%	
	% of Total	53.8%	46.2%	100.0%	

### Distribusi Aktivitas Fungsional Berdasarkan Pekerjaan

#### 1. Kelompok Eksperimen

##### Pekerjaan \* Aktivitas Fungsional Pre Test Crosstabulation

Pekerjaan	IRT		Aktivitas Fungsional Pre Test		Total
			Ringan (0-40)	Sedang (41-70)	
	IRT	Count	8	1	9
		Expected Count	6.9	2.1	9.0
		% within Pekerjaan	88.9%	11.1%	100.0%
		% within Aktivitas Fungsional Pre Test	80.0%	33.3%	69.2%
		% of Total	61.5%	7.7%	69.2%
	Pensiunan	Count	2	2	4
		Expected Count	3.1	.9	4.0
		% within Pekerjaan	50.0%	50.0%	100.0%
		% within Aktivitas Fungsional Pre Test	20.0%	66.7%	30.8%
		% of Total	15.4%	15.4%	30.8%
Total	Count	10	3	13	
	Expected Count	10.0	3.0	13.0	
	% within Pekerjaan	76.9%	23.1%	100.0%	
	% within Aktivitas Fungsional Pre Test	100.0%	100.0%	100.0%	
	% of Total	76.9%	23.1%	100.0%	

##### Pekerjaan \* Aktivitas Fungsional Post Test 1 Crosstabulation

Pekerjaan	IRT		Aktivitas Fungsional Post Test 1		Total
			Ringan (0-40)	Sedang (41-70)	
	IRT	Count	9	0	9
		Expected Count	7.6	1.4	9.0
		% within Pekerjaan	100.0%	0.0%	100.0%
		% within Aktivitas Fungsional Post Test 1	81.8%	0.0%	69.2%
		% of Total	69.2%	0.0%	69.2%
	Pensiunan	Count	2	2	4
		Expected Count	3.4	.6	4.0
		% within Pekerjaan	50.0%	50.0%	100.0%
		% within Aktivitas Fungsional Post Test 1	18.2%	100.0%	30.8%
		% of Total	15.4%	15.4%	30.8%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Pekerjaan	84.6%	15.4%	100.0%	
	% within Aktivitas Fungsional Post Test 1	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	



**Pekerjaan \* Aktivitas Fungsional Post Test 2 Crosstabulation**

		Aktivitas Fungsional Post Test 2			
			Ringan (0-40)	Sedang (41-70)	Total
Pekerjaan	IRT	Count	9	0	9
		Expected Count	7.6	1.4	9.0
		% within Pekerjaan	100.0%	0.0%	100.0%
		% within Aktivitas Fungsional Post Test 2	81.8%	0.0%	69.2%
		% of Total	69.2%	0.0%	69.2%
	Pensiunan	Count	2	2	4
		Expected Count	3.4	.6	4.0
		% within Pekerjaan	50.0%	50.0%	100.0%
		% within Aktivitas Fungsional Post Test 2	18.2%	100.0%	30.8%
		% of Total	15.4%	15.4%	30.8%
Total	Count	11	2	13	
	Expected Count	11.0	2.0	13.0	
	% within Pekerjaan	84.6%	15.4%	100.0%	
	% within Aktivitas Fungsional Post Test 2	100.0%	100.0%	100.0%	
	% of Total	84.6%	15.4%	100.0%	

**2. Kelompok Kontrol**

**Pekerjaan \* Aktivitas Fungsional Pre Test Crosstabulation**

		Aktivitas Fungsional Pre Test				
			Ringan (0-40)	Sedang (41-70)	Berat (>70)	Total
Pekerjaan	IRT	Count	0	5	1	6
		Expected Count	2.3	3.2	.5	6.0
		% within Pekerjaan	0.0%	83.3%	16.7%	100.0%
		% within Aktivitas Fungsional Pre Test	0.0%	71.4%	100.0%	46.2%
		% of Total	0.0%	38.5%	7.7%	46.2%
	Pensiunan	Count	5	2	0	7
		Expected Count	2.7	3.8	.5	7.0
		% within Pekerjaan	71.4%	28.6%	0.0%	100.0%
		% within Aktivitas Fungsional Pre Test	100.0%	28.6%	0.0%	53.8%
		% of Total	38.5%	15.4%	0.0%	53.8%
Total	Count	5	7	1	13	
	Expected Count	5.0	7.0	1.0	13.0	
	% within Pekerjaan	38.5%	53.8%	7.7%	100.0%	
	% within Aktivitas Fungsional Pre Test	100.0%	100.0%	100.0%	100.0%	
	% of Total	38.5%	53.8%	7.7%	100.0%	

### Pekerjaan \* Aktivitas Fungsional Post Test 1 Crosstabulation

		Aktivitas Fungsional Post Test 1		Total	
		Ringan (0-40)	Sedang (41-70)		
Pekerjaan	IRT	Count	1	5	6
		Expected Count	2.3	3.7	6.0
		% within Pekerjaan	16.7%	83.3%	100.0%
		% within Aktivitas Fungsional Post Test 1	20.0%	62.5%	46.2%
		% of Total	7.7%	38.5%	46.2%
	Pensiunan	Count	4	3	7
		Expected Count	2.7	4.3	7.0
		% within Pekerjaan	57.1%	42.9%	100.0%
		% within Aktivitas Fungsional Post Test 1	80.0%	37.5%	53.8%
		% of Total	30.8%	23.1%	53.8%
Total	Count	5	8	13	
	Expected Count	5.0	8.0	13.0	
	% within Pekerjaan	38.5%	61.5%	100.0%	
	% within Aktivitas Fungsional Post Test 1	100.0%	100.0%	100.0%	
	% of Total	38.5%	61.5%	100.0%	

### Pekerjaan \* Aktivitas Fungsional Post Test 2 Crosstabulation

		Aktivitas Fungsional Post Test 2		Total	
		Ringan (0-40)	Sedang (41-70)		
Pekerjaan	IRT	Count	3	3	6
		Expected Count	3.2	2.8	6.0
		% within Pekerjaan	50.0%	50.0%	100.0%
		% within Aktivitas Fungsional Post Test 2	42.9%	50.0%	46.2%
		% of Total	23.1%	23.1%	46.2%
	Pensiunan	Count	4	3	7
		Expected Count	3.8	3.2	7.0
		% within Pekerjaan	57.1%	42.9%	100.0%
		% within Aktivitas Fungsional Post Test 2	57.1%	50.0%	53.8%
		% of Total	30.8%	23.1%	53.8%
Total	Count	7	6	13	
	Expected Count	7.0	6.0	13.0	
	% within Pekerjaan	53.8%	46.2%	100.0%	
	% within Aktivitas Fungsional Post Test 2	100.0%	100.0%	100.0%	
	% of Total	53.8%	46.2%	100.0%	

### Hasil Uji Normalitas Intensitas Nyeri

#### 1. Kelompok Eksperimen

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Nyeri Pre Test	.179	13	.200 <sup>*</sup>	.917	13	.225
Nyeri Post Test 1	.192	13	.200 <sup>*</sup>	.961	13	.767
Nyeri Post Test 2	.272	13	.009	.856	13	.034

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

#### 2. Kelompok Kontrol

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Nyeri1	.157	13	.200 <sup>*</sup>	.934	13	.380
Nyeri2	.278	13	.007	.806	13	.008
Nyeri3	.309	13	.001	.881	13	.073

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Hasil Uji Friedman Intensitas Nyeri

#### 1. Kelompok Eksperimen

##### Ranks

	Mean Rank
Nyeri Pre Test	2.50
Nyeri Post Test 1	1.81
Nyeri Post Test 2	1.69

##### Test Statistics<sup>a</sup>

N	13
Chi-Square	12.286
df	2
Asymp. Sig.	.002

a. Friedman Test

## 2. Kelompok Kontrol

Ranks		Test Statistics <sup>a</sup>	
	Mean Rank		
Nyeri1	2.85	N	13
Nyeri2	1.73	Chi-Square	17.227
Nyeri3	1.42	df	2
		Asymp. Sig.	.000

a. Friedman Test

**Hasil Analisis Post Hoc Wilcoxon Intensitas Nyeri**

## 1. Kelompok Eksperimen

Test Statistics <sup>a</sup>			
	Nyeri Post Test 1 - Nyeri Pre Test	Nyeri Post Test 2 - Nyeri Pre Test	Nyeri Post Test 2 - Nyeri Post Test 1
Z	-2.919 <sup>b</sup>	-3.081 <sup>b</sup>	-2.025 <sup>b</sup>
Asymp. Sig. (2-tailed)	.004	.002	.043

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

## 2. Kelompok Kontrol

Test Statistics <sup>a</sup>			
	Nyeri2 - Nyeri1	Nyeri3 - Nyeri1	Nyeri3 - Nyeri2
Z	-3.025 <sup>b</sup>	-2.965 <sup>b</sup>	-1.115 <sup>b</sup>
Asymp. Sig. (2-tailed)	.002	.003	.265

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.



### Hasil Uji Normalitas Stiffness Ekstensi Knee

#### 1. Kelompok Eksperimen

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Stiffness Ekstensi Pre Test	.411	13	.000	.673	13	.000
Stiffness Ekstensi Post Test 1	.273	13	.009	.809	13	.009
Stiffness Ekstensi Post Test 2	.234	13	.050	.861	13	.040

a. Lilliefors Significance Correction

#### 2. Kelompok Kontrol

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SE1	.276	13	.008	.876	13	.063
SE2	.252	13	.023	.905	13	.155
SE3	.219	13	.090	.920	13	.250

a. Lilliefors Significance Correction

### Hasil Uji Friedman Stiffness Ekstensi Knee

#### 1. Kelompok Eksperimen

##### Ranks

	Mean Rank
Stiffness Ekstensi Pre Test	2.12
Stiffness Ekstensi Post Test 1	2.00
Stiffness Ekstensi Post Test 2	1.88

##### Test Statistics<sup>a</sup>

N	13
Chi-Square	3.000
df	2
Asymp. Sig.	.223

a. Friedman Test

## 2. Kelompok Kontrol

Ranks		Test Statistics <sup>a</sup>	
	Mean Rank		
SE1	2.27	N	13
SE2	1.96	Chi-Square	6.615
SE3	1.77	df	2
		Asymp. Sig.	.037

a. Friedman Test

**Hasil Analisis Post Hoc Wilcoxon Stiffness Ekstensi Knee**

## 1. Kelompok Eksperimen

Test Statistics <sup>a</sup>			
	Stiffness Ekstensi Post Test 1 - Stiffness Ekstensi Pre Test	Stiffness Ekstensi Post Test 2 - Stiffness Ekstensi Pre Test	Stiffness Ekstensi Post Test 2 - Stiffness Ekstensi Post Test 1
Z	-1.980 <sup>b</sup>	-2.739 <sup>b</sup>	-1.611 <sup>b</sup>
Asymp. Sig. (2-tailed)	.048	.006	.107

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

## 2. Kelompok Kontrol

Test Statistics <sup>a</sup>			
	SE2 - SE1	SE3 - SE1	SE3 - SE2
Z	-1.633 <sup>b</sup>	-1.841 <sup>b</sup>	-1.342 <sup>b</sup>
Asymp. Sig. (2-tailed)	.102	.066	.180

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

### Hasil Uji Normalitas Stiffness Fleksi Knee

#### 1. Kelompok Eksperimen

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Stiffness Fleksi Pre Test	.266	13	.012	.858	13	.036
Stiffness Fleksi Post Test 1	.250	13	.026	.913	13	.203
Stiffness Fleksi Post Test 2	.192	13	.200*	.923	13	.276

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

#### 2. Kelompok Kontrol

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SF1	.227	13	.065	.869	13	.050
SF2	.187	13	.200*	.858	13	.036
SF3	.233	13	.053	.811	13	.009

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Hasil Uji Friedman Stiffness Fleksi Knee

#### 1. Kelompok Eksperimen

##### Ranks

	Mean Rank
Stiffness Fleksi Pre Test	2.04
Stiffness Fleksi Post Test 1	2.04
Stiffness Fleksi Post Test 2	1.92

##### Test Statistics<sup>a</sup>

N	13
Chi-Square	2.000
df	2
Asymp. Sig.	.368

a. Friedman Test

## 2. Kelompok Kontrol

Ranks		Test Statistics <sup>a</sup>	
	Mean Rank		
SF1	1.12	N	13
SF2	2.12	Chi-Square	19.957
SF3	2.77	df	2
		Asymp. Sig.	.000

a. Friedman Test

**Hasil Analisis Post Hoc Wilcoxon Stiffness Fleksi Knee**

## 1. Kelompok Eksperimen

Test Statistics <sup>a</sup>			
	Stiffness Fleksi Post Test 1 - Stiffness Fleksi Pre Test	Stiffness Fleksi Post Test 2 - Stiffness Fleksi Pre Test	Stiffness Fleksi Post Test 2 - Stiffness Fleksi Post Test 1
Z	-2.724 <sup>b</sup>	-2.958 <sup>b</sup>	-2.137 <sup>b</sup>
Asymp. Sig. (2-tailed)	.006	.003	.033

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

## 2. Kelompok Kontrol

Test Statistics <sup>a</sup>			
	SF2 - SF1	SF3 - SF1	SF3 - SF2
Z	-2.821 <sup>b</sup>	-3.192 <sup>b</sup>	-2.006 <sup>b</sup>
Asymp. Sig. (2-tailed)	.005	.001	.045

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.



### Hasil Uji Normalitas Aktivitas Fungsional

#### 1. Kelompok Eksperimen

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Aktivitas Fungsional Pre Test	.184	13	.200 <sup>*</sup>	.951	13	.614
Aktivitas Fungsional Post Test 1	.146	13	.200 <sup>*</sup>	.968	13	.870
Aktivitas Fungsional Post Test 2	.135	13	.200 <sup>*</sup>	.962	13	.789

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

#### 2. Kelompok Kontrol

##### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AF1	.151	13	.200 <sup>*</sup>	.976	13	.958
AF2	.171	13	.200 <sup>*</sup>	.968	13	.870
AF3	.167	13	.200 <sup>*</sup>	.922	13	.263

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Hasil Uji Repeated ANOVA Aktivitas Fungsional

#### 1. Kelompok Eksperimen

##### Descriptive Statistics

	Mean	Std. Deviation	N
Aktivitas Fungsional Pre Test	37.62	11.095	13
Aktivitas Fungsional Post Test 1	29.62	9.622	13
Aktivitas Fungsional Post Test 2	30.00	8.898	13

### Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
AFE	Sphericity Assumed	529.282	2	264.641	63.481	.000	.841
	Greenhouse-Geisser	529.282	1.792	295.349	63.481	.000	.841
	Huynh-Feldt	529.282	2.000	264.641	63.481	.000	.841
	Lower-bound	529.282	1.000	529.282	63.481	.000	.841
Error(AFE)	Sphericity Assumed	100.051	24	4.169			
	Greenhouse-Geisser	100.051	21.505	4.653			
	Huynh-Feldt	100.051	24.000	4.169			
	Lower-bound	100.051	12.000	8.338			

## 2. Kelompok Kontrol

### Descriptive Statistics

	Mean	Std. Deviation	N
AF1	46.92	14.338	13
AF2	44.54	13.507	13
AF3	37.69	10.103	13

### Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
AF	Sphericity Assumed	596.974	2	298.487	20.065	.000	.626
	Greenhouse-Geisser	596.974	1.134	526.306	20.065	.000	.626
	Huynh-Feldt	596.974	1.173	508.928	20.065	.000	.626
	Lower-bound	596.974	1.000	596.974	20.065	.001	.626
Error(AF)	Sphericity Assumed	357.026	24	14.876			
	Greenhouse-Geisser	357.026	13.611	26.230			
	Huynh-Feldt	357.026	14.076	25.364			
	Lower-bound	357.026	12.000	29.752			

### Hasil Analisis Post Hoc Bonferroni Aktivitas Fungsional

#### 1. Kelompok Eksperimen

##### Pairwise Comparisons

Measure: Aktivitas\_Fungsional

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	8.000 <sup>*</sup>	.892	.000	5.522	10.478
	3	7.615 <sup>*</sup>	.836	.000	5.291	9.940
2	1	-8.000 <sup>*</sup>	.892	.000	-10.478	-5.522
	3	-.385	.656	1.000	-2.207	1.438
3	1	-7.615 <sup>*</sup>	.836	.000	-9.940	-5.291
	2	.385	.656	1.000	-1.438	2.207

Based on estimated marginal means

\*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

#### 2. Kelompok Kontrol

##### Pairwise Comparisons

Measure: Aktivitas\_Fungsional

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	2.385 <sup>*</sup>	.626	.007	.645	4.124
	3	9.231 <sup>*</sup>	1.945	.001	3.824	14.638
2	1	-2.385 <sup>*</sup>	.626	.007	-4.124	-.645
	3	6.846 <sup>*</sup>	1.640	.004	2.287	11.405
3	1	-9.231 <sup>*</sup>	1.945	.001	-14.638	-3.824
	2	-6.846 <sup>*</sup>	1.640	.004	-11.405	-2.287

Based on estimated marginal means

\*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

**Lampiran 10. Dokumentasi Kegiatan**



**Menjelaskan Tujuan Tindakan, Pengisian Form Lansia, Pengisian *Informed Consent* dan Pengukuran Aktivitas Fungsional dengan *WOMAC***



**Proses Pengukuran Intensitas Nyeri dengan *Visual Analog Scale (VAS)***



**Proses Pengukuran *Stiffness Knee* dengan Goniometer**



**Pemberian *Hold relax exercise* kepada Responden**



**Lampiran 11. Riwayat Hidup****CURRICULUM VITAE****A. Data Pribadi**

Nama : Andi Eka Mutiara  
Tempat, Tanggal Lahir : Bantaeng, 29 Maret 2002  
Alamat : BTN Harmoni Pao-pao No.10  
Kewarganegaraan : Warga Negara Indonesia

**B. Riwayat Pendidikan**

1. Tamat SD tahun 2014 di SDI Paccinongang
2. Tamat SLTP tahun 2017 di MTsN 1 Kota Makassar
3. Tamat SLTA tahun 2020 di MAN 2 Kota Makassar

**C. Kegiatan Kemahasiswaan yang Pernah diikuti**

1. *Basic Learning Skill and Creativity (BALANCE)* Universitas Hasanuddin 2020
2. Latihan Dasar Kepemimpinan 1 Himafisio F.Kep-UH pada tahun 2021
3. Bakti Sosial Fisioterapi Himpunan Mahasiswa Fisioterapi Universitas Hasanuddin Tahun 2021
4. Bakti Sosial Fisioterapi Himpunan Mahasiswa Fisioterapi Universitas Hasanuddin Tahun 2022
5. Bakti Sosial Fisioterapi Himpunan Mahasiswa Fisioterapi Universitas Hasanuddin Tahun 2023

## Lampiran 12. Draft Artikel

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**Pengaruh Hold Relax Exercise terhadap Perubahan Intensitas Nyeri, Stiffness dan Aktivitas Fungsional pada Lansia Suspect Osteoarthritis Knee di Puskesmas Paccerrakkang Kota Makassar**

*The Effect of Hold relax exercise on Changes in Pain Intensity, Stiffness and Functional Activities in Elderly People Suspected Osteoarthritis Knee at the Paccerrakkang Community Health Center Makassar City*

Andi Eka Mutiara<sup>1</sup>, Andi Rahmawati SP<sup>2</sup>, Irianto<sup>3</sup>, Hamisah<sup>4</sup>

<sup>1,2,3,4</sup> Universitas Hasanudin

Diterima : \_\_\_\_\_, Disetujui : \_\_\_\_\_, Dipublikasikan : \_\_\_\_\_

**ABSTRAK**

Penuaan pada lansia bersifat irreversible dapat meningkatkan predisposisi osteoarthritis knee sehingga dapat menyebabkan kecacatan dan penurunan level fungsional akibat penebaran jaringan matrikskeletal (Sudaryana dkk., 2021). Salah satu modalitas fisioterapi yaitu Hold relax exercise dapat memicu mekanisme penghambatan autogenik sehingga terjadi penebaran ketegangan otot melalui stimulasi Golgi Tendon Organ (GTO) dan memangkinkan terjadinya penurunan nyeri dan peningkatan kemampuan fungsional pasien OA (La Boase dkk., 2023). **Tujuan.** Tujuan penelitian ini adalah untuk mengetahui pengaruh hold relax exercise terhadap perubahan intensitas nyeri, stiffness dan aktivitas fungsional pada lansia suspect osteoarthritis knee di Puskesmas Paccerrakkang Kota Makassar. **Metode.** Penelitian ini adalah penelitian quasi experimental design dengan jenis rancangan pre test dan post test control group design. Sampel dalam penelitian ini diperoleh dari jumlah populasi menggunakan teknik purposive sampling dengan total sampel 13 responden kelompok eksperimen dan 13 responden kelompok kontrol. Parameter penelitian menggunakan instrument Visual Analog Scale (VAS), goniometer dan instrument The Western and McMaster University Osteoarthritis Index (WOMAC). **Hasil.** Dari hasil uji korelasi menggunakan Uji Repeated ANOVA dan Uji Friedman pada kelompok eksperimen dan kontrol penelitian ini didapatkan hasil pengukuran dengan p-value sebesar 0.000 ( $p < 0.05$ ), yang berarti terdapat perbedaan dari hasil pre test dan post test. **Kesimpulan.** Maka dapat disimpulkan terdapat pengaruh hold relax exercise terhadap perubahan intensitas nyeri, stiffness dan aktivitas fungsional pada lansia suspect osteoarthritis knee di Puskesmas Paccerrakkang Kota Makassar.

**Kata kunci:** Nyeri; Stiffness; Aktivitas Fungsional; Hold relax exercise; Osteoarthritis; Lansia.

**ABSTRACT**

Irreversible aging in the elderly can increase the predisposition to knee osteoarthritis, which can cause disability and a decrease in functional level due to a decrease in musculoskeletal tissue (Sudaryana dkk., 2021). One modality, namely Hold relax exercise, can trigger an autogenic inhibition mechanism resulting in a reduction in muscle tension through stimulation of the Golgi Tendon Organ (GTO) and allows for a reduction in pain and an increase in the functional ability of OA patients (La Boase dkk., 2023). **Aim.** The aim of this study was to determine the effect of hold relax exercise on changes in pain intensity, stiffness and functional activity in elderly people suspected of osteoarthritis knee at the Paccerrakkang Community Health Center, Makassar City. **Methods.** This research is a quasi-experimental design research with a pre-test and post-test control group design. The sample in this study was obtained from the total population using a purposive sampling technique with a total sample of 13 respondents in the experimental group and 13 respondents in the control group. The research parameters used the Visual Analog Scale (VAS), goniometer and The Western and McMaster University Osteoarthritis Index (WOMAC) instruments. **Results.** From the results of the correlation test using the Repeated ANOVA Test and the Friedman Test in the experimental and control groups of this study, measurement results were obtained with a p-value of 0.000 ( $p < 0.05$ ), which means there is a difference in the pre-test and post-test results. **Conclusion.** So it can be concluded that there is an influence of Hold relax exercise on changes in pain intensity, stiffness and functional activity in elderly people suspected of osteoarthritis knee at the Paccerrakkang Community Health Center, Makassar City. **Keywords:** Pain; Stiffness; Functional Activity; Hold relax exercise; Osteoarthritis; Elderly.