

# Scabies in Urban Bangladesh: Burden, Behavior, and Control A Cross-Sectional Survey

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A thesis submitted to the Department of Pharmacy in partial fulfillment of  
the requirements for the degree of Bachelor of Pharmacy

School of Pharmacy  
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December, 2025

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## **Declaration**

It is hereby declared that

1. The thesis submitted is my own original work, completed while pursuing a degree at BRAC University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted or submitted for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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## Approval

The thesis/project titled “Scabies is Urban Bangladesh: Burden, Behaviours and Control” submitted by Mst Any Akther ID (21346009) of Spring,2025, has been accepted as satisfactory in partial fulfilment of the requirement for the degree of Bachelor of Pharmacy.

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## **Ethics Statement**

This study was conducted in accordance with institutional ethical standards, with informed consent obtained from all participants and data collected anonymously for academic purposes only.

## Abstract

Scabies remains common in crowded urban settings in Bangladesh. We conducted a country-wide online cross-sectional survey with additional circulation in Dhaka hostels/homes. 103 respondents reported they had been diagnosed with scabies during their lifetime. Within this group, 26.2% participants (27/103 participants) reported that they are currently infected with scabies. Recurrence was frequent (~53.4% participants had more than 2 episodes); the infection lasted over one month in 31.1% participants. 37.9% participants reported scabies disturbed their sleep/daily-activity. Household transmission signals were consistent (33% said a family member had scabies, 40.8% said no, 26.2% were not sure). 30.1% of participants reported that scabies spreads through close contact, 35% of participants were not sure, and 35% of participants said it did not spread through close contact. Only 31.1% participants took medicines as prescribed, 34% participants reported same-day contact treatment, 42.7% participants shared personal items, and only 25.2% participants cleaned their surfaces every day.

The dataset indicates ongoing household transmission due to gaps in adherence, synchronised contact treatment, and hygiene management. Immediate program priorities are same-night household treatment, clear dosing with a repeat at days 7–14 if needed, and providing laundry guidance. IACS-based clinical mapping is needed to obtain examination-derived prevalence.

**Keywords:** Scabies, Scabies burden, Bangladesh, scabies transmission, treatment;

## **Dedication**

This thesis is dedicated to my family and to all the participants who have always been there for me, offering constant support and encouragement throughout my journey.

## **Acknowledgement**

All praise and gratitude to Almighty Allah for granting me the strength and patience to complete this thesis successfully. I extend my sincere appreciation to my supervisor, Dr Nishat Zareen Khair, for her invaluable guidance, encouragement, and continuous support throughout this journey. I am profoundly thankful to my family and friends for their constant prayers, encouragement, and unwavering support, which have been my source of strength. I also wish to express my heartfelt thanks to all the participants who generously gave their time to complete the survey—their contributions were essential in making this research possible. To everyone who supported me in any way during this endeavour, I am truly grateful.

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## List of Acronym

|                     |                                                                 |
|---------------------|-----------------------------------------------------------------|
| <b>AAPOR</b>        | American Association for Public Opinion Research                |
| <b>APSGN / PSGN</b> | (Acute) Post-streptococcal glomerulonephritis                   |
| <b>CDC</b>          | Centres for Disease Control and Prevention (U.S.)               |
| <b>CDLQI</b>        | Children’s Dermatology Life Quality Index                       |
| <b>CHERRIES</b>     | Checklist for Reporting Results of Internet E-Surveys           |
| <b>CI</b>           | Confidence interval                                             |
| <b>DALY / DALYs</b> | Disability-Adjusted Life Year(s)                                |
| <b>DLQI</b>         | Dermatology Life Quality Index                                  |
| <b>GAS</b>          | Group A Streptococcus ( <i>Streptococcus pyogenes</i> )         |
| <b>GBD</b>          | Global Burden of Disease (study)                                |
| <b>IACS</b>         | International Alliance for the Control of Scabies               |
| <b>IQR</b>          | Interquartile range                                             |
| <b>kdr</b>          | Knockdown resistance (pyrethroid-resistance mutation pattern)   |
| <b>LAMP</b>         | Loop-mediated isothermal amplification (DNA assay)              |
| <b>MDA</b>          | Mass drug administration                                        |
| <b>NTD / NTDs</b>   | Neglected Tropical Disease(s)                                   |
| <b>OHCHR</b>        | Office of the United Nations High Commissioner for Human Rights |
| <b>PCR</b>          | Polymerase chain reaction                                       |
| <b>RACGP</b>        | Royal Australian College of General Practitioners               |
| <b>RHD</b>          | Rheumatic heart disease                                         |

# Chapter 1

## Introduction

### 1.1 Background

Scabies is a very itchy skin condition caused by a tiny mite called *Sarcoptes scabiei* var. *hominis*. The female mite digs into the top layer of human skin and lays eggs there. This does not usually kill people, but it causes intense itching, loss of sleep, and scratching that breaks the skin. Broken skin lets bacteria in, which can lead to kidney and heart problems linked to streptococcal infection (Romani et al., 2015; Chisavu et al., 2024).

Global Burden of Disease (GBD 2021) estimates suggest that about 206.6 million people have scabies at any given time. In 2021, there were around 622.5 million new cases, and about 5.3 million disability-adjusted life years (DALYs) were lost. Children and people in tropical regions carry the heaviest burden (Li et al., 2024).

Scabies spreads almost anywhere people have close skin-to-skin contact. It is common in crowded dormitories, schools, long-term care homes, prisons, homeless shelters, and refugee camps. High-income countries also see outbreaks when people live close together, for example, repeated clusters in the Netherlands and a rise in cases seen by inpatient dermatology wards in Germany (van Deursen et al., 2022; Sunderkötter et al., 2021; WHO, 2023).

The mite and its waste materials trigger the body's immune response. Mite proteins can also switch off parts of our defence system, which changes how our skin reacts and heals. The result is an intense, often nighttime itch that disturbs sleep (Bergström et al., 2009; Swe et al., 2014; CDC, 2024).

The main route is direct, prolonged skin-to-skin contact (for example, sleeping in the same bed). Spread through clothing or bedding is less common, except in a severe form called crusted scabies, where there are millions of mites on the skin. Away from people, mites usually die within 1–2 days in normal indoor conditions, though survival can be a little longer in damp materials, which is why hot washing and drying of recent clothing and bedding helps (Arlan & Vyszynski-Moher, 1992; CDC, 2024).

Crowding (many people in one room), frequent close contact, bed-sharing, and delayed or incomplete treatment of household members are key risk factors. Hot and humid climates also matter. Because mites survive longer off the body, and people have closer contact. These patterns explain why outbreaks appear after disasters that force families into shelters (Huang et al., 2016; Liu et al., 2016; Richardson et al., 2023).

WHO and expert groups recommend simple, standardised clinical criteria (IACS 2020) for mapping and programs (Engelman et al., 2020). For controlling, treating the patient and all close contacts at the same time, and washing/drying (or isolating recent clothing and bedding) are core steps. In places with very high prevalence, community-wide treatment (“MDA”) has sharply reduced scabies and impetigo (Engelman et al., 2020; Dupuy et al., 2007; Thean et al., 2022).

Scabies harms quality of life. People sleep badly, feel embarrassed, and find it hard to concentrate at school or work. These effects are measurable on standard quality-of-life scales, and they often improve when scabies is brought under control (Lake et al., 2022; WHO, 2023).

## **1.2 Biology & Clinical spectrum of Scabies**

### **1.2.1 How the Mite Lives and Why the Skin Reacts?**

A fertilised female scabies mite (about 0.3–0.4 mm long) tunnels in the outermost skin (stratum corneum) and lays 2–3 eggs per day. Eggs hatch in roughly 2–3 days; larvae then moult to nymphs and adults, with a full life cycle of about 10–14 days on the human host (Arlan et al., 1991). Away from the body, mites usually survive only a short time-typically 2–3 days in normal indoor conditions. Washing or hot-drying recently used clothes, towels, and bedding (or sealing them in a bag for several days) is an important part of treatment (Arlan & Vyszynski-Moher, 1992; CDC, 2024).

Transmission happens through close, prolonged skin-to-skin contact; crowding and shared sleeping spaces make the spread much more likely. In infants and older adults, affected areas can be more widespread (RACGP update: Hardy, Engelman & Steer, 2017).

Mite bodies and faeces (scybala) left in the skin act as allergens that drive an itchy, delayed-type inflammatory reaction-often worse at night (Bergström et al., 2009; Swe et al., 2014). In people with impaired immunity, infestation can escalate to crusted scabies, with millions of mites, thick scaly plaques, and very high infectiousness (Davis et al., 2013).

### **1.2.2 Signs and Symptoms of Scabies**

Typical scabies causes intense itch and small, red, itchy bumps with short, thin, wavy lines (burrows). Common sites are the finger webs and sides of the fingers, flexor wrists, elbows, beltline, buttocks, areolae, and male genitalia. Itch is classically worse at night. In infants and very young children, the scalp, face, neck, palms, and soles may also be involved (CDC, 2024; DermNet NZ, 2023). Two important variants of scabies that matter for programs.

Nodular scabies presents with firm, very itchy nodules (often on the scrotum or underarms ) that may persist even after mites are killed and sometimes need anti-inflammatory therapy. Crusted scabies occurs in people whose immune system is weak, causing thick, scaly skin full of millions of mites. This type is very contagious and needs strong treatment (Davis et al., 2013; CDC, 2024; RACGP update, 2017).

### **1.3 Diagnosis: Clinical Criteria and Simple Tools**

Health Programs now use the IACS 2020 protocols, which group cases into three levels: Confirmed (A), Clinical (B), and Suspected (C) (Engelman et al., 2020). “Confirmed” needs a direct view of the mite, eggs, or droppings (for example with microscopy or dermoscopy). “Clinical” is a typical rash in the usual places plus a supportive history (night-time itch, contact with an itchy person). “Suspected” is used when only some of these features are present but scabies is still likely (Engelman et al., 2020). Training non-specialists to use these levels improves diagnosis and makes prevalence maps more reliable (Walker et al., 2020).

Very low-tech aids still help to detect scabies. The burrow-ink test (rub ink over the skin, wipe off with alcohol, and watch the ink stay in the tunnels) guides where to examine or scrape; it is quick, cheap, and useful in schools and camps (Del Barrio-Díaz et al., 2022; Rauwerdink & Balak, 2023). Microscopy of skin scrapings is highly specific but can miss cases if the scraping misses the mite; combining a quick look for visible burrows with targeted scraping increases yield (Walton & Currie, 2007).

Newer tools are emerging. DNA tests such as loop-mediated isothermal amplification (LAMP) detect very small amounts of mite DNA in under an hour, and smartphone AI (e.g., “Scabies-Net”) can support frontline workers but is not yet standard for large surveys (Fraser et al., 2021; Lake et al., 2021).

## **1.4 Scabies Situation in Bangladesh**

Bangladesh's very high population density ( $>1300$  people/km<sup>2</sup>), humid climate, poverty and recurrent monsoon floods favour persistent scabies transmission; in 2024, major floods displaced hundreds of thousands into crowded shelters with poor WASH (Worldometer, 2024; UNICEF, 2024; Ahmed, 2025). In Cox's Bazar, home to  $>1.1$  million Rohingya refugees, scabies prevalence was  $\approx 40\%$  in 2022–2023 and 39.6% in a 2023 WHO survey. Recent district-level reports show sharp local outbreaks: in Chuadanga,  $\sim 150$ – $200$  patients per day attended the Sadar hospital for scabies treatment on 9 October 2025; in Comilla, about 80% of patients seeking care for skin disease in May 2025 were diagnosed with scabies; and in Chattogram, one hospital saw daily scabies cases rise from  $\sim 200$  in March to over 500 later in 2025 (The Daily Star, 2025; Dhaka Tribune, 2025). Together, these data indicate that scabies in Bangladesh is now a widespread, climate-sensitive public health problem requiring coordinated mapping, targeted MDA in high-burden areas and strengthened WASH and primary-care responses (Ahmed, 2025).

## **1.5 Management of Scabies**

First-line treatments are permethrin 5% cream and oral ivermectin (typically 200  $\mu\text{g/kg}$ ). Everyone and their close contact should take same-day treatment to stop “ping-pong” reinfestation (CDC, 2024). Machine-wash and hot-dry clothing, bedding, and towels used in the 3 days before treatment; temperatures of at least 50 °C (122 °F) for 10 minutes will kill mites and eggs. Items that cannot be laundered can be sealed for several days (CDC, 2023; CDC, 2024). Itch may last 2–4 (sometimes up to 6) weeks after effective therapy (post-scabetic itch) and does not always mean treatment failure. (CDC, 2024). Crusted scabies needs strong treatment (multiple ivermectin doses, topical creams), contact tracing, and strict

environmental control in institutions (CDC, 2023; CDC, 2024). Where measured prevalence is  $\geq 10\%$ , expert guidance allows ivermectin-based MDA with topical options for ineligible groups to bring transmission down quickly (Engelman et al., 2021). Evidence from Fiji showed  $\sim 94\%$  reduction in scabies prevalence 12 months after community-wide treatment, with parallel drops in impetigo (Romani et al., 2015; Thean et al., 2022).

## **1.6 Treatment of Scabies**

### **1.6.1 Current and New Drug Options**

Pyrethroids (permethrin 5% cream) are the most effective treatment, but may underperform where mites have been resistant. Complete coverage and a repeat application at day 7–14 is essential. Aromatic esters (benzyl benzoate 25% lotion/emulsion) are inexpensive and effective but can irritate skin; an RCT supports higher cure compared with permethrin (Meyersburg et al., 2024). Spinosyns (spinosad 0.9% topical suspension) received FDA approval for scabies in 2021 and proved fully effective in clinical trials, but its availability and cost vary (FDA, 2021; FDA, 2024). Old formulations —crotamiton 10%, sulfur 5–10%, malathion/lindane—have variable efficacy or safety limitations and are generally not used today.

Ivermectin (avermectin class) at 200  $\mu\text{g}/\text{kg}$  by mouth, given with food, typically in two doses 7–14 days apart. Multi-doses along with topical creams are standard for crusted scabies. Moxidectin (oral) has a long half-life, raising the possibility of single-dose treatment. Adult efficacy and dose-finding studies are ongoing (ClinicalTrials.gov, 2025). Isoxazolines (e.g., fluralaner) block mite nerves and have shown promising results in animal models and limited human studies, but are not approved for human use (Sharaf et al., 2023).

Table 1.6: Antiscabies agents by class (program view, 2025)

| Class             | Example drug(s) & formulation       | Human approval (scabies)   | Typical regimen                         | Key pros/limitations                                                                  | Selected evidence                                                 |
|-------------------|-------------------------------------|----------------------------|-----------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Pyrethroid        | Permethrin 5% cream (topical)       | Yes (many countries)       | Neck-down for 8–14 h; repeat day 7–14   | Well-known, reduced performance reported in some settings, needs full body coverage   | Fang et al., 2015; Mounsey et al., 2018; Riebenbauer et al., 2023 |
| Aromatic ester    | Benzyl benzoate 25% lotion/emulsion | Yes (varies by country)    | For 1-2 days, with repeat day 7–14 days | Inexpensive, effective; skin irritation possible; RCT shows higher cure vs permethrin | Meyersburg et al., 2024                                           |
| Spinosyn          | Spinosad 0.9% topical suspension    | Yes (FDA 2021)             | Per product label                       | Meets FDA's 'complete cure' standard, availability/cost vary                          | FDA, 2021; FDA, 2024                                              |
| Avermectin (oral) | Ivermectin 200 µg/kg                | Off-label in some settings | Two doses 7–14 days apart with food     | Convenient systemic option, multi-dose for crusted scabies                            | CDC, 2023                                                         |
| Milbemycin (oral) | Moxidectin                          | Not approved for scabies   | Single-dose regimens under study        | Long half-life, potential program simplification if approved                          | Mounsey et al., 2020; ClinicalTrials.gov, 2025                    |

## 1.6.2 Vaccines and Biologics pipeline (early-stage)

There is no licensed human scabies vaccine. Preclinical work has shown partial protection and reduced mite burdens using recombinant antigens such as serine protease inhibitors (serpins) and cathepsin-like proteases (rSsCLP5, rSsCLP12) in rabbits. Other proteins, apolipoproteins (Sar s 14), have shown immunogenicity in pigs and human studies (Rampton et al., 2013; Shen et al., 2020; Sharaf et al., 2024). Key challenges include protein selection, adding extra substances to make long lasting immunity and producing the vaccine at low cost for low income area.

Table 1.6.2: Illustrative scabies vaccine candidates (preclinical)

| Approach / Antigen(s)                                                        | Model / Phase            | Key finding                                                 | Status/notes                                          | Selected evidence    |
|------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------|-------------------------------------------------------|----------------------|
| Recombinant serpins & cathepsin-like proteases (rSsCLP5 + rSsCLP12 cocktail) | Rabbit (preclinical)     | Strong immune protection; significantly reduced mite burden | Preclinical; candidate combinations evolving          | Shen et al., 2020    |
| Apolipoprotein (Sar s 14 family)                                             | Pigs/human               | Protein caused a strong immune                              | Diagnostic lead, informs on vaccine antigen selection | Rampton et al., 2013 |
| Multi-antigen recombinant panels (various mite proteins)                     | Pig/rabbit (preclinical) | Partial protection and reduced mite counts across studies   | Optimisation of protein sets/ adjuvants is ongoing    | Sharaf et al., 2024  |

## **1.7 Rationale and Objectives**

Bangladesh faces an ongoing scabies burden and frequent crowding due to displacement (e.g., post-monsoon), justifying a rapid and low-cost survey that can run during and after emergencies. To collect actionable data, we conducted a country-wide, online, cross-sectional survey using a Google Form, which was quick and easy for people to fill out.

Objectives:

- Give clear information about how scabies spreads, people's habits and how they seek treatment in urban Bangladesh.
- Count occurrences of scabies in people in urban areas in the past and present.
- Show how scabies spreads within households.
- Record how people get treated and what kind of medication they use.

## **Chapter 2**

### **Methodology**

This study required a questionnaire survey to assess the scabies burden, behaviours, and control among participants in the urban area of Bangladesh. The survey was conducted from 16th July 2025 to 8th September 2025 through social media platforms including Facebook, Instagram and WhatsApp groups, as well as through personal messages on those platforms. The survey was voluntary. Only those who were eligible and who willingly participated in their response were taken.

#### **2.1 Participants Eligibility**

Any person currently residing in Bangladesh who was previously affected by or is suffering from scabies was eligible. There were no age, sex, or occupation restrictions. We excluded any blank submissions. Participants who have knowledge about scabies were our main participants.

## 2.2 Questionnaire Design

By following past literature studies and modifying questions based on our study objective, the questionnaire was created. The questionnaire was written in easy words for easy understanding.

1. Consent & demographics: At first, I added a consent question, “Do you want to willingly participate in this survey. “Then we asked for name, sex (Female/Male/Prefer not to say), age (free entry), marital status, profession, current residence type (With family/Hostel/Sublet), and Division.
2. Disease history: To know participants’ scabies history, many questions were added related to their scabies occurrence, the time period of scabies, etc.
3. Hygiene & environment: To get a clear understanding of the relation between hygiene and scabies, we asked about daily practice. For example, how often bed sheets are changed, if they share personal items or not, handwashing habit before and after eating, along with handwashing method, bathing frequency and use of soap or shampoo.
4. Symptoms: Questions were added to get a clear idea about the symptoms. For example, itch duration, sleep or daily-activity impact, spread to close contact, and medical attention. We also asked if any symptoms persisted/relapsed after treatment.
5. Treatment details: To get an overview of the treatment method, questions were made accordingly, like: places of care, treatment types, adherence, concurrent treatment of close contacts and drugs prescribed

## **2.3 Data Collection**

All the data was collected digitally through google forms which facilitated accessibility and also assured the privacy of participants. In hostel and on campus Participants scanned a QR code or followed a short link and completed the form on their own phone. In online groups, the identical link was posted weekly till the first week of September in facebook, instagram and WhatsApp groups.

## **2.4 Statistical Data Analysis**

Survey responses were checked carefully before analysis. Data were entered into Microsoft Excel to check basic statistics such as percentages and frequencies. Cross-tabulations were performed in Excel to explore the correlation between symptoms, spread to contacts, recurrence after treatment and other factors. Then charts were created to get a better understanding.

## Chapter 3

### Result and Discussion

We analysed 103 consented responses collected via a country-wide online Google Form, including participants' in hostels and homes. This was a voluntary online survey. Some participants didn't answer all the questions in our Google Form. That means only the responses from the participants who fully completed the questionnaire are included.

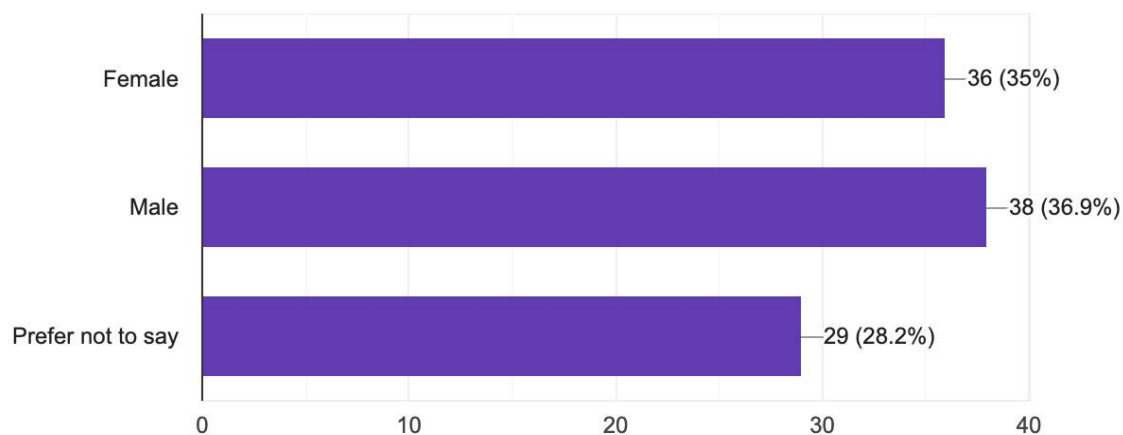


Fig 3.1: Gender of the participants

From Figure 3.1, we can see that among the participants, 35% are female, 36.9% participants are male and 28.2% participants preferred not to disclose their gender.

#### Participants who are Female (36 Participants)

Among the 36 participants who are female, 11 participants reported that they changed bedsheets once a month, 11 participants changed every two weeks, and 14 participants changed weekly. Regarding sharing personal items, 15 participants reported that they shared their personal items, whereas 19 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 5 participants cleaned monthly, and 10 participants cleaned only occasionally. For bathing habits, 16 participants reported

that they bathed daily, 3 participants every two days, 6 participants twice a week, and 11 participants once a week. For seeking medical attention, 17 participants reported seeking medical treatment, 11 participants did not seek medical treatment, and 8 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 9 participants went to private clinics, 1 participant went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 10 participants took their medicine as prescribed, 13 participants sometimes neglected it, and 13 participants completely neglected it. For the prescribed drugs, 12 participants used permethrin, 4 participants used ivermectin, 5 participants used crotamiton, 8 participants used antihistamines, and 7 participants used other drugs. In terms of same-night treatment of close contact, 1 participant had treatment in the same night, 13 participants said they did not have same-night treatment, and 7 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 16 participants reported blisters.

### **Participants who are male (38 Participants )**

Among the 38 participants who are male, 14 participants reported that they changed bedsheets once a month, 13 participants changed every two weeks, and 11 participants changed weekly. Regarding sharing personal items, 19 participants reported that they shared their personal items, whereas 19 participants didn't share. 10 participants reported that they cleaned shared surfaces daily, 13 participants cleaned weekly, 7 participants cleaned monthly, and 8 participants cleaned only occasionally. For bathing habits, 15 participants reported that they bathed daily, 7 participants every two days, 9 participants twice a week, and 7 participants

once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 13 participants did not seek medical treatment, and 10 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 9 participants went to private clinics, 1 participant to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 14 participants took their medicine as prescribed, 12 participants sometimes neglected it, and 12 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 4 participants used ivermectin, 10 participants used crotamiton, 8 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts 11,, participants had treatment in the same night, 14 participants said they did not had same-night treatment, and 13 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 16 participants reported blisters.

#### **Participants who did not reveal their gender (29 participants)**

Among the 29 participants who did not reveal gender, 9 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 13 participants changed weekly. Regarding sharing personal items, 10 participants reported that they shared their personal items, whereas 19 participants didn't share. 9 participants reported that they cleaned shared surfaces daily, 9 participants cleaned weekly, 7 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 7 participants every two days, 6 participants twice a week, and 9 participants once a week. For seeking medical attention, 6 participants reported seeking medical treatment, 11 participants did not seek medical treatment, and 12 participants self-

medicated. Among the participants, 11 participants went to government hospitals for treatment, 9 participants went to private clinics, 1 participant to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 3 participants used permethrin, 7 participants used ivermectin, 5 participants used crotamiton, 5 participants used antihistamines, and 9 participants used other drugs. In terms of same-night treatment of close contacts, 8 p.m., participants had treatment in the same night, 9 participants said they did not had same-night treatment, and 12 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 16 participants reported blisters.

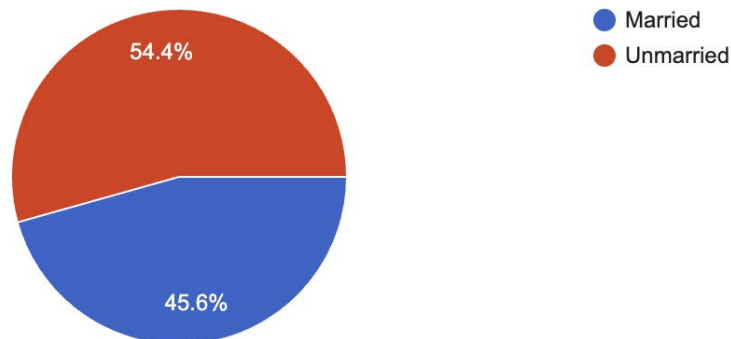


Fig 3.2: % of marital status

Figure 3.2 shows that 54.4 of % participants are unmarried and 45.6% participants are married among the participants who took part in the survey.

### **Participants who are married(47 participants )**

Among the 47 participants who are married, 12 participants reported that they changed bedsheets once a month, 16 participants changed every two weeks, and 19 participants changed weekly. Regarding sharing personal items, 19 participants reported that they shared their personal items, whereas 28 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 16 participants cleaned weekly, 10 participants cleaned monthly, and 13 participants cleaned only occasionally. For bathing habits, 15 participants reported that they bathed daily, 8 participants every two days, 10 participants twice a week, and 14 participants once a week. For seeking medical attention, 19 participants reported seeking medical treatment, 16 participants did not seek medical treatment, and 12 participants self-medicated. Among the participants, 16 participants went to government hospitals for treatment, 14 participants went to private clinics, 8 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 15 participants sometimes neglected it, and 15 participants completely neglected it. For the prescribed drugs, 12 participants used permethrin, 6 participants used ivermectin, 12 participants used crotamiton, 8 participants used antihistamines, and 9 participants used other drugs. In terms of same-night treatment of close contacts, 18 participants had treatment in the same night, 19 participants said they did not had same-night treatment, and 10 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 16 participants reported blisters.

### **Unmarried participants (56 participants)**

Among the 56 participants who are not married, 22 participants reported that they changed bedsheets once a month, 15 participants changed every two weeks, and 19 participants changed weekly. Regarding sharing personal items, 25 participants reported that they shared their personal items, whereas 31 participants didn't share. 18 participants reported that they cleaned shared surfaces daily, 20 participants cleaned weekly, 9 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 23 participants reported that they bathed daily, 8 participants every two days, 12 participants twice a week, and 13 participants once a week. For seeking medical attention, 19 participants reported seeking medical treatment, 19 participants did not seek medical treatment, and 18 participants self-medicated. Among the participants, 18 participants went to government hospitals for treatment, 15 participants went to private clinics, 9 participants went to pharmacies, and 14 participants did not go anywhere. Regarding taking medication, 15 participants took their medicine as prescribed, 21 participants sometimes neglected it, and 20 participants completely neglected it. For the prescribed drugs, 11 participants used permethrin, 9 participants used ivermectin, 8 participants used crotamiton, 13 participants used antihistamines, and 15 participants used other drugs. In terms of same-night treatment of close contacts, 17 participants had treatment in the same night, 17 participants said they did not had same-night treatment, and 22 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 48 participants reported intense itching, 52 participants reported a rash, 33 participants reported skin thickening, and 26 participants reported blisters.

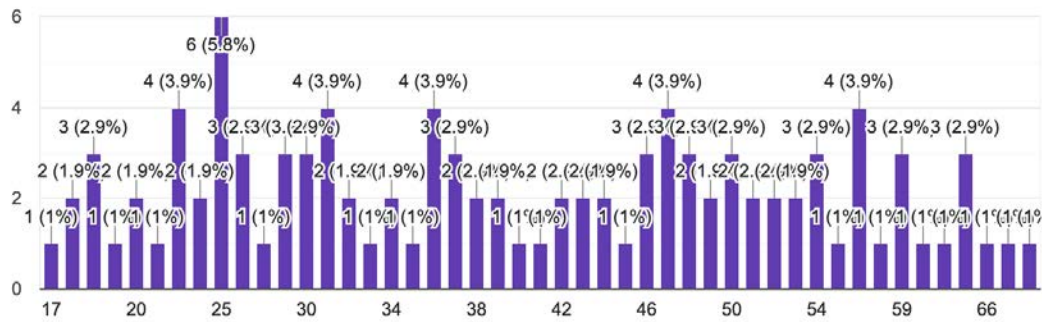


Fig 3.3 % of participants' age range

From Figure 3,3, we can see that among the participants within the age range of 15 -25 years is 21.36% participants, participants percentage from 26 - 40 years is 31.07% participants, and participants percentage above 40 years is 47.57% participants.

#### Participants who are within the age range of 15-25 years (22 participants)

Among the 22 participants who are within the age range of 15-25 years, 5 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 10 participants changed weekly. Regarding sharing personal items, 12 participants reported they shared their personal items, whereas 10 participants didn't share. 3 participants reported that they cleaned shared surfaces daily, 9 participants cleaned weekly, 4 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 11 participants reported that they bathed daily, 4 participants every two days, 4 participants twice a week, and 3 participants once a week. For seeking medical attention, 12 participants reported seeking medical treatment, 2 participants did not seek medical treatment, and 8 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 7 participants went to private clinics, 1 participant went to pharmacies, and 3 participants did not go anywhere. Regarding taking medication, 10 participants took

their medicine as prescribed, 8 participants sometimes neglected it, and 4 participants completely neglected it. For the prescribed drugs, 7 participants used permethrin, 4 participants used ivermectin, 2 participants used crotamiton, 4 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 6 participants had treatment in the same night, 9 participants said they did not have same-night treatment, and 7 participants were not sure whether they received same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 12 participants reported a rash, 3 participants reported skin thickening, and 6 participants reported blisters.

#### **Participants who are within the age range of 25 - 40 years (32 participants)**

Among the 32 participants who are within the age range of 25 - 40 years, 10 participants reported that they changed bedsheets once a month, 9 participants changed every two weeks, and 13 participants changed weekly. Regarding sharing personal items, 12 participants reported that they shared their personal items, whereas 20 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 12 participants cleaned weekly, 4 participants cleaned monthly, and 8 participants cleaned only occasionally. For bathing habits, 9 participants reported that they bathed daily, 4 participants every two days, 5 participants twice a week, and 14 participants once a week. For seeking medical attention, 11 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 11 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 9 participants went to private clinics, 2 participants went to pharmacies, and 10 participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 10

participants completely neglected it. For the prescribed drugs, 7 participants used permethrin, 2 participants used ivermectin, 8 participants used crotamiton, 8 participants used antihistamines, and 7 participants used other drugs. In terms of same-night treatment of close contacts, 8 participants had treatment in the same night, 10 participants said they did not have same-night treatment, and 14 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 20 participants reported a rash, 11 participants reported skin thickening, and 14 participants reported blisters.

### **Participants who are more than 40 years old (49 participants)**

Among the 49 participants who are more than 40 years old, 19 participants reported that they changed bedsheets once a month, 15 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items, 20 participants reported that they shared their personal items, whereas 29 participants didn't share. 15 participants reported that they cleaned shared surfaces daily, 15 participants cleaned weekly, 11 participants cleaned monthly, and 8 participants cleaned only occasionally. For bathing habits, 18 participants reported that they bathed daily, 10 participants every two days, 11 participants twice a week, and 10 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 23 participants did not seek medical treatment, and 11 participants self-medicated. Among the participants, 15 participants went to government hospitals for treatment, 16 participants went to private clinics, 4 participants went to pharmacies, and 14 participants did not go anywhere. Regarding taking medication, 10 participants took their medicine as prescribed, 18 participants sometimes neglected it, and 21 participants completely neglected it. For the prescribed drugs, 9 participants used permethrin,

9 participants used ivermectin, 10 participants used crotamiton, 9 participants used antihistamines, and 12 participants used other drugs. In terms of same-night treatment of close contacts, 21 participants had treatment in the same night, 17 participants said they did not had same-night treatment, and 11 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 37 participants reported intense itching, 42 participants reported a rash, 33 participants reported skin thickening, and 26 participants reported blisters.

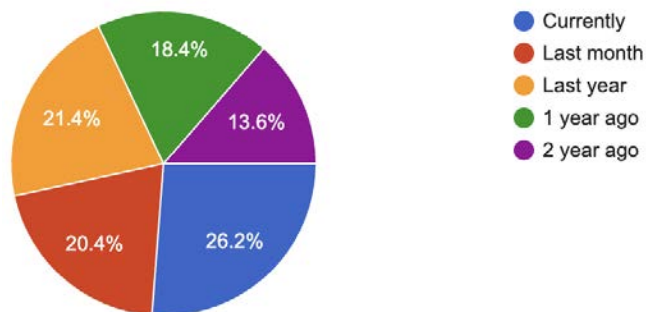


Fig 3.4: % of participants had scabies in the past of time

Figure 3.4 shows that among the 103 participants in our survey, 26.2 % of the participants reported they were currently affected 20.4% of the participants are infected with scabies in the one month before this survey, 21.4 % of the participants ere infected in the last year, 18.4% of the participants were infected 1 year ago and 13.63% of the participants were infected 2 years ago with scabies.

### **Currently infected participants (27 participants )**

Among the 27 participants who were infected with scabies during the survey, 10 participants reported that they changed bedsheets once a month, 9 participants changed every two weeks, and 8 participants changed weekly. Regarding sharing personal items, 12 participants reported that they shared their personal items, whereas 15 participants didn't share. 4 participants

reported that they cleaned shared surfaces daily, 7 participants cleaned weekly, 6 participants cleaned monthly, and 10 participants cleaned only occasionally. For bathing habits, 9 participants reported that they bathed daily, 5 participants every two days, 5 participants twice a week, and 8 participants once a week. For seeking medical attention, 9 participants reported seeking medical treatment, 9 participants did not seek medical treatment, and 9 participants self-medicated. Among the participants, 9 participants went to government hospitals for treatment, 13 participants went to private clinics, 12 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 6 participants sometimes neglected it, and 8 participants completely neglected it. For the prescribed drugs, 9 participants used permethrin, 5 participants used ivermectin, 6 participants used crotamiton, 4 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment in the same night, 9 participants said they did not have same-night treatment, and 10 participants were not sure whether they had the same-night treatment or not. Regarding experienced symptoms, 23 participants reported intense itching, 19 participants reported a rash, 16 participants reported skin thickening, and 20 participants reported blisters.

### **Participants infected last month, before the survey (21 participants)**

Among the 21 participants who were infected with scabies last month, before the survey, 10 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 6 participants changed weekly. Regarding sharing personal items, 8 participants reported that they shared their personal items, whereas 13 participants didn't share. 5 participants reported that they cleaned shared surfaces daily, 10 participants cleaned

weekly, 2 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 9 participants reported that they bathed daily, 2 participants every two days, 3 participants twice a week, and 7 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 4 participants self-medicated. Among the participants, 14 participants went to government hospitals for treatment, 5 participants went to private clinics, 12 participants went to pharmacies, and 2 participants did not go anywhere. Regarding taking medication, 4 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 6 participants completely neglected it. For the prescribed drugs, 5 participants used permethrin, 1 participant used ivermectin, 6 participants used crotamiton, 4 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment in the same night, 6 participants said they did not had same-night treatment, and 8 participants were not sure whether they had the same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 14 participants reported a rash, 6 participants reported skin thickening, and 10 participants reported blisters.

### **Participants whose last episode was last year (22 participants)**

Among the 22 participants who were infected with scabies last year, 8 participants reported that they changed bedsheets once a month, 2 participants changed every two weeks, and 12 participants changed weekly. Regarding sharing personal items, 6 participants reported that they shared their personal items, whereas 16 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 9 participants cleaned weekly, 2 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 8 participants

reported that they bathed daily, 5 participants every two days, 3 participants twice a week, and 6 participants once a week. For seeking medical attention, 10 participants reported seeking medical treatment, 5 participants did not seek medical treatment, and 97 participants self-medicated. Among the participants, 17 participants went to government hospitals for treatment, 3 participants went to private clinics, 8 participants went to pharmacies, and 2 participants did not go anywhere. Regarding taking medication, 9 participants took their medicine as prescribed, 8 participants sometimes neglected it, and 5 participants completely neglected it. For the prescribed drugs, 10 participants used permethrin, 3 participants used ivermectin, 2 participants used crotamiton, 5 participants used antihistamines, and 2 participants used other drugs. In terms of same-night treatment of close contacts, 8 participants had treatment in the same night, 8 participants said they did not had same-night treatment, and 6 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 20 participants reported intense itching, 19 participants reported a rash, 15 participants reported skin thickening, and 10 participants reported blisters.

### **Participants whose last episode was 1 year ago (19 participants)**

Among the 19 participants who were infected with scabies 1 year ago, 8 participants reported that they changed bedsheets once a month, 6 participants changed every two weeks, and 5 participants changed weekly. Regarding sharing personal items, 9 participants reported that they shared their personal items, whereas 10 participants didn't share. 6 participants reported that they cleaned shared surfaces daily, 3 participants cleaned weekly, 8 participants cleaned monthly, and 2 participants cleaned only occasionally. For bathing habits, 5 participants reported that they bathed daily, 6 participants every two days, 4 participants twice a week,

and 4 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 7 participants not seeking medical treatment, and 5 participants self-medicated. Among the participants, 5 participants went to government hospitals for treatment, 3 participants went to private clinics, 12 participants went to pharmacies, and 11 participants did not go anywhere. Regarding taking medication, 6 participants took their medicine as prescribed, 4 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 5 participants used permethrin, 4 participants used ivermectin, 2 participants used crotamiton, 5 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 5 participants had treatment in the same night, 9 participants said they did not had same-night treatment, and 5 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 15 participants reported a rash, 10 participants reported skin thickening, and 6 participants reported blisters.

#### **Participants whose last episode was 2 years ago (14 participants)**

Among the 14 participants who were infected with scabies 2 years ago, 2 participants reported that they changed bedsheets once a month, 2 participants changed every two weeks, and 8 participants changed weekly. Regarding sharing personal items, 4 participants reported that they shared their personal items, whereas 10 participants didn't share. 4 participants reported that they cleaned shared surfaces daily, 7 participants cleaned weekly, 1 participant cleaned monthly, and 2 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 2 participants every two days, 2 participants twice a week, and 3 participants once a week. For seeking medical attention, 7 participants reported seeking

medical treatment, 4 participants did not seek medical treatment, and 3 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 2 participants went to private clinics, 4 participants went to pharmacies, and 1 participant did not go anywhere. Regarding taking medication, 6 participants took their medicine as prescribed, 4 participants sometimes neglected it, and 84 participants completely neglected it. For the prescribed drugs, 3 participants used permethrin, 1 participant used ivermectin, 2 participants used crotamiton, 2 participants used antihistamines, and 6 participants used other drugs. In terms of same-night treatment of close contacts, 5 participants had treatment in the same night, 5 participants said they did not had same-night treatment, and 4 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 12 participants reported intense itching, 9 participants reported a rash, 6 participants reported skin thickening, and 2 participants reported blisters.

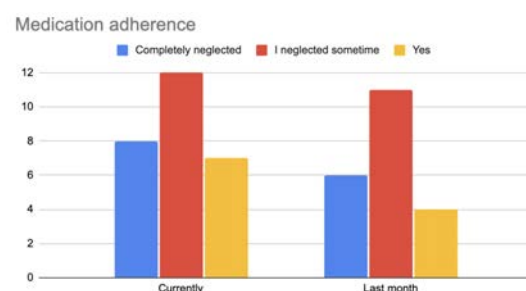
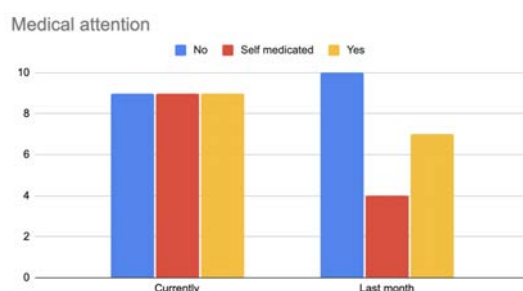
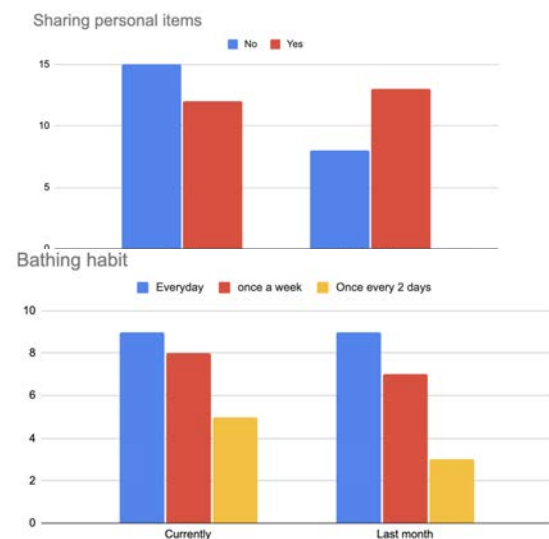
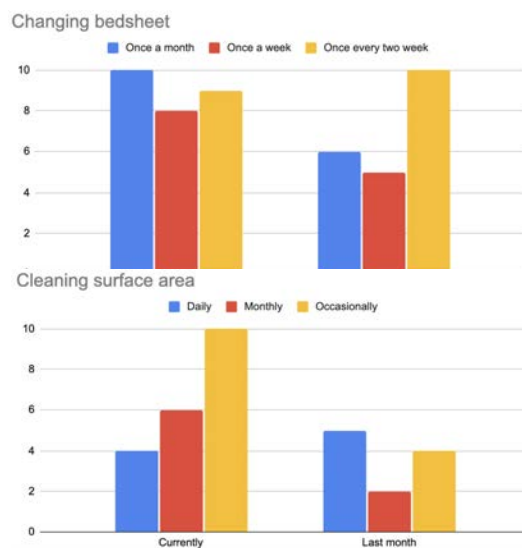




Fig 3.4.1: Correlation of participants infected by scabies during and before one month of survey.

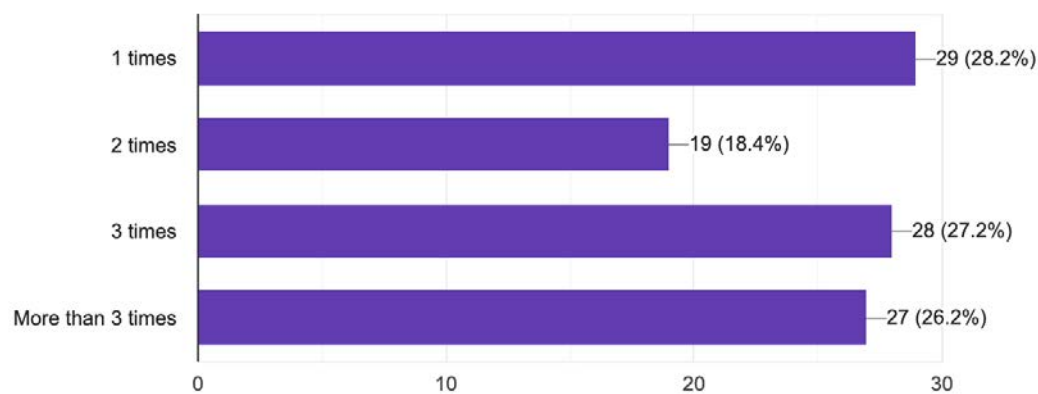


Fig 3.5: Recent episode time per cent

Figure 3.5 shows that among the 103 participants in our survey, 71.8% of participants reported having scabies more than once in their lifetime (18.4% of participants had it twice, 27.2% of participants had it three times, and 26.2% of participants had it more than three times). Only 28.2% of participants experienced scabies once.

### Participants with a single episode of scabies (29 participants)

Among the 29 participants who had only one episode of scabies, 8 participants reported that they changed bedsheets once a month, 8 participants changed every two weeks, and 13 participants changed weekly. Regarding sharing personal items, 14 participants reported that they shared their personal items, whereas 15 participants didn't share. 9 participants reported

that they cleaned shared surfaces daily, 9 participants cleaned weekly, 5 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 16 participants reported that they bathed daily, 1 participant every two days, 8 participants twice a week, and 4 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 7 participants not seeking medical treatment, and 7 participants self-medicated. Among the participants, 10 participants went to government hospitals for treatment, 7 participants went to private clinics, 4 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 8 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 5 participants used permethrin, 5 participants used ivermectin, 4 participants used crotamiton, 4 participants used antihistamines, and 11 participants used other drugs. In terms of same-night treatment of close contacts, 10 participants had treatment in the same night, 14 participants said they did not had same-night treatment, and 5 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 24 participants reported intense itching, 18 participants reported a rash, 14 participants reported skin thickening, and 11 participants reported blisters.

### **Participants with 2 episodes of scabies (19 participants)**

Among the 19 participants who had only two episodes of scabies, 4 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 10 participants changed weekly. Regarding sharing personal items, 8 participants reported that they shared their personal items, whereas 11 participants didn't share. 5 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 3 participants cleaned

monthly, and 1 participant cleaned only occasionally. For bathing habits, 5 participants reported that they bathed daily, 3 participants every two days, 6 participants twice a week, and 5 participants once a week. For seeking medical attention, 5 participants reported seeking medical treatment, 8 participants did not seek medical treatment, and 6 participants self-medicated. Among the participants, 8 participants went to government hospitals for treatment, 5 participants went to private clinics, 2 participants went to pharmacies, and 4 participants did not go anywhere. Regarding taking medication, 5 participants took their medicine as prescribed, 7 participants sometimes neglected it, and 7 participants completely neglected it. For the prescribed drugs, 7 participants used permethrin, 4 participants used ivermectin, 2 participants used crotamiton, 3 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment in the same night, 4 participants said they did not have same-night treatment, and 8 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 14 participants reported intense itching, 18 participants reported a rash, 9 participants reported skin thickening, and 5 participants reported blisters.

### **Participants with 3 episodes of scabies (28 participants)**

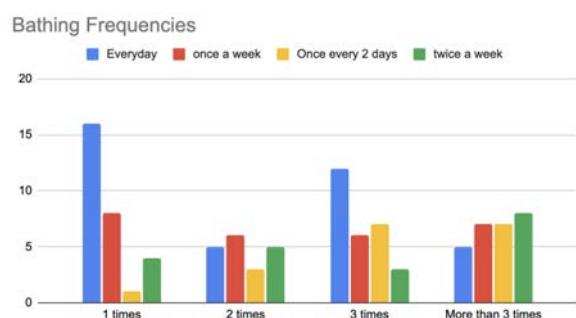
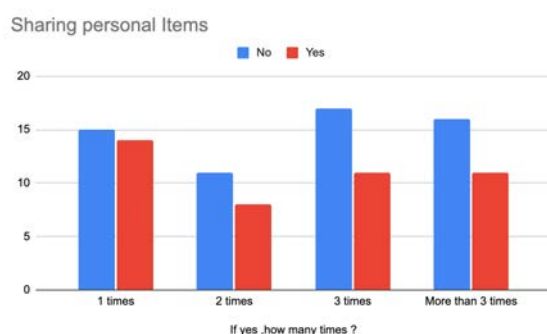
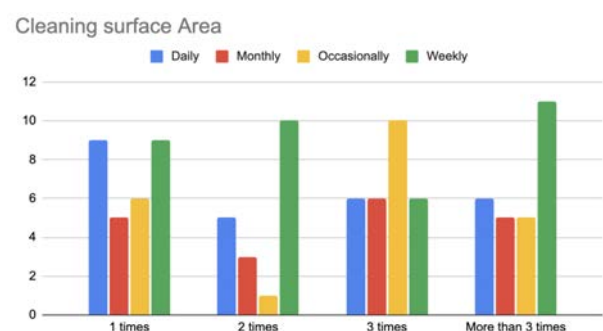
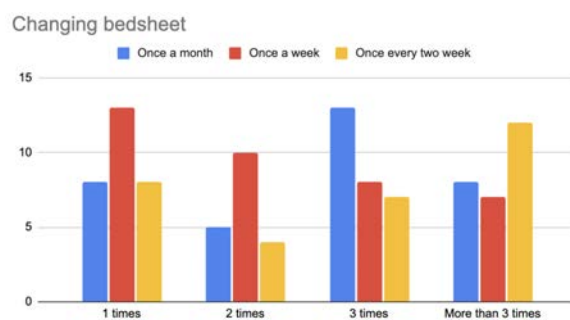
Among the 28 participants who had 3 episodes of scabies, 13 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 8 participants changed weekly. Regarding sharing personal items, 12 participants reported that they shared their personal items, whereas 15 participants didn't share. 4 participants reported that they cleaned shared surfaces daily, 7 participants cleaned weekly, 6 participants cleaned monthly and 10 participants cleaned only occasionally. For bathing habits, 12 participants reported

that they bathed daily, 6 participants every two days, 7 participants twice a week, and 3 participants once a week. For seeking medical attention, 10 participants reported seeking medical treatment, 10 participants not seeking medical treatment, and 8 participants self-medicated. Among the participants, 9 participants went to government hospitals for treatment, 8 participants went to private clinics, 2 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 7 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 4 participants used ivermectin, 8 participants used crotamiton, 6 participants used antihistamines, and 6 participants used other drugs. In terms of same-night treatment of close contacts 7 participants had treatment in the same-night, 11 participants said they did not had same-night treatment, and 10 participants were not sure whether they took same-night treatment or not. Regarding experienced symptoms, 23 participants reported intense itching, 19 participants reported a rash, 16 participants reported skin thickening, and 20 participants reported blisters.

### **Participants with more than 3 episodes of scabies (27 participants)**

Among the 27 participants who had more than 3 scabies periods during the survey, 8 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 12 participants changed weekly. Regarding sharing personal items, 11 participants reported that they shared their personal items, whereas 16 participants didn't share. 6 participants reported that they cleaned the shared surfaces daily, 11 participants cleaned weekly, 5 participants cleaned monthly and 5 participants cleaned only occasionally. For bathing habits, 5 participants reported that they bathed daily, 7 participants every two

days, 8 participants twice a week, and 7 participants once a week. For seeking medical attention, 8 participants reported seeking medical treatment, 10 participants not seeking medical treatment, and 9 participants self-medicated. Among the participants, 9 participants went to government hospitals for treatment, 7 participants went to private clinics, 3 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 7 participants used permethrin, 2 participants used ivermectin, 6 participants used crotamiton, 8 participants used antihistamines, and 4 participants used other drugs. In terms of same-night treatment of close contacts, 11 participants had treatment in the same night, 7 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 23 participants reported intense itching, 22 participants reported a rash, 17 participants reported skin thickening, and 15 participants reported blisters.



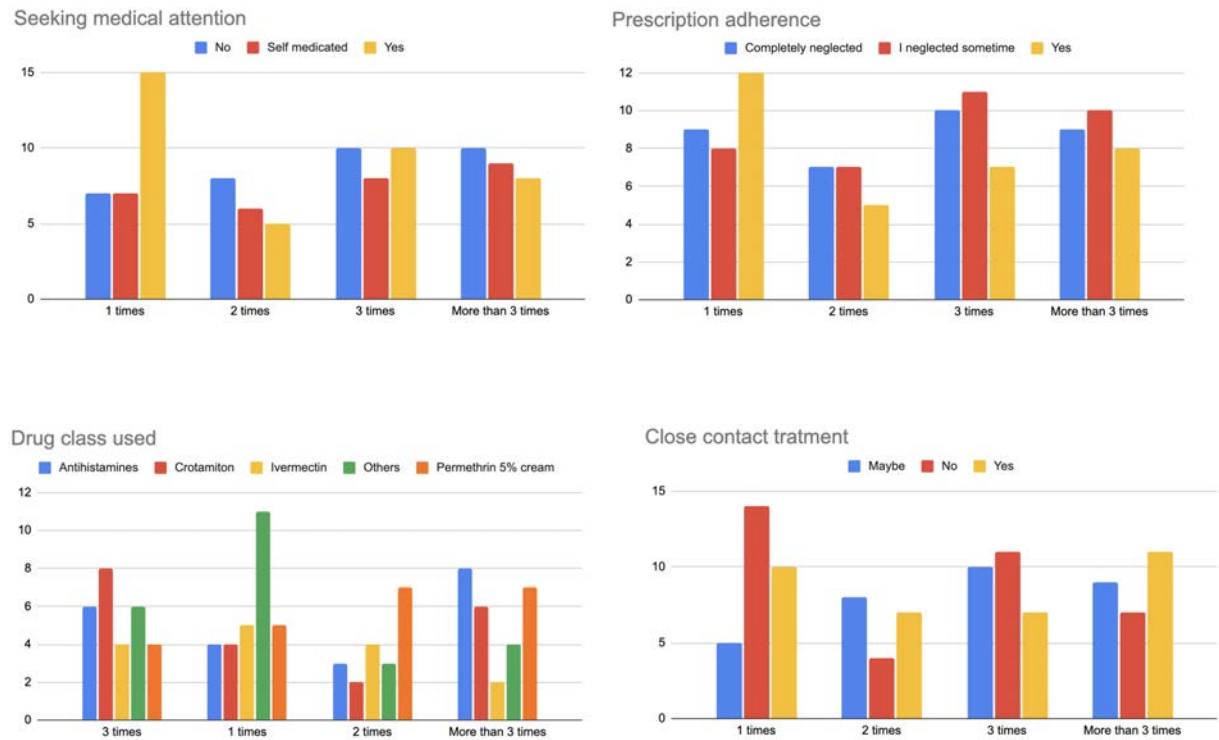


Fig 3.5.1: Correlation of recurrence of scabies and others

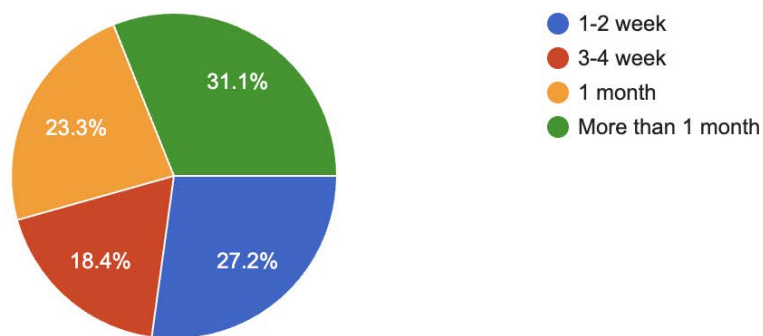


Fig 3.6: Episode duration per cent of scabies

Figure 3.1.4 shows that among the 103 participants in our survey, 31.1% suffered from scabies for more than one month, 27.2% for 1–2 weeks, 23.3% for 1 month, and 18.4% for 3–4 weeks.

### **Scabies lasted for 1-2 weeks (28 participants)**

Among the 28 participants whose scabies period lasted for 1-2 weeks, 7 participants reported that they changed bedsheets once a month, 6 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items, 11 participants reported that they shared their personal items, whereas 17 participants didn't share. 9 participants reported that they cleaned shared surfaces daily, 12 participants cleaned weekly, 3 participants cleaned monthly and 4 participants cleaned only occasionally. For bathing habits, 15 participants reported that they bathed daily, 6 participants every two days, 5 participants twice a week, and 2 participants once a week. For seeking medical attention, 14 participants reported seeking medical treatment, 6 participants did not seek medical treatment, and 8 participants self-medicated. Among the participants, 9 participants went to government hospitals for treatment, 7 participants went to private clinics, 3 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 14 participants took their medicine as prescribed, 8 participants sometimes neglected it, and 6 participants completely neglected it. For the prescribed drugs, 10 participants used permethrin, 2 participants used ivermectin, 2 participants used crotamiton, 8 participants used antihistamines, and 6 participants used other drugs. In terms of same-night treatment of close contacts, 9 participants had treatment in the same night, 12 participants said they did not have same-night treatment, and 7 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 19 participants reported intense itching, 16 participants reported a rash, 7 participants reported skin thickening, and 5 participants reported blisters.

### **Scabies lasted 3–4 weeks (19people)**

Among the 19 participants whose scabies period lasted for 3-4 weeks, 7 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 5 participants changed weekly. Regarding sharing personal items, 7 participants reported that they shared their personal items, whereas 12 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 6 participants cleaned weekly, 2 participants cleaned monthly and 3 participants cleaned only occasionally. For bathing habits, 6 participants reported that they bathed daily, 2 participants every two days, 3 participants twice a week, and 8 participants once a week. For seeking medical attention, 4 participants reported seeking medical treatment, 11 participants not seeking medical treatment, and 4 participants self-medicated. Among the participants, 9 participants went to government hospitals for treatment, 4 participants went to private clinics, 2 participants went to pharmacies, and 4 participants did not go anywhere. Regarding taking medication, 4 participants took their medicine as prescribed, 6 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 2 participants used permethrin, 5 participants used ivermectin, 2 participants used crotamiton, 5 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 6 participants had treatment in the same night, 4 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 13 participants reported intense itching, 12 participants reported a rash, 7 participants reported skin thickening, and 3 participants reported blisters.

### **Scabies lasted 1 month (24 participants)**

Among the 24 participants whose scabies period lasted for 1 month, participants reported that they changed bedsheets once a month, 9 participants changed every two weeks, and 7 participants changed weekly. Regarding sharing personal items 15 participants reported that they shared their personal items, whereas 9 participants didn't share. 2 participants reported that they cleaned the shared surfaces daily, 4 participants cleaned weekly, 9 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 2 participants every two days, 7 participants twice a week, and 8 participants once a week. For seeking medical attention, 9 participants reported seeking medical treatment, 11 participants did not seek medical treatment, and 4 participants self-medicated. Among the participants, 7 participants went to government hospitals for treatment, 6 participants went to private clinics, 1 participant went to pharmacies, and 11 participants did not go anywhere. Regarding taking medication, 5 participants took their medicine as prescribed, 8 participants sometimes neglected it, and 11 participants completely neglected it. For the prescribed drugs, 1 participant used permethrin, 4 participants used ivermectin, 8 participants used crotamiton, 3 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 8 participants had treatment in the same night, 11 participants said they did not had same-night treatment, and 5 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 20 participants reported intense itching, 18 participants reported a rash, 6 participants reported skin thickening, and 8 participants reported blisters.

### **Scabies lasted more than 1 month (32 participants)**

Among the 32 participants whose scabies period lasted for more than a month, 12 participants reported that they changed bedsheets once a month, 9 participants changed every two weeks, and 11 participants changed weekly. Regarding sharing personal items, 11 participants reported that they shared their personal items, whereas 21 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 5 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 10 participants reported that they bathed daily, 8 participants every two days, 5 participants twice a week, and 9 participants once a week. For seeking medical attention, 11 participants reported seeking medical treatment, 7 participants did not seek medical treatment, and 14 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 9 participants went to private clinics, 3 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 9 participants took their medicine as prescribed, 14 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 10 participants used permethrin, 4 participants used ivermectin, 8 participants used crotamiton, 5 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 12 participants had treatment in the same night, 9 participants said they did not had same-night treatment, and 11 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 16 participants reported blisters.

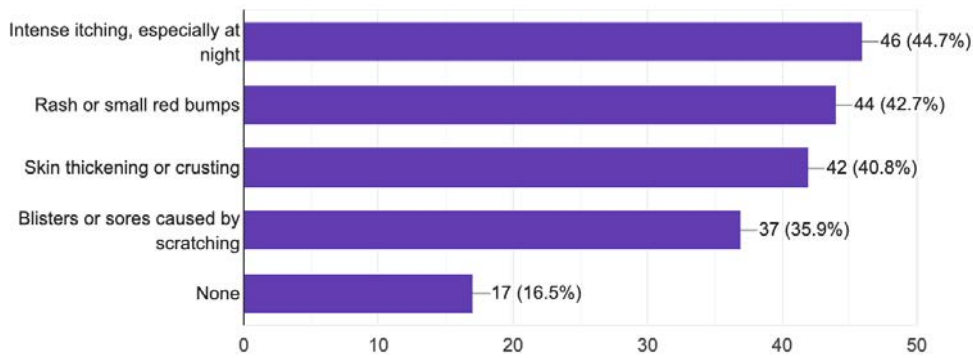


Fig 3.7: Common symptoms of scabies occurred

Figure 3.7 illustrates that among the 103 participants in our survey, 44.7% of participants experienced intense itching, 43.7% of participants had a rash or small red bumps, 40.8% of participants experienced skin thickening or crusting, 35.9% of participants had blisters or sores, and 16.5% of participants had no symptoms.

#### **Intense itching at night (46 participants)**

Among the 46 participants who had intense itching at night, 15 participants reported that they changed bedsheets once a month, 12 participants changed every two weeks, and 19 participants changed weekly. Regarding sharing personal items, 20 participants reported they shared their personal items, whereas 26 participants didn't share. 17 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 14 participants cleaned monthly, and 5 participants cleaned only occasionally. For bathing habits, 15 participants reported that they bathed daily, 14 participants every two days, 7 participants twice a week, and 10 participants once a week. For seeking medical attention, 21 participants reported seeking medical treatment, 14 participants did not seek medical treatment, and 11 participants self-medicated. Among the participants, 26 participants went to government hospitals for treatment, 12 participants went to private clinics, 1 participant went to pharmacies, and 7 participants did not go anywhere. Regarding taking medication, 17

participants took their medicine as prescribed, 14 participants sometimes neglected it, and 15 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 11 participants used ivermectin, 9 participants used crotamiton, 6 participants used antihistamines, and 12 participants used other drugs. In terms of same-night treatment of close contacts, 15 participants had treatment in the same night, 19 participants said they did not had same-night treatment, and 12 participants were not sure whether they had same-night treatment or not.

### **Rash/small red bumps(44 participants)**

Among the 44 participants who had rash,15 participants reported that they changed bedsheets once a month, 10 participants changed every two weeks, and 19 participants changed weekly. Regarding sharing personal items,18 participants reported that they shared their personal items, whereas 26 participants didn't share. 13 participants reported that they cleaned shared surfaces daily, 17 participants cleaned weekly, 8 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 18 participants reported that they bathed daily, 14 participants every two days, 7 participants twice a week, and 5 participants once a week. For seeking medical attention, 21 participants reported seeking medical treatment, 9 participants did not seek medical treatment, and 14 participants self-medicated. Among the participants, 15 participants went to government hospitals for treatment, 15 participants went to private clinics,6 participants went to pharmacies, and 8 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 14 participants sometimes neglected it, and 13 participants completely neglected it. For the prescribed drugs, 9 participants used permethrin, 7 participants used ivermectin, 6 participants used crotamiton, 11 participants used antihistamines, and 11 participants used

other drugs. In terms of same-night treatment of close contacts 17 participants had treatment in the same-night, 19 participants said they did not had same-night treatment, and 8 participants were not sure whether they took same-night treatment or not.

### **Skin thickening/crusting (42 participants)**

Among the 42 participants who had had crusting, 11 participants reported that they changed bedsheets once a month, 14 participants changed every two weeks, and 17 participants changed weekly. Regarding sharing personal items, 20 participants reported that they shared their personal items, whereas 22 participants didn't share. 13 participants reported that they cleaned shared surfaces daily, 9 participants cleaned weekly, 14 participants cleaned monthly and 6 participants cleaned only occasionally. For bathing habits, 15 participants reported that they bathed daily, 11 participants every two days, 9 participants twice a week, and 7 participants once a week. For seeking medical attention, 21 participants reported seeking medical treatment, 9 participants not seeking medical treatment, and 12 participants self-medicated. Among the participants, 17 participants went to government hospitals for treatment, 13 participants went to private clinics, 4 participants went to pharmacies, and 8 participants did not go anywhere. Regarding taking medication, 16 participants took their medicine as prescribed, 15 participants sometimes neglected it, and 11 participants completely neglected it. For the prescribed drugs, 9 participants used permethrin, 6 participants used ivermectin, 5 participants used crotamiton, 16 participants used antihistamines, and 6 participants used other drugs. In terms of same-night treatment of close contacts, 14 participants had treatment in the same night, 19 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not.

**Blisters/sores from scratching (37 participants)**

Among the 37 participants who had Blisters/sores from scratching, 12 participants reported that they changed bedsheets once a month, 16 participants changed every two weeks, and 9 participants changed weekly. Regarding sharing personal items, 15 participants reported that they shared their personal items, whereas 22 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 8 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 12 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 9 participants did not seek medical treatment, and 13 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 9 participants used ivermectin, 6 participants used crotamiton, 6 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 16 participants had treatment in the same night, 11 participants said they did not had same-night treatment, and 10 participants were not sure whether they had same-night treatment or not.

**No symptoms (17 participants)**

Among the 17 participants who had no symptoms, 7 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 5 participants changed

weekly. Regarding sharing personal items, 2 participants reported that they shared their personal items, whereas 15 participants didn't share. 5 participants reported that they cleaned shared surfaces daily, 3 participants cleaned weekly, 4 participants cleaned monthly, and 5 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 4 participants every two days, 4 participants twice a week, and 2 participants once a week. For seeking medical attention, 11 participants reported seeking medical treatment, 5 participants did not seek medical treatment, and 1 participant self-medicated. Among the participants, 7 participants went to government hospitals for treatment, 9 participants went to private clinics, and 1 participant did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 6 participants sometimes neglected it, and 3 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 5 participants used ivermectin, 2 participants used crotamiton, 4 participants used antihistamines, and 2 participants used other drugs. In terms of same-night treatment of close contacts, 13 participants had treatment in the same night, 4 participants said they did not had same-night treatment.

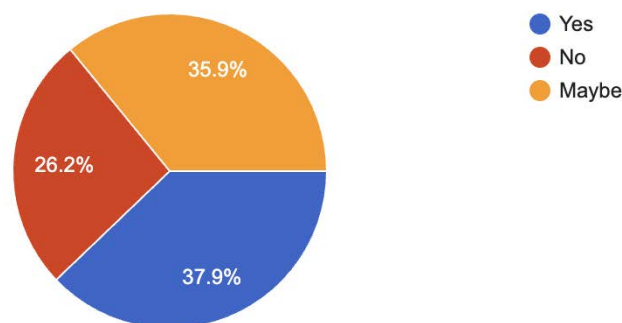


Fig 3.8: Effect on participants' activity

Figure 3.8 shows that among the 103 participants in our survey, 37.9% experienced problems in their sleep or daily activities, 35.9% were unsure, and 26.2% were not affected.

### **Scabies symptoms affecting daily activity(39 Participants)**

Among the 39 participants whose daily life activities are hindered due to scabies symptoms, 13 participants reported that they changed bedsheets once a month, 12 participants changed every two weeks, and 14 participants changed weekly. Regarding sharing personal items, 18 participants reported that they shared their personal items, whereas 21 participants didn't share. 16 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 5 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 18 participants reported that they bathed daily, 8 participants every two days, 7 participants twice a week, and 6 participants once a week. For seeking medical attention, 14 participants reported seeking medical treatment, 15 participants did not seek medical treatment, and 10 participants self-medicated. Among the participants, 14 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 14 participants sometimes neglected it, and 8 participants completely neglected it. For the prescribed drugs, 11 participants used permethrin, 5 participants used ivermectin, 8 participants used crotamiton, 4 participants used antihistamines, and 11 participants used other drugs. In terms of same-night treatment of close contacts, 14 participants had treatment in the same night, 11 participants said they did not have same-night treatment, and 14 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 37

participants reported intense itching, 32 participants reported a rash, 21 participants reported skin thickening, and 24 participants reported blisters.

### **Scabies symptoms not affecting daily activity(27 Participants)**

Among the 27 participants whose daily life activities are hindered due to scabies symptoms, 6 participants reported that they changed bedsheets once a month, 8 participants changed every two weeks, and 13 participants changed weekly. Regarding sharing personal items, 15 participants reported that they shared their personal items, whereas 12 participants didn't share. 2 participants reported that they cleaned shared surfaces daily, 12 participants cleaned weekly, 7 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 10 participants reported that they bathed daily, 9 participants every two days, 4 participants twice a week, and 4 participants once a week. For seeking medical attention, 9 participants reported seeking medical treatment, 8 participants did not seek medical treatment, and 10 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 2 participants went to pharmacies, and 4 participants did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 13 participants sometimes neglected it, and 6 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 6 participants used ivermectin, 3 participants used crotamiton, 6 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 12 participants had treatment in the same night, 6 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 26 participants reported intense itching, 21 participants reported a rash, 11 participants reported skin thickening, and 17 participants

reported blisters.

### **Scabies symptoms may affect daily activity(37 Participants)**

Among the 37 participants whose daily life activities are hindered due to scabies symptoms, 15 participants reported that they changed bedsheets once a month, 6 participants changed every two weeks, and 16 participants changed weekly. Regarding sharing personal items, 11 participants reported that they shared their personal items, whereas 26 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 7 participants cleaned monthly, and 12 participants cleaned only occasionally. For bathing habits, 10 participants reported that they bathed daily, 8 participants every two days, 2 participants twice a week, and 17 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 12 participants did not seek medical treatment, and 10 participants self-medicated. Among the participants, 16 participants went to government hospitals for treatment, 12 participants went to private clinics, 3 participants went to pharmacies, and 6 participants did not go anywhere. Regarding taking medication, 7 participants took their medicine as prescribed, 9 participants sometimes neglected it, and 21 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 4 participants used ivermectin, 9 participants used crotamiton, 11 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 9 participants had treatment in the same night, 19 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 30 participants reported a rash, 21 participants reported skin thickening, and 24 participants reported blisters.

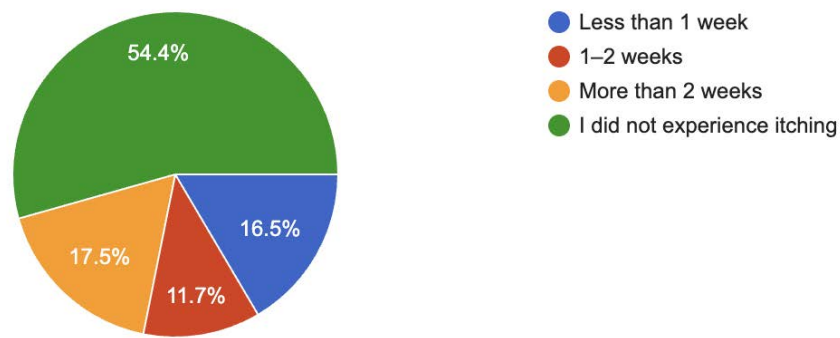


Fig 3.9: Duration of itchiness

Figure 3.9 shows that among the 103 participants in our survey, itching lasted more than 2 weeks for 17.5% of participants, 1–2 weeks for 11.7% of participants, less than 1 week for 16.5% of participants, and 54.4% had no itching.

#### **Participants having no itching (56 participants)**

Among the 56 participants whose itching had resolved, 23 participants reported that they changed bedsheets once a month, 19 participants changed every two weeks, and 14 participants changed weekly. Regarding sharing personal items, 19 participants reported that they shared their personal items, whereas 37 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 14 participants reported that they bathed daily, 12 participants every two days, 13 participants twice a week, and 17 participants once a week. For seeking medical attention, 19 participants reported seeking medical treatment, 19 participants did not seek medical treatment, and 18 participants self-medicated. Among the participants, 23 participants went to government hospitals for treatment, 19 participants went to private clinics, 5 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 14 participants took their medicine as prescribed, 21 participants sometimes neglected it, and 21

participants completely neglected it. For the prescribed drugs, 13 participants used permethrin, 16 participants used crotamiton, 14 participants used antihistamines, and 13 participants used other drugs. In terms of same-night treatment of close contacts, 17 participants had treatment in the same night, 16 participants said they did not had same-night treatment, and 23 participants were not sure whether they had same-night treatment or not.

### **Participants whose itch duration was more than 2 weeks (18 participants)**

Among the 18 participants whose Itch duration was more than 2 weeks, 5 participants reported that they changed bedsheets once a month, 8 participants changed every two weeks, and 5 participants changed weekly. Regarding sharing personal items, 8 participants reported that they shared their personal items, whereas 10 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 10 participants reported that they bathed daily, 2 participants every two days, 3 participants twice a week, and 3 participants once a week. For seeking medical attention, 9 participants reported seeking medical treatment, 3 participants did not seek medical treatment, and 6 participants self-medicated. Among the participants, 15 participants went to government hospitals for treatment, 1 participant went to pharmacies, and 3 participants did not go anywhere. Regarding taking medication, 6 participants took their medicine as prescribed, 9 participants sometimes neglected it, and 3 participants completely neglected it. For the prescribed drugs, 2 participants used permethrin, 3 participants used ivermectin, 5 participants used crotamiton, 3 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment in the

same night, 8 participants said they did not had same-night treatment, and 3 participants were not sure whether they had same-night treatment or not.

### **Participants whose itch duration is 1–2 weeks (12 participants)**

Among the 12 participants whose itch duration is 1–2 weeks, 5 participants reported that they changed bedsheets once a month, 1 participant changed every two weeks, and 6 participants changed weekly. Regarding sharing personal items, 8 participants reported that they shared their personal items, whereas 4 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 1 participant every two days, 1 participant twice a week, and 3 participants once a week. For seeking medical attention, 6 participants reported seeking medical treatment, 1 participant did not seek medical treatment, and 5 participants self-medicated. Among the participants, 5 participants went to government hospitals for treatment, 5 participants went to private clinics, and 2 participants did not go anywhere. Regarding taking medication, 6 participants took their medicine as prescribed, 2 participants sometimes neglected it, and 4 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 4 participants used ivermectin, 1 participant used crotamiton, 2 participants used antihistamines, and 1 participant used other drugs. In terms of same-night treatment of close contacts, 6 participants had treatment in the same night, 3 participants said they did not had same-night treatment, and 3 participants were not sure whether they had same-night treatment or not.

### **Participants whose itch duration was less than 1 week (17 participants)**

Among the 17 participants whose itch duration was less than 1 week, 5 participants reported

that they changed bedsheets once a month, 5 participants changed every two weeks, and 8 participants changed weekly. Regarding sharing personal items, 9 participants reported that they shared their personal items, whereas 8 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 3 participants every two days, 3 participants twice a week, and 4 participants once a week. For seeking medical attention, 4 participants reported seeking medical treatment, 8 participants did not seek medical treatment, and 5 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 4 participants went to private clinics, and 2 participants did not go anywhere. Regarding taking medication, 6 participants took their medicine as prescribed, 4 participants sometimes neglected it, and 7 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 3 participants used ivermectin, 3 participants used crotamiton, 2 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 5 participants had treatment in the same night, 9 participants said they did not had same-night treatment, and 3 participants were not sure whether they had same-night treatment or not.

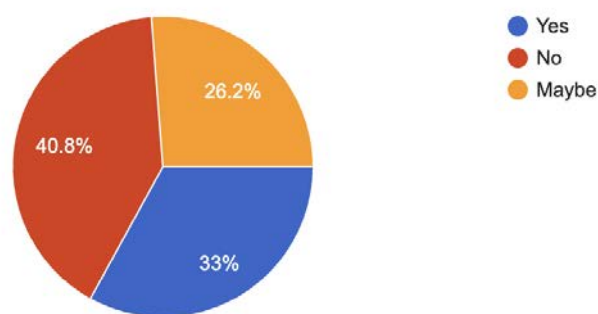


Fig 3.10: % of household members getting scabies

Figure 3.10 reflects that among the 103 participants in our survey, 33% of participants reported that a household member had scabies, 40.8% of participants said no, and 33% of participants were not sure.

### **Household member had scabies (34 participants)**

Among the 34 participants whose household member had scabies, 10 participants reported that they changed bedsheets once a month, 14 participants changed every two weeks, and 10 participants changed weekly. Regarding sharing personal items, 14 participants reported that they shared their personal items, whereas 20 participants didn't share. 10 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 3 participants cleaned monthly, and 7 participants cleaned only occasionally. For bathing habits, 13 participants reported that they bathed daily, 5 participants every two days, 8 participants twice a week, and 8 participants once a week. For seeking medical attention, 11 participants reported seeking medical treatment, 12 participants did not seek medical treatment, and 11 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 4 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 9 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 14 participants completely neglected it. For the prescribed drugs, 7 participants used permethrin, 8 participants used ivermectin, 5 participants used crotamiton, 5 participants used antihistamines, and 9 participants used other drugs. In terms of same-night treatment of close contacts, 13 participants had treatment in the same night, 11 participants said they did not have same-night treatment, and 10 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 30 participants reported intense itching,

26 participants reported a rash, 21 participants reported skin thickening, and 16 participants reported blisters.

### **Household member never had scabies (42 participants)**

Among the 42 participants whose household member never had scabies, 11 participants reported that they changed bedsheets once a month, 16 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items 18 participants reported they shared their personal items, whereas 24 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 15 participants cleaned weekly, 8 participants cleaned monthly, and 11 participants cleaned only occasionally. For bathing habits, 14 participants reported that they bathed daily, 7 participants every two days, 5 participants twice a week, and 16 participants once a week. For seeking medical attention, 17 participants reported seeking medical treatment, 8 participants did not seek medical treatment, and 17 participants self-medicated. Among the participants, 17 participants went to government hospitals for treatment, 13 participants went to private clinics, 3 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 15 participants sometimes neglected it, and 15 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 3 participants used ivermectin, 8 participants used crotamiton, 14 participants used antihistamines, and 9 participants used other drugs. In terms of same-night treatment of close contacts, 9 participants had treatment in the same night, 16 participants said they did not had same-night treatment, and 17 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 22 participants reported intense itching,

19 participants reported a rash, 21 participants reported skin thickening, and 15 participants reported blisters.

### **Household members may have had scabies (27 participants)**

Among the 27 participants whose household member may have had scabies, 13 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 9 participants changed weekly. Regarding sharing personal items, 12 participants reported that they shared their personal items, whereas 15 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 7 participants cleaned weekly, 8 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 11 participants reported that they bathed daily, 6 participants every two days, 7 participants twice a week, and 3 participants once a week. For seeking medical attention, 10 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 7 participants self-medicated. Among the participants, 10 participants went to government hospitals for treatment, 7 participants went to private clinics, 4 participants went to pharmacies, and 6 participants did not go anywhere. Regarding taking medication, 11 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 6 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 4 participants used ivermectin, 7 participants used crotamiton, 2 participants used antihistamines, and 6 participants used other drugs. In terms of same-night treatment of close contacts, 13 participants had treatment in the same night, 9 participants said they did not had same-night treatment, and 5 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 14 participants reported intense itching, 8

participants reported a rash, 5 participants reported skin thickening, and 3 participants reported blisters.

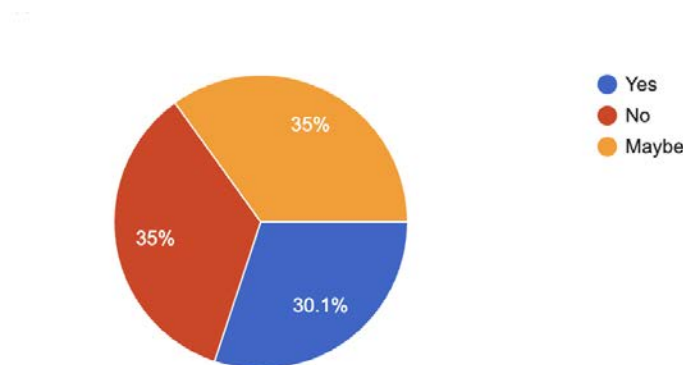


Fig 3.11: Participants affected by close contact

Figure 3.11 shows that among the 103 participants in our survey, 30.1% of participants reported that scabies spreads through close contact, 35% of participants were not sure, and 35% of participants said it does not spread through close contact.

### **Participants affected by close contact (31 participants)**

Among the 31 participants who were affected by close contact, 8 participants reported that they changed bedsheets once a month, 11 participants changed every two weeks, and 12 participants changed weekly. Regarding sharing personal items, 14 participants reported that they shared their personal items, whereas 17 participants didn't share. 12 participants reported that they cleaned shared surfaces daily, 7 participants cleaned weekly, 5 participants cleaned monthly, and 7 participants cleaned only occasionally. For bathing habits, 6 participants reported that they bathed daily, 12 participants every two days, 5 participants twice a week, and 8 participants once a week. For seeking medical attention, 11 participants reported seeking medical treatment, 6 participants did not seek medical treatment, and 14 participants self-medicated. Among the participants, 13 participants went to government

hospitals for treatment, 9 participants went to private clinics, 4 participants went to pharmacies, and 5 participants did not go anywhere. Regarding taking medication, 10 participants took their medicine as prescribed, 9 participants sometimes neglected it, and 12 participants completely neglected it. For the prescribed drugs, 10 participants used permethrin, 7 participants used ivermectin, 2 participants used crotamiton, 5 participants used antihistamines, and 7 participants used other drugs. In terms of same-night treatment of close contacts, 11 participants had treatment in the same night, 13 participants said they did not have same-night treatment, and 12 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 20 participants reported a rash, 11 participants reported skin thickening, and 14 participants reported blisters.

#### **Participants were not affected by close contact (36 participants)**

Among the 36 participants who were not affected by close contact, 15 participants reported that they changed bedsheets once a month, 10 participants changed every two weeks, and 11 participants changed weekly. Regarding sharing personal items, 15 participants reported they shared their personal items, whereas 21 participants didn't share. 5 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 8 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 13 participants reported that they bathed daily, 7 participants every two days, 5 participants twice a week, and 11 participants once a week. For seeking medical attention, 13 participants reported seeking medical treatment, 11 participants did not seek medical treatment, and 12 participants self-medicated. Among the participants, 16 participants went to government hospitals for treatment, 13 participants went to private clinics, 1 participant went to pharmacies, and 6

participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 13 participants sometimes neglected it, and 11 participants completely neglected it. For the prescribed drugs, 7 participants used permethrin, 3 participants used ivermectin, 11 participants used crotamiton, 4 participants used antihistamines, and 11 participants used other drugs. In terms of same-night treatment of close contacts, 12 participants had treatment in the same night, 12 participants said they did not had same-night treatment, and 12 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 29 participants reported intense itching, 21 participants reported a rash, 16 participants reported skin thickening, and 11 participants reported blisters.

#### **Participants affected by close contact may be (36 participants)**

Among the 36 participants who were possibly affected by close contact, 11 participants reported that they changed bedsheets once a month, 10 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items, 15 participants reported that they shared their personal items, whereas 21 participants didn't share. 9 participants reported that they cleaned shared surfaces daily, 15 participants cleaned weekly, 6 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 13 participants reported that they bathed daily, 8 participants every two days, 7 participants twice a week, and 8 participants once a week. For seeking medical attention, 14 participants reported seeking medical treatment, 13 participants did not seek medical treatment, and 9 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 10

participants took their medicine as prescribed, 14 participants sometimes neglected it, and 12 participants completely neglected it. For the prescribed drugs, 6 participants used permethrin, 5 participants used ivermectin, 7 participants used crotamiton, 8 participants used antihistamines, and 10 participants used other drugs. In terms of same-night treatment of close contacts, 11 participants had treatment in the same night, 13 participants said they did not had same-night treatment, and 12 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 31 participants reported intense itching, 30 participants reported a rash, 21 participants reported skin thickening, and 19 participants reported blisters.

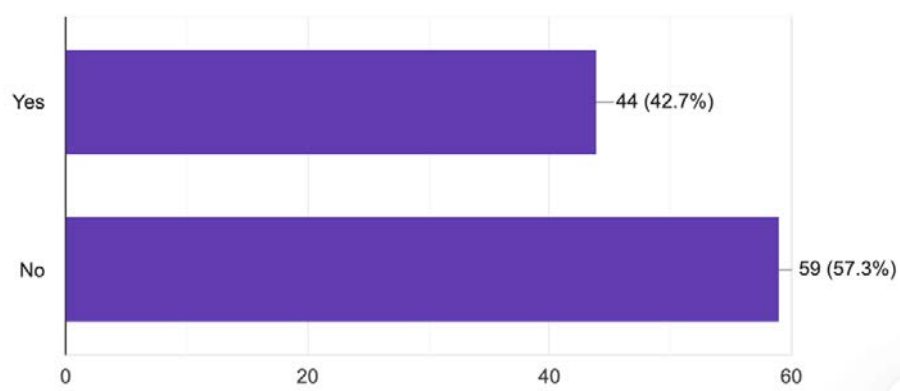


Fig 3.12: % of participants sharing personal items

Figure 3.12 shows that among the 103 participants in our survey, 42.7% of participants shared personal items, while 57.3% of participants did not.

### **Participants who shared personal items (44 participants)**

Among the 44 participants who shared personal items, 11 participants reported that they changed bedsheets once a month, 17 participants changed every two weeks, and 16 participants changed weekly. 12 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 11 participants cleaned monthly, and 7 participants cleaned only occasionally. For bathing habits, 20 participants reported that they bathed daily, 6

participants every two days, 9 participants twice a week, and 9 participants once a week. For seeking medical attention, 16 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 18 participants self-medicated. Among the participants, 22 participants went to government hospitals for treatment, 15 participants went to private clinics, 2 participants went to pharmacies, and 5 participants did not go anywhere. Regarding taking medication, 14 participants took their medicine as prescribed, 12 participants sometimes neglected it, and 18 participants completely neglected it. For the prescribed drugs, 9 participants used permethrin, 8 participants used ivermectin, 8 participants used crotamiton, 10 participants used antihistamines, and 9 participants used other drugs. In terms of same-night treatment of close contacts, 19 participants had treatment in the same night, 15 participants said they did not have same-night treatment, and 10 participants were not sure whether they received same-night treatment or not. Regarding experienced symptoms, 37 participants reported intense itching, 33 participants reported a rash, 21 participants reported skin thickening, and 34 participants reported blisters.

#### **Participants who did not share (59 participants)**

Among the 59 participants who did not share personal items, 23 participants reported that they changed bedsheets once a month, 14 participants changed every two weeks, and 22 participants changed weekly. 14 participants reported that they cleaned shared surfaces daily, 22 participants cleaned weekly, 8 participants cleaned monthly, and 15 participants cleaned only occasionally. For bathing habits, 18 participants reported that they bathed daily, 12 participants every two days, 11 participants twice a week, and 18 participants once a week. For seeking medical attention, 22 participants reported seeking medical treatment, 17 participants did not seek medical treatment, and 20 participants self-medicated. Among the

participants, 25 participants went to government hospitals for treatment, 15 participants went to private clinics, 7 participants went to pharmacies, and 13 participants did not go anywhere. Regarding taking medication, 18 participants took their medicine as prescribed, 24 participants sometimes neglected it, and 17 participants completely neglected it. For the prescribed drugs, 14 participants used permethrin, 7 participants used ivermectin, 12 participants used crotamiton, 11 participants used antihistamines, and 15 participants used other drugs. In terms of same-night treatment of close contacts, 16 participants had treatment in the same night, 21 participants said they did not had same-night treatment, and 22 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 45 participants reported intense itching, 41 participants reported a rash, 28 participants reported skin thickening, and 32 participants reported blisters.

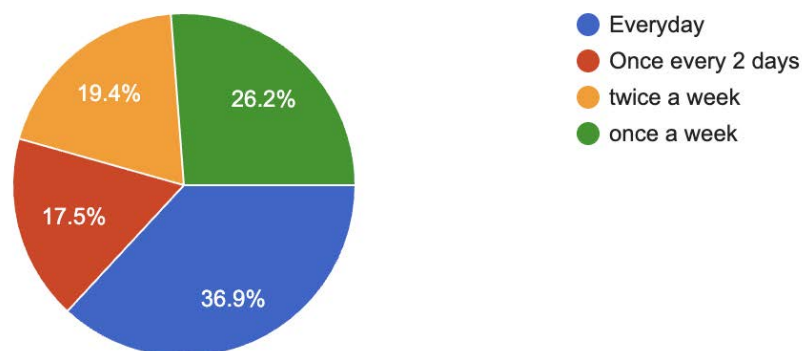


Fig 3.13: % of participants' habit of taking a bath

Figure 3.13 shows that among the 103 participants in our survey, 36.9% of participants bathe daily, 17.5% of participants bathe once every 2 days, 26.2% of participants bathe once a week, and 19.4% of participants bathe twice a week.

**Participants taking a bath every day (38 participants)**

Among the 38 participants who take a bath every day, 16 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items, 20 participants reported that they shared their personal items, whereas 18 participants didn't share. 11 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 8 participants cleaned monthly, and 5 participants cleaned only occasionally. For seeking medical attention, 17 participants reported seeking medical treatment, 12 participants did not seek medical treatment, and 9 participants self-medicated. Among the participants, 13 participants went to government hospitals for treatment, 11 participants went to private clinics, 6 participants went to pharmacies, and 8 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 5 participants used ivermectin, 6 participants used crotamiton, 7 participants used antihistamines, and 12 participants used other drugs. In terms of same-night treatment of close contacts, 14 participants had treatment in the same night, 18 participants said they did not have same-night treatment, and 6 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 37 participants reported intense itching, 33 participants reported a rash, 21 participants reported skin thickening, and 4 participants reported blisters.

**Took a bath once every 2 days (18 participants)**

Among the 18 participants who take a bath once every two days, 2 participants reported that they changed bedsheets once a month, 10 participants changed every two weeks, and 6

participants changed weekly. Regarding sharing personal items, participants reported that they shared their personal items, whereas 12 participants didn't share. 5 participants reported that they cleaned the shared surfaces daily, 7 participants cleaned weekly, 2 participants cleaned monthly, and 4 participants cleaned only occasionally. For seeking medical attention, 6 participants reported seeking medical treatment, 7 participants did not seek medical treatment, and 5 participants self-medicated. Among the participants, 7 participants went to government hospitals for treatment, 5 participants went to private clinics, and 6 participants did not go anywhere. Regarding taking medication, 6 participants took their medicine as prescribed, 7 participants sometimes neglected it, and 5 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 2 participants used ivermectin, 3 participants used crotamiton, 3 participants used antihistamines, and 6 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment in the same night, 1 participant said they did not had same-night treatment, and 10 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 7 participants reported intense itching, 12 participants reported a rash, 11 participants reported skin thickening, and 4 participants reported blisters.

#### **Took a bath twice a week (20 participants)**

Among the 18 participants who take a bath twice a week, 6 participants reported that they changed bedsheets once a month, 4 participants changed every two weeks, and 10 participants changed weekly. Regarding sharing personal items, 9 participants reported that they shared their personal items, whereas 11 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 5 participants cleaned weekly, 5 participants cleaned monthly, and 3 participants cleaned only occasionally. For seeking medical attention, 4

participants reported seeking medical treatment, 6 participants did not seek medical treatment, and 10 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 5 participants went to private clinics, and 3 participants did not go anywhere. Regarding taking medication, 5 participants took their medicine as prescribed, 8 participants sometimes neglected it, and 7 participants completely neglected it. For the prescribed drugs, 5 participants used permethrin, 4 participants used ivermectin, 4 participants used crotamiton, 4 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 6 participants had treatment in the same night, 7 participants said they did not had same-night treatment, and 7 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 12 participants reported a rash, 11 participants reported skin thickening, and 4 participants reported blisters.

#### **Took a bath once a week (27 participants)**

Among the 27 participants who take a bath once a week, 10 participants reported that they changed bedsheets once a month, 10 participants changed every two weeks, and 7 participants changed weekly. Regarding sharing personal items, 9 participants reported that they shared their personal items, whereas 18 participants didn't share. 3 participants reported that they cleaned the shared surfaces daily, 10 participants cleaned weekly, 4 participants cleaned monthly, and 10 participants cleaned only occasionally. For seeking medical attention, 11 participants reported seeking medical treatment, 4 participants did not seek medical treatment, and 12 participants self-medicated. Among the participants, 13 participants went to government hospitals for treatment, 9 participants went to private clinics, 2 participants went to pharmacies, and 3 participants did not go anywhere. Regarding taking

medication, 4 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 13 participants completely neglected it. For the prescribed drugs, 6 participants used permethrin, 4 participants used ivermectin, 7 participants used crotamiton, 7 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 8 participants had treatment in the same night, 10 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 23 participants reported intense itching, 20 participants reported a rash, 15 participants reported skin thickening, and 13 participants reported blisters.

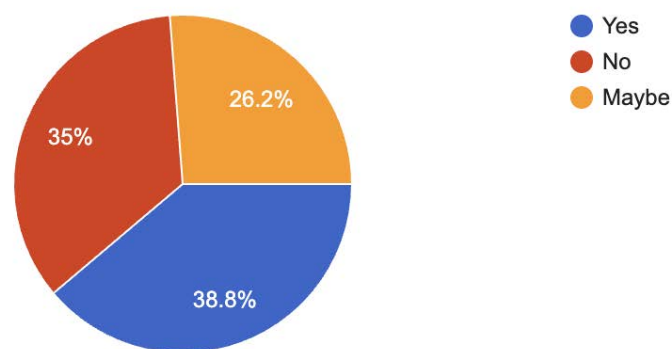


Fig 3.14: % of participants using soap or shampoo

Figure 3.14 shows that among the 103 participants in our survey, 38.8% of participants use soap or shampoo properly, 26.2% of participants may use it sometimes, and 35% of participants do not use soap or shampoo properly.

#### **Participants using shampoo/soap (40 participants)**

Among the 40 participants who use shampoo or soap for bathing, 12 participants reported that they changed bedsheets once a month, 16 participants changed every two weeks, and 9 participants changed weekly. Regarding sharing personal items, 15 participants reported that

they shared their personal items, whereas 22 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 8 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 12 participants once a week. For seeking medical attention, 20 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 10 participants self-medicated. Among the participants, 17 participants went to government hospitals for treatment, 11 participants went to private clinics, 6 participants went to pharmacies, and 6 participants did not go anywhere. Regarding taking medication, 14 participants took their medicine as prescribed, 16 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 12 participants used permethrin, 6 participants used ivermectin, 5 participants used crotamiton, 5 participants used antihistamines, and 12 participants used other drugs. In terms of same-night treatment of close contacts, 11 participants had treatment in the same night, 18 participants said they did not had same-night treatment, and 11 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 37 participants reported intense itching, 38 participants reported a rash, 21 participants reported skin thickening, and 19 participants reported blisters.

### **Participants not using shampoo/soap (36 participants)**

Among the 36 participants who do not use shampoo or soap for bathing, 12 participants reported that they changed bedsheets once a month, 16 participants changed every two weeks, and 9 participants changed weekly. Regarding sharing personal items, 15 participants reported that they shared their personal items, whereas 22 participants didn't share. 7

participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 8 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 12 participants once a week. For seeking medical attention, 9 participants reported seeking medical treatment, 11 participants did not seek medical treatment, and 16 participants self-medicated. Among the participants, 13 participants went to government hospitals for treatment, 10 participants went to private clinics, 4 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 13 participants sometimes neglected it, and 15 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 6 participants used ivermectin, 5 participants used crotamiton, 8 participants used antihistamines, and 9 participants used other drugs. In terms of same-night treatment of close contacts, 14 participants had treatment in the same night, 8 participants said they did not had same-night treatment, and 14 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 33 participants reported intense itching, 29 participants reported a rash, 24 participants reported skin thickening, and 18 participants reported blisters.

### **Participants may use shampoo/soap (27 participants)**

Among the 27 participants who may use shampoo or soap for bathing, 9 participants reported that they changed bedsheets once a month, 12 participants changed every two weeks, and 6 participants changed weekly. Regarding sharing personal items, 7 participants reported that they shared their personal items, whereas 20 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 8 participants cleaned weekly, 4 participants cleaned

monthly, and 8 participants cleaned only occasionally. For bathing habits, 6 participants reported that they bathed daily, 6 participants every two days, 5 participants twice a week, and 10 participants once a week. For seeking medical attention, 9 participants reported seeking medical treatment, 9 participants not seeking medical treatment, and 9 participants self-medicated. Among the participants, 14 participants went to government hospitals for treatment, 6 participants went to private clinics, and 7 participants did not go anywhere. Regarding taking medication, 10 participants took their medicine as prescribed, 7 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 3 participants used permethrin, 4 participants used ivermectin, 9 participants used crotamiton, 8 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 10 participants had treatment in the same night, 10 participants said they did not had same-night treatment, and 7 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 23 participants reported intense itching, 20 participants reported a rash, 18 participants reported skin thickening.

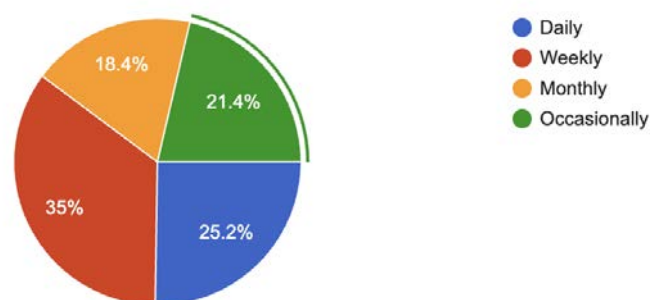


Fig 3.15: Shared area cleaning rate

Figure 3.15 shows that among the 103 participants in our survey, 25.2% of participants cleaned shared surfaces daily, 35% of participants cleaned them weekly, 18.4% of participants cleaned them monthly, and 21.4% of participants cleaned them only occasionally.

### **Cleaning the surface area daily (26 participants)**

Among the 26 participants who clean surface areas daily, 9 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 10 participants changed weekly. Regarding sharing personal items, 12 participants reported that they shared their personal items, whereas 14 participants didn't share. For bathing habits, 11 participants reported that they bathed daily, 5 participants every two days, 7 participants twice a week, and 3 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 11 participants did not seek medical treatment, and 8 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 8 participants went to private clinics, 2 participants went to pharmacies, and 4 participants did not go anywhere. Regarding taking medication, 7 participants took their medicine as prescribed, 9 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 5 participants used permethrin, 6 participants used ivermectin, 5 participants used crotamiton, 5 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 8 participants had treatment in the same night, 10 participants said they did not had same-night treatment, and 8 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 14 participants reported a rash, 6 participants reported skin thickening, and 8 participants reported blisters.

### **Cleaning the surface area Weekly (36 participants)**

Among the 36 participants who clean surface areas weekly, 11 participants reported that they changed bedsheets once a month, 12 participants changed every two weeks, and 13

participants changed weekly. Regarding sharing personal items, 14 participants reported that they shared their personal items, whereas 22 participants didn't share. For bathing habits, 14 participants reported that they bathed daily, 7 participants every two days, 5 participants twice a week, and 10 participants once a week. For seeking medical attention, 12 participants reported seeking medical treatment, 12 participants not seeking medical treatment, and 12 participants self-medicated. Among the participants, 16 participants went to government hospitals for treatment, 11 participants went to private clinics, 3 participants went to pharmacies, and 6 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 8 participants completely neglected it. For the prescribed drugs, 12 participants used permethrin, 3 participants used ivermectin, 4 participants used crotamiton, 9 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 14 participants had treatment in the same night, 7 participants said they did not had same-night treatment, and 15 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 31 participants reported intense itching, 12 participants reported a rash, 17 participants reported skin thickening, and 22 participants reported blisters.

### **Cleaning surface area Monthly (19 participants)**

Among the 19 participants who clean surface areas monthly, 6 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 8 participants changed weekly. Regarding sharing personal items, 11 participants reported that they shared their personal items, whereas 8 participants didn't share. For bathing habits, 8 participants reported that they bathed daily, 2 participants every two days, 5 participants twice a week,

and 4 participants once a week. For seeking medical attention, 8 participants reported seeking medical treatment, 5 participants did not seek medical treatment, and 6 participants self-medicated. Among the participants, 7 participants went to government hospitals for treatment, 6 participants went to private clinics, and 6 participants did not go anywhere. Regarding taking medication, 5 participants took their medicine as prescribed, 5 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 3 participants used permethrin, 3 participants used ivermectin, 5 participants used crotamiton, 3 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment in the same night, 10 participants said they did not had same-night treatment, and 2 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 7 participants reported intense itching, 12 participants reported a rash, 5 participants reported skin thickening, and 13 participants reported blisters.

#### **Cleaned the surface area occasionally (22 participants)**

Among the 22 participants clean surface area, 8 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 7 participants changed weekly. Regarding sharing personal items, 7 participants reported that they shared their personal items, whereas 15 participants didn't share. For bathing habits, 5 participants reported that they bathed daily, 4 participants every two days, 3 participants twice a week, and 10 participants once a week. For seeking medical attention, 11 participants reported seeking medical treatment, 7 participants did not seek medical treatment, and 4 participants self-medicated. Among the participants, 8 participants went to government hospitals for treatment, 8 participants went to private clinics, 2 participants went to pharmacies, and 4

participants did not go anywhere. Regarding taking medication, 3 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 8 participants completely neglected it. For the prescribed drugs, 3 participants used permethrin, 3 participants used ivermectin, 6 participants used crotamiton, 4 participants used antihistamines, and 6 participants used other drugs. In terms of same-night treatment of close contacts, 6 participants had treatment in the same night, 9 participants said they did not had same-night treatment, and 7 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 19 participants reported a rash, 3 participants reported skin thickening, and 8 participants reported blisters.

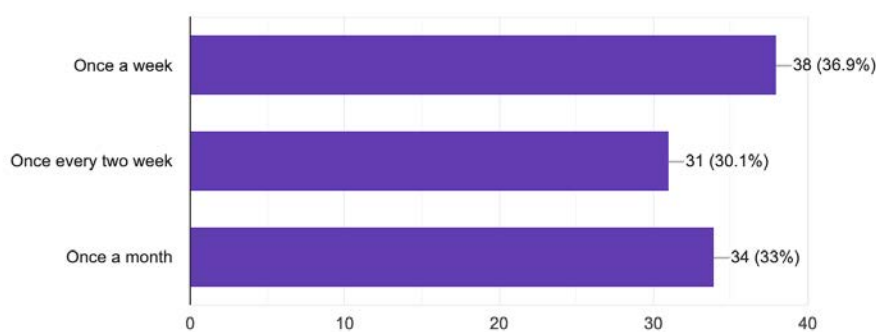


Fig 3.16: Bedsheet changing rate of participants

Figure 3.16 shows that among the 103 participants in our survey, 36.9% of participants changed their bedsheets once a week, 30.1% of participants changed their bedsheets every two weeks, and 33% of participants changed their bedsheets once a month.

### **Participants change bed sheets once a week (38 participants)**

Among the 38 participants who changed bed sheets once a week, regarding sharing personal items, 16 participants reported that they shared their personal items, whereas 22 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only

occasionally. For bathing habits, 8 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 12 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 9 participants did not seek medical treatment, and 13 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 9 participants used ivermectin, 6 participants used crotamiton, 6 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 16 participants had treatment in the same night, 11 participants said they did not had same-night treatment, and 10 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 20 participants reported a rash, 11 participants reported skin thickening, and 14 participants reported blisters.

### **Participants change bed sheets once every two weeks (31 participants)**

Among the 31 participants who changed bed sheets once every two weeks, regarding sharing personal items, 17 participants reported that they shared their personal items, whereas 14 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 8 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 12 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 9 participants did not

seek medical treatment, and 13 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 9 participants used ivermectin, 6 participants used crotamiton, 6 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 16 participants had treatment in the same night, 11 participants said they did not had same-night treatment, and 10 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 20 participants reported a rash, 11 participants reported skin thickening, and 14 participants reported blisters.

#### **Participants change bed sheets once a month (34 participants)**

Among the 34 participants who change bed sheets once a month, regarding sharing personal items, 11 participants reported they shared their personal items, ,, eas 23 participants didn't share. 9 participants reported that they cleaned shared surfaces daily, 11 participants cleaned weekly, 6 participants cleaned monthly, and 8 participants cleaned only occasionally. For bathing habits, 8 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 12 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 9 participants did not seek medical treatment, and 13 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 17

participants took their medicine as prescribed, 10 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 9 participants used ivermectin, 6 participants used crotamiton, 6 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 16 participants had treatment in the same night, 11 participants said they did not had same-night treatment, and 10 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 20 participants reported a rash, 11 participants reported skin thickening, and 14 participants reported blisters.

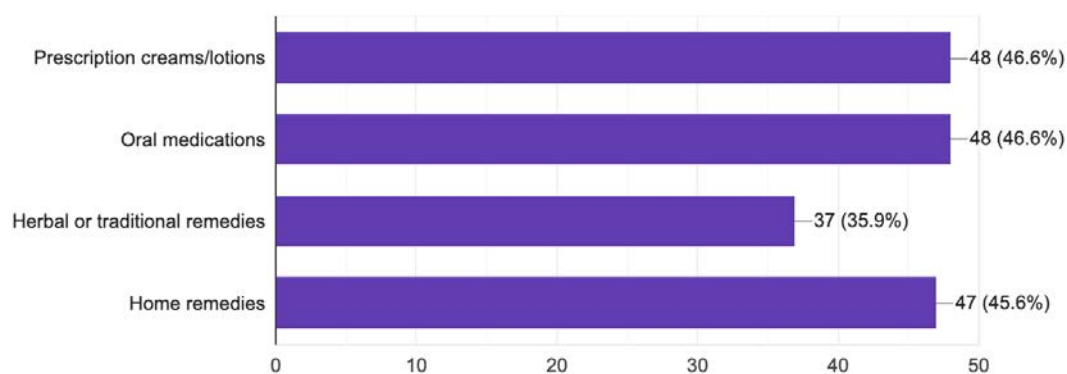


Fig 3.17: Types of dosage used for treatment

Figure 3.17 shows that among the 103 participants in our survey, 46.6% of participants used prescription creams or lotions, 46.6% of participants took oral medicines, 45.6% of participants used home remedies, and 35.9% of participants used herbal or traditional treatments.

### **Participants who used prescription creams/lotions (48 participants)**

Among the 48 participants who used prescription creams/lotions, 16 participants reported that they changed bedsheets once a month, 11 participants changed every two weeks, and 21 participants changed weekly. Regarding sharing personal items, 19 participants reported that

they shared their personal items, whereas 29 participants didn't share. 14 participants reported that they cleaned shared surfaces daily, 18 participants cleaned weekly, 6 participants cleaned monthly, and 10 participants cleaned only occasionally. For bathing habits, 23 participants reported that they bathed daily, 8 participants every two days, 6 participants twice a week, and 11 participants once a week. For seeking medical attention, 19 participants reported seeking medical treatment, 16 participants did not seek medical treatment, and 13 participants self-medicated. Among the participants, 16 participants went to government hospitals for treatment, 14 participants went to private clinics, 5 participants went to pharmacies, and 13 participants did not go anywhere. Regarding taking medication, 20 participants took their medicine as prescribed, 14 participants sometimes neglected it, and 14 participants completely neglected it. For the prescribed drugs, 14 participants used permethrin, 5 participants used ivermectin, 10 participants used crotamiton, 8 participants used antihistamines, and 11 participants used other drugs. In terms of same-night treatment of close contacts, 16 participants had treatment in the same night, 17 participants said they did not had same-night treatment, and 15 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 37 participants reported intense itching, 30 participants reported a rash, 31 participants reported skin thickening, and 26 participants reported blisters.

#### **Participants who used oral medicines (48 participants)**

Among the 48 participants who used oral medication, 18 participants reported that they changed bedsheets once a month, 15 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items, 22 participants reported that they shared their personal items, whereas 26 participants didn't share. 11 participants

reported that they cleaned shared surfaces daily, 20 participants cleaned weekly, 11 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 17 participants reported that they bathed daily, 12 participants every two days, 8 participants twice a week, and 11 participants once a week. For seeking medical attention, 26 participants reported seeking medical treatment, 14 participants did not seek medical treatment, and 14 participants self-medicated. Among the participants, 23 participants went to government hospitals for treatment, 8 participants went to private clinics, 1 participant went to pharmacies, and 16 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 12 participants sometimes neglected it, and 19 participants completely neglected it. For the prescribed drugs, 12 participants used permethrin, 4 participants used ivermectin, 11 participants used crotamiton, 11 participants used antihistamines, and 10 participants used other drugs. In terms of same-night treatment of close contacts, 15 participants had treatment in the same night, 13 participants said they did not have same-night treatment, and 20 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 43 participants reported intense itching, 45 participants reported a rash, 31 participants reported skin thickening, and 37 participants reported blisters.

### **Participants who used home remedies (47 participants)**

Among the 47 participants who used home remedies, 16 participants reported that they changed bedsheets once a month, 14 participants changed every two weeks, and 17 participants changed weekly. Regarding sharing personal items, 20 participants reported that they shared their personal items, and 27 participants didn't share. 11 participants reported that they cleaned shared surfaces daily, 12 participants cleaned weekly, 12 participants

cleaned monthly, and 12 participants cleaned only occasionally. For bathing habits, 16 participants reported that they bathed daily, 3 participants every two days, 12 participants twice a week, and 16 participants once a week. For seeking medical attention, 15 participants reported seeking medical treatment, 18 participants did not seek medical treatment, and 13 participants self-medicated. Among the participants, 16 participants went to government hospitals for treatment, 8 participants went to private clinics, 6 participants went to pharmacies, and 17 participants did not go anywhere. Regarding taking medication, 7 participants took their medicine as prescribed, 20 participants sometimes neglected it, and 20 participants completely neglected it. For the prescribed drugs, 11 participants used permethrin, 6 participants used ivermectin, 10 participants used crotamiton, 13 participants used antihistamines, and 7 participants used other drugs. In terms of same-night treatment of close contacts, 20 participants had treatment in the same night, 18 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 41 participants reported intense itching, 39 participants reported a rash, 31 participants reported skin thickening, and 28 participants reported blisters.

### **Participants who used herbal/traditional remedies (37 participants)**

Among the 37 participants who used herbal or traditional remedies, 13 participants reported that they changed bedsheets once a month, 14 participants changed every two weeks, and 10 participants changed weekly. Regarding sharing personal items, 16 participants reported that they shared their personal items, whereas 21 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 12 participants cleaned weekly, 7 participants cleaned monthly, and 11 participants cleaned only occasionally. For bathing habits, 7 participants

reported that they bathed daily, 8 participants every two days, 10 participants twice a week, and 12 participants once a week. For seeking medical attention, 9 participants reported seeking medical treatment, 13 participants did not seek medical treatment, and 15 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 1 participant went to pharmacies, and 13 participants did not go anywhere. Regarding taking medication, 11 participants took their medicine as prescribed, 14 participants sometimes neglected it, and 12 participants completely neglected it. For the prescribed drugs, 6 participants used permethrin, 8 participants used ivermectin, 8 participants used crotamiton, 7 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 11 participants had treatment in the same night, 9 participants said they did not had same-night treatment, and 17 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 29 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 11 participants reported blisters.

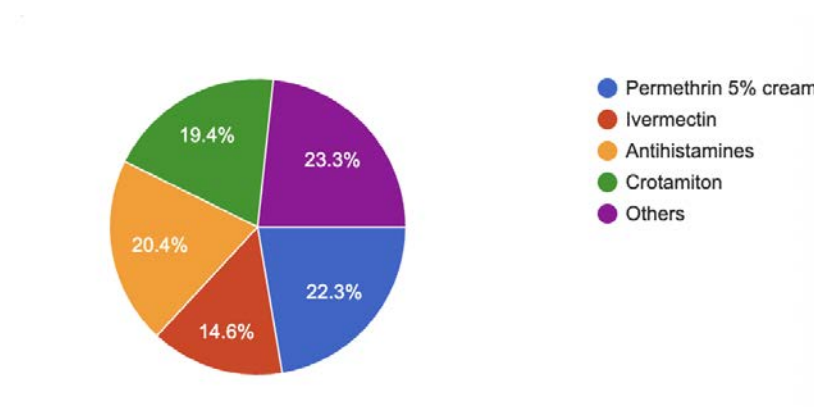


Fig 3.18: Percentage of drug class used

Figure 3.18 shows that among the 103 participants in our survey, 22.3% used permethrin 5% cream, 20.4% used antihistamines, 19.4% used crotamiton, 22.3% used ivermectin, and 23.3% used other treatments.

### **Participants who used Permethrin 5% for treatment (23 participants)**

Among the 23 participants who used Permethrin 5% for treatment, 5 participants reported that they changed bedsheets once a month, 6 participants changed every two weeks, and 12 participants changed weekly. Regarding sharing personal items, 9 participants reported that they shared their personal items, whereas 14 participants didn't share. 5 participants reported that they cleaned the shared surfaces daily, 12 participants cleaned weekly, 3 participants cleaned monthly, and 3 participants cleaned only occasionally. For bathing habits, 8 participants reported that they bathed daily, 4 participants every two days, 5 participants twice a week, and 6 participants once a week. For seeking medical attention, 10 participants reported seeking medical treatment, 7 participants did not seek medical treatment, and 6 participants self-medicated. Among the participants, 9 participants went to government hospitals for treatment, 8 participants went to private clinics, 3 participants went to pharmacies, and 3 participants did not go anywhere. Regarding taking medication, 17 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 10 participants completely neglected it. In terms of same-night treatment of close contacts, 10 participants had treatment in the same night, 6 participants said they did not have same-night treatment, and 7 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 14 participants reported a rash, 7 participants reported skin thickening, and 7 participants reported blisters.

**Participants who used Ivermectin for treatment(15 participants )**

Among the 15 participants who used Ivermectin for treatment, 2 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 8 participants changed weekly. Regarding sharing personal items, 8 participants reported that they shared their personal items, whereas 7 participants didn't share. 6 participants reported that they cleaned shared surfaces daily, 3 participants cleaned weekly, 3 participants cleaned monthly, and 3 participants cleaned only occasionally. For bathing habits, 5 participants reported that they bathed daily, 2 participants every two days, 4 participants twice a week, and 4 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 6 participants did not seek medical treatment, and 2 participants self-medicated. Among the participants, 3 participants went to government hospitals for treatment, 5 participants went to private clinics, 1 participant went to pharmacies, and 6 participants did not go anywhere. Regarding taking medication, 2 participants took their medicine as prescribed, 6 participants sometimes neglected it, and 7 participants completely neglected it. In terms of same-night treatment of close contacts, 9 participants had treatment in the same night, 4 participants said they did not had same-night treatment, and 2 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 7 participants reported intense itching, 2 participants reported a rash, 11 participants reported skin thickening, and 4 participants reported blisters.

**Participants who used Crotamiton for treatment (20 participants)**

Among the 37 participants who used Crotamiton for treatment, 11 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 4 participants changed weekly. Regarding sharing personal items, 8 participants reported that

they shared their personal items, whereas 12 participants didn't share. 5 participants reported that they cleaned the shared surfaces daily, 4 participants cleaned weekly, 5 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 6 participants reported that they bathed daily, 3 participants every two days, 4 participants twice a week, and 7 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 7 participants did not seek medical treatment, and 6 participants self-medicated. Among the participants, 7 participants went to government hospitals for treatment, 4 participants went to private clinics, 2 participants went to pharmacies, and 8 participants did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 6 participants sometimes neglected it, and 6 participants completely neglected it. In terms of same-night treatment of close contact, 6 participants had treatment in the same night, 8 participants said they did not have same-night treatment, and 6 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 13 participants reported intense itching, 13 participants reported a rash, 11 participants reported skin thickening, and 7 participants reported blisters.

### **Participants who used Antihistamines for treatment (21 participants )**

Among the 21 participants who used Antihistamines for treatment, 7 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 7 participants changed weekly. Regarding sharing personal items, 10 participants reported that they shared their personal items, whereas 11 participants didn't share. 5 participants reported that they cleaned shared surfaces daily, 9 participants cleaned weekly, 3 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 3 participants every two days, 4 participants twice a week,

and 7 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 7 participants did not seek medical treatment, and 7 participants self-medicated. Among the participants, 8 participants went to government hospitals for treatment, 5 participants went to private clinics, 3 participants went to pharmacies, and 5 participants did not go anywhere. Regarding taking medication, 4 participants took their medicine as prescribed, 7 participants sometimes neglected it, and 10 participants completely neglected it. In terms of same-night treatment of close contacts, 3 participants had treatment in the same night, 9 participants said they did not have same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 14 participants reported a rash, 2 participants reported skin thickening, and 4 participants reported blisters.

#### **Participants who used other drugs for treatment ( 24 participants)**

Among the 24 participants who used other drugs for treatment, 9 participants reported that they changed bedsheets once a month, 8 participants changed every two weeks, and 7 participants changed weekly. Regarding sharing personal items, 9 participants reported that they shared their personal items, whereas 15 participants didn't share. 5 participants reported that they cleaned the shared surfaces daily, 8 participants cleaned weekly, 5 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 12 participants reported that they bathed daily, 6 participants every two days, 3 participants twice a week, and 3 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 8 participants did not seek medical treatment, and 9 participants self-medicated. Among the participants, 7 participants went to government hospitals for treatment, 6 participants went to private clinics, 3 participants went to

pharmacies, and 8 participants did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 5 participants completely neglected it. In terms of same-night treatment of close contacts, 7 participants had treatment in the same night, 7 participants said they did not had same-night treatment, and 10 participants were not sure whether they had same-night treatment or not.

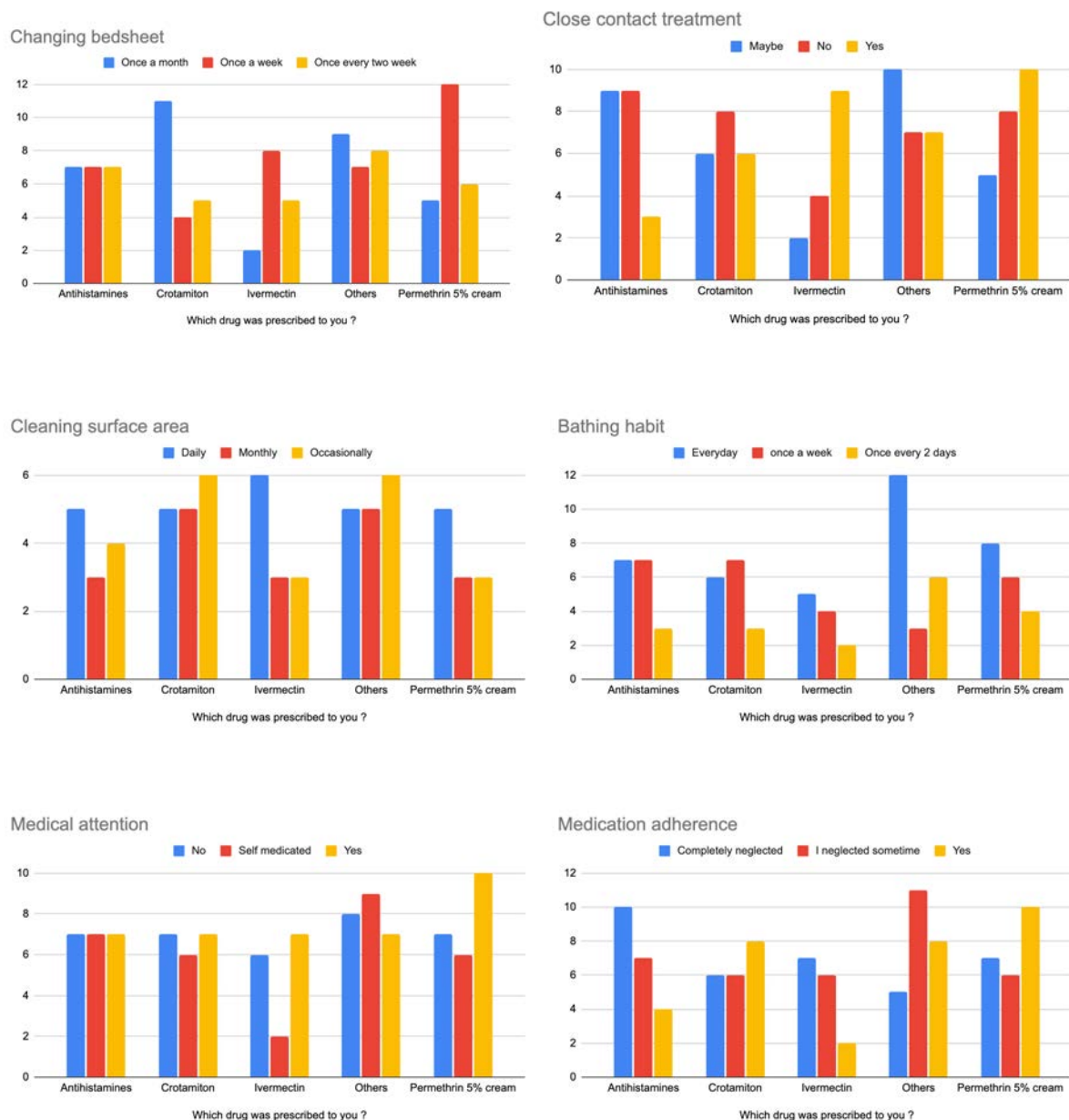


Fig 3.18.1: Correlation of the class of drug used by participants with others

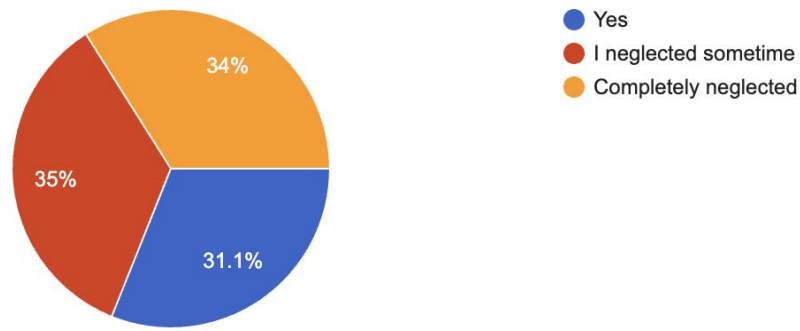


Fig 3.19: Adherence percentage of the patient

Figure 3.19 shows that among the 103 participants in our survey, 31.1% take medication as prescribed, 35% sometimes neglect it, and 34% completely neglect the prescribed medication.

#### **Participants who took as prescribed (37 participants)**

Among the 37 participants who took medication as prescribed, 10 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items, 14 participants reported that they shared their personal items, whereas 18 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 17 participants cleaned weekly, 5 participants cleaned monthly, and 3 participants cleaned only occasionally. For bathing habits, 17 participants reported that they bathed daily, 6 participants every two days, 5 participants twice a week, and 4 participants once a week. For seeking medical attention, 16 participants reported seeking medical treatment, 7 participants did not seek medical treatment, and 9 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. For the prescribed drugs, 10 participants used permethrin, 2 participants used ivermectin, 8 participants used crotamiton, 4 participants used

antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 12 participants had treatment on the same night, 12 participants said they did not had same-night treatment, and 8 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 20 participants reported a rash, 14 participants reported skin thickening, and 19 participants reported blisters.

### **Participants who neglected sometimes (36 participants)**

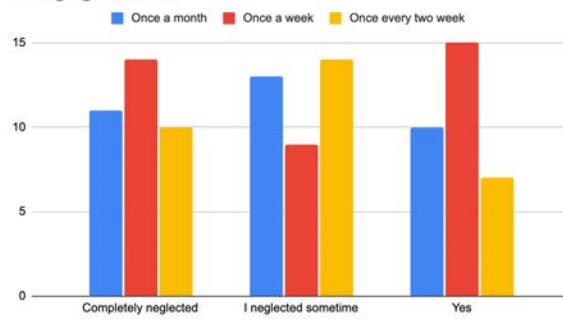
Among the 36 participants who did not take medication as prescribed, 13 participants reported that they changed bedsheets once a month, 14 participants changed every two weeks, and 9 participants changed weekly. Regarding sharing personal items, 12 participants reported that they shared their personal items, whereas 24 participants didn't share. 9 participants reported that they cleaned shared surfaces daily, 11 participants cleaned weekly, 5 participants cleaned monthly, and 11 participants cleaned only occasionally. For bathing habits, 11 participants reported that they bathed daily, 7 participants every two days, 8 participants twice a week, and 10 participants once a week. For seeking medical attention, 12 participants reported seeking medical treatment, 12 participants did not seek medical treatment, and 12 participants self-medicated. Among the participants, 14 participants went to government hospitals for treatment, 9 participants went to private clinics, 5 participants went to pharmacies, and 8 participants did not go anywhere. For the prescribed drugs, 6 participants used permethrin, 6 participants used ivermectin, 6 participants used crotamiton, 7 participants used antihistamines, and 11 participants used other drugs. In terms of same-night treatment of close contacts, 10 participants had treatment on the same night, 11 participants said they did not had same-night treatment, and 15 participants were not sure whether they had same-night

treatment or not. Regarding experienced symptoms, 29 participants reported intense itching, 24 participants reported a rash, 10 participants reported skin thickening, and 14 participants reported blisters.

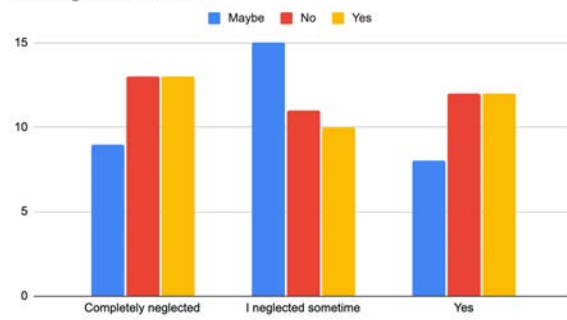
### **Participants who completely neglected (34 participants)**

Among the 34 participants who completely neglected medication, 10 participants reported that they changed bedsheets once a month, 9 participants changed every two weeks, and 15 participants changed weekly. Regarding sharing personal items, 17 participants reported that they shared their personal items, whereas 17 participants didn't share. 10 participants reported that they cleaned shared surfaces daily, 8 participants cleaned weekly, 9 participants cleaned monthly, and 8 participants cleaned only occasionally. For bathing habits, 10 participants reported that they bathed daily, 5 participants every two days, 7 participants twice a week, and 13 participants once a week. For seeking medical attention, 10 participants reported seeking medical treatment, 16 participants did not seek medical treatment, and 9 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 4 participants went to pharmacies, and 9 participants did not go anywhere. For the prescribed drugs, 7 participants used permethrin, 7 participants used ivermectin, 6 participants used crotamiton, 10 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 13 participants had treatment on the same night, 13 participants said they did not had same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 29 participants reported intense itching, 21 participants reported a rash, 18 participants reported skin thickening, and 12 participants reported blisters.

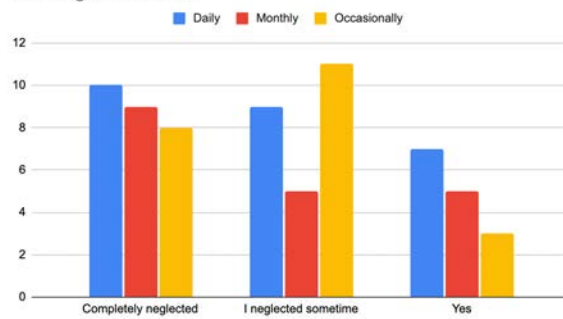
Changing bedsheet



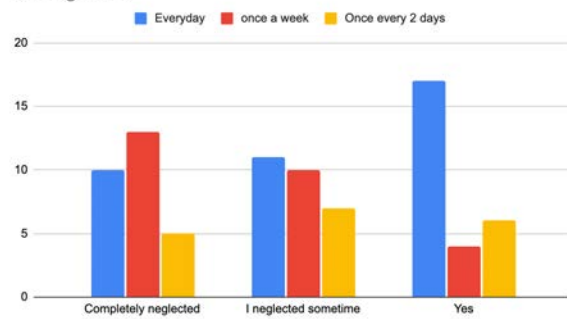
Treating close contact



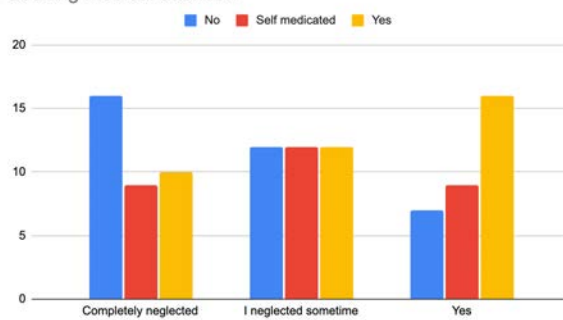
Cleaning surface area



Bathing habit



Seeking medical attention



Drug Class Used

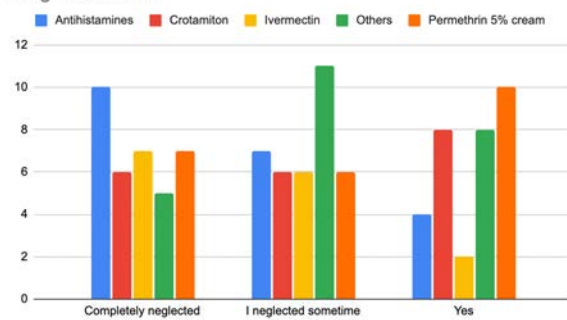


Fig 3.19.1: Correlation of adherence with others

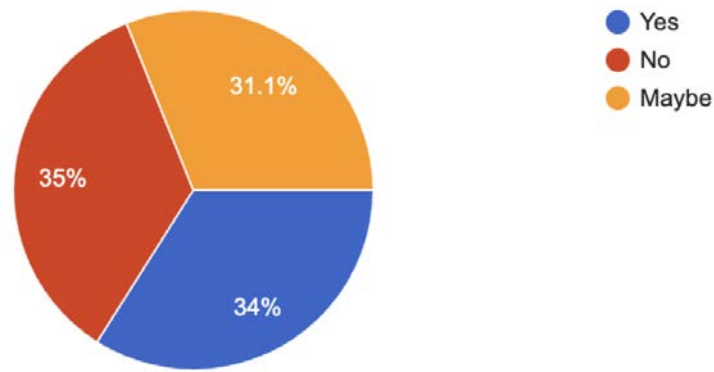


Fig 3.20: % of patients for same-day contact treatment

Figure 3.20 shows that among the 103 participants in our survey, 34% of participants' close contacts took treatment on the same day, 35% did not take treatment on the same day, and 31.1% may have taken treatment on the same day.

#### **Contacts treated the same night (35 participants)**

Among the 35 participants who had treatment the same night, 6 participants reported that they changed bedsheets once a month, 16 participants changed every two weeks, and 13 participants changed weekly. Regarding sharing personal items, 19 participants reported that they shared their personal items, whereas 16 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 14 participants cleaned weekly, 7 participants cleaned monthly, and 6 participants cleaned only occasionally. For bathing habits, 14 participants reported that they bathed daily, 7 participants every two days, 6 participants twice a week, and 8 participants once a week. For seeking medical attention, 20 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 5 participants self-medicated. Among the participants, 12 participants went to government hospitals for treatment, 9 participants went to private clinics, 7 participants went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 13 participants

completely neglected it. For the prescribed drugs, 10 participants used permethrin, 9 participants used ivermectin, 6 participants used crotamiton, 3 participants used antihistamines, and 7 participants used other drugs. Regarding experienced symptoms, 32 participants reported intense itching, 33 participants reported a rash, 26 participants reported skin thickening, and 12 participants reported blisters.

### **Contacts not treated the same night (36 participants)**

Among the 36 participants who did not get treated the same night, 12 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 17 participants changed weekly. Regarding sharing personal items, 15 participants reported that they shared their personal items, whereas 21 participants didn't share. 10 participants reported that they cleaned shared surfaces daily, 7 participants cleaned weekly, 10 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 18 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 1 participant once a week. For seeking medical attention, 10 participants reported seeking medical treatment, 15 participants did not seek medical treatment, and 11 participants self-medicated. Among the participants, 14 participants went to government hospitals for treatment, 8 participants went to private clinics, 3 participants went to pharmacies, and 7 participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 13 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 4 participants used ivermectin, 8 participants used crotamiton, 9 participants used antihistamines, and 7 participants used other drugs. Regarding experienced symptoms, 22

participants reported intense itching, 26 participants reported a rash, 14 participants reported skin thickening, and 12 participants reported blisters.

### **Participants who are not sure (32 participants)**

Among the 32 participants, are no sure about whether they were treated the same time; 16 participants reported that they changed bedsheets once a month, 8 participants changed every two weeks, and 8 participants changed weekly. Regarding sharing personal items, 10 participants reported that they shared their personal items, whereas 22 participants didn't share. 8 participants reported that they cleaned shared surfaces daily, 15 participants cleaned weekly, 2 participants cleaned monthly, and 7 participants cleaned only occasionally. For bathing habits, 6 participants reported that they bathed daily, 7 participants every two days, 10 participants twice a week, and 9 participants once a week. For seeking medical attention, 8 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 14 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 9 participants went to private clinics, 2 participants went to pharmacies, and 10 participants did not go anywhere. Regarding taking medication, 8 participants took their medicine as prescribed, 15 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 5 participants used permethrin, 2 participants used ivermectin, 6 participants used crotamiton, 9 participants used antihistamines, and 10 participants used other drugs. Regarding experienced symptoms, 27 participants reported intense itching, 20 participants reported a rash, 11 participants reported skin thickening, and 14 participants reported blisters.

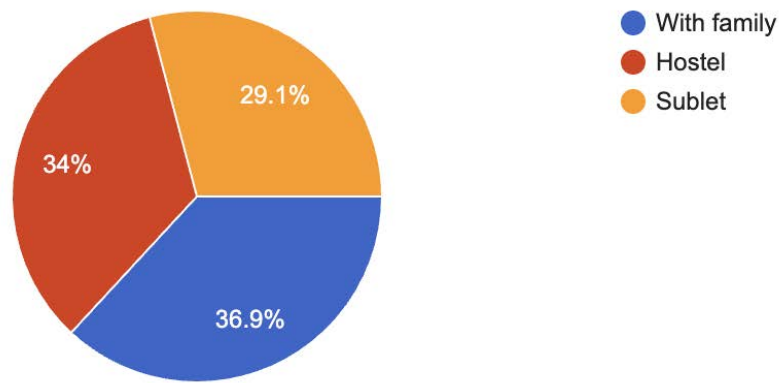


Fig 3.21: Accommodation of patients affected by scabies

Figure 3.21 shows that among the 103 participants in our survey, 36.9% of participants live with their family, 34% of participants live in hostels, and 29.1% of participants live in sublets.

#### **Participants living with family (38 participants)**

Among the 38 participants who are currently living with their family, 14 participants reported that they changed bedsheets once a month, 10 participants changed every two weeks, and 14 participants changed weekly. Regarding sharing personal items, 10 participants reported that they shared their personal items, whereas 28 participants didn't share. 10 participants reported that they cleaned shared surfaces daily, 16 participants cleaned weekly, 4 participants cleaned monthly, and 8 participants cleaned only occasionally. For bathing habits, 16 participants reported that they bathed daily, 9 participants every two days, 4 participants twice a week, and 9 participants once a week. For seeking medical attention, 17 participants reported seeking medical treatment, 12 participants did not seek medical treatment, and 9 participants self-medicated. Among the participants, 15 participants went to government hospitals for treatment, 10 participants went to private clinics, 3 participants went to pharmacies, and 12 participants did not go anywhere. Regarding taking medication, 14

participants took their medicine as prescribed, 14 participants sometimes neglected it, and 10 participants completely neglected it. For the prescribed drugs, 10 participants used permethrin, 5 participants used ivermectin, 7 participants used crotamiton, 6 participants used antihistamines, and 10 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment on the same night, 18 participants said they did not have same-night treatment, and 13 participants were not sure whether they received same-night treatment or not. Regarding experienced symptoms, 35 participants reported intense itching, 32 participants reported a rash, 23 participants reported skin thickening, and 16 participants reported blisters.

#### **Participants living in a hostel (35 participants)**

Among the 35 participants who are living in hostels, 8 participants reported that they changed bedsheets once a month, 14 participants changed every two weeks, and 13 participants changed weekly. Regarding sharing personal items, 19 participants reported that they shared their personal items, whereas 16 participants didn't share. 9 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 11 participants cleaned monthly, and 5 participants cleaned only occasionally. For bathing habits, 15 participants reported that they bathed daily, 5 participants every two days, 9 participants twice a week, and 6 participants once a week. For seeking medical attention, 10 participants reported seeking medical treatment, 14 participants did not seek medical treatment, and 11 participants self-medicated. Among the participants, 13 participants went to government hospitals for treatment, 11 participants went to private clinics, 3 participants went to pharmacies, and 8 participants did not go anywhere. Regarding taking medication, 11 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 13 participants

completely neglected it. For the prescribed drugs, 5 participants used permethrin, 4 participants used ivermectin, 7 participants used crotamiton, 9 participants used antihistamines, and 10 participants used other drugs. In terms of same-night treatment of close contacts, 15 participants had treatment on the same night, 9 participants said they did not have same-night treatment, and 11 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 31 participants reported intense itching, 26 participants reported a rash, 19 participants reported skin thickening, and 17 participants reported blisters.

### **Participants living in Sublet (30 participants)**

Among the 30 participants who live in sublets, 12 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 11 participants changed weekly. Regarding sharing personal items, 15 participants reported that they shared their personal items, whereas 15 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 10 participants cleaned weekly, 4 participants cleaned monthly, and 9 participants cleaned only occasionally. For bathing habits, 7 participants reported that they bathed daily, 4 participants every two days, 7 participants twice a week, and 12 participants once a week. For seeking medical attention, 11 participants reported seeking medical treatment, 9 participants did not seek medical treatment, and 10 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 9 participants went to private clinics, 1 participant went to pharmacies, and 9 participants did not go anywhere. Regarding taking medication, 7 participants took their medicine as prescribed, 11 participants sometimes neglected it, and 12 participants completely neglected it. For the prescribed drugs, 8 participants used permethrin, 6

participants used ivermectin, 6 participants used crotamiton, 6 participants used antihistamines, and 4 participants used other drugs. In terms of same-night treatment of close contacts, 13 participants had treatment on the same night, 9 participants said they did not have same-night treatment, and 8 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 27 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 16 participants reported blisters.

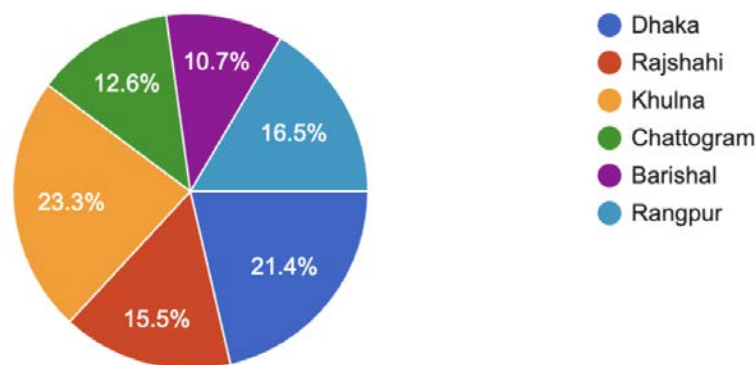


Fig 3.22: Resident Percentage in Division

Figure 3.22 shows that among the 103 participants in our survey, 23.3% were from Khulna, 21.4% from Dhaka, 16.5% from Rangpur, 15.5% from Rajshahi, 12.6% from Chattogram, and 10.7% from Barisal.

### People living in Dhaka (22 participants)

Among the 22 participants who live in Dhaka, 7 participants reported that they changed bedsheets once a month, 4 participants changed every two weeks, and 11 participants changed weekly. Regarding sharing personal items, 9 participants reported they shared their personal items, whereas 13 participants didn't share. 7 participants reported that they cleaned shared surfaces daily, 7 participants cleaned weekly, 5 participants cleaned monthly, and 3

participants cleaned only occasionally. For bathing habits, 17 participants reported that they bathed daily, 2 participants every two days, 1 participant twice a week, and 2 participants once a week. For seeking medical attention, 12 participants reported seeking medical treatment, 6 participants did not seek medical treatment, and 4 participants self-medicated. Among the participants, 11 participants went to government hospitals for treatment, 7 participants went to private clinics, 1 participant went to pharmacies, and 3 participants did not go anywhere. Regarding taking medication, 12 participants took their medicine as prescribed, 4 participants sometimes neglected it, and 6 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 5 participants used ivermectin, 2 participants used crotamiton, 3 participants used antihistamines, and 8 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment on the same night, 11 participants said they did not have same-night treatment, and 4 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 17 participants reported intense itching, 12 participants reported a rash, 3 participants reported skin thickening, and 6 participants reported blisters.

### **People living in Rajshahi (16 participants)**

Among the 16 participants who live in Rajshahi, 4 participants reported that they changed bedsheets once a month, 6 participants changed every two weeks, and 6 participants changed weekly. Regarding sharing personal items, 7 participants reported that they shared their personal items, whereas 9 participants didn't share. 3 participants reported that they cleaned the shared surfaces daily, 7 participants cleaned weekly, 1 participant cleaned monthly, and 5 participants cleaned only occasionally. For bathing habits, 3 participants reported that they bathed daily, 6 participants every two days, 3 participants twice a week, and 4 participants

once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 5 participants did not seek medical treatment, and 4 participants self-medicated. Among the participants, 7 participants went to government hospitals for treatment, 5 participants went to private clinics, 2 participants went to pharmacies, and 2 participants did not go anywhere. Regarding taking medication, 2 participants took their medicine as prescribed, 7 participants sometimes neglected it, and 7 participants completely neglected it. For the prescribed drugs, 4 participants used permethrin, 3 participants used ivermectin, 1 participant used crotamiton, 4 participants used antihistamines, and 4 participants used other drugs. In terms of same-night treatment of close contacts, 5 participants had treatment on the same night, 2 participants said they did not have same-night treatment, and 9 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 13 participants reported intense itching, 11 participants reported a rash, 2 participants reported skin thickening, and 5 participants reported blisters.

#### **People living in Khulna (24 participants)**

Among the 24 participants who live in Khulna, 6 participants reported that they changed bedsheets once a month, 7 participants changed every two weeks, and 11 participants changed weekly. Regarding sharing personal items, 11 participants reported that they shared their personal items, whereas 13 participants didn't share. 4 participants reported that they cleaned the shared surfaces daily, 10 participants cleaned weekly, 6 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 5 participants reported that they bathed daily, 10 participants every two days, 4 participants twice a week, and 5 participants once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 10 participants did not seek medical treatment, and 7 participants self-

medicated. Among the participants, 7 participants went to government hospitals for treatment, 9 participants went to private clinics, 3 participants went to pharmacies, and 5 participants did not go anywhere. Regarding taking medication, 5 participants took their medicine as prescribed, 10 participants sometimes neglected it, and 9 participants completely neglected it. For the prescribed drugs, 6 participants used permethrin, 4 participants used ivermectin, 5 participants used crotamiton, 6 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 7 participants had treatment on the same night, 7 participants said they did not have same-night treatment, and 10 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 21 participants reported intense itching, 22 participants reported a rash, 13 participants reported skin thickening, and 16 participants reported blisters.

#### **People living in Chattogram (13 participants)**

Among the 13 participants who live in Chattogram, 5 participants reported that they changed bedsheets once a month, 5 participants changed every two weeks, and 3 participants changed weekly. Regarding sharing personal items, 7 participants reported that they shared their personal items, whereas 6 participants didn't share. 3 participants reported that they cleaned the shared surfaces daily, 3 participants cleaned weekly, 4 participants cleaned monthly, and 3 participants cleaned only occasionally. For bathing habits, 6 participants reported that they bathed daily, 3 participants every two days, 3 participants twice a week, and 1 participant once a week. For seeking medical attention, 7 participants reported seeking medical treatment, 2 participants did not seek medical treatment, and 4 participants self-medicated. Among the participants, 6 participants went to government hospitals for treatment, 5 participants went to private clinics, and 2 participants did not go anywhere. Regarding taking

medication, 4 participants took their medicine as prescribed, 6 participants sometimes neglected it, and 3 participants completely neglected it. For the prescribed drugs, 3 participants used permethrin, 3 participants used crotamiton, 4 participants used antihistamines, and 3 participants used other drugs. In terms of same-night treatment of close contacts, 17 participants had treatment on the same night, and 6 participants said they did not have same-night treatment. Regarding experienced symptoms, 7 participants reported intense itching, 6 participants reported a rash, 3 participants reported skin thickening, and 1 participant reported blisters.

### **Barishal (11 participants)**

Among the 11 participants who live in Barishal, 6 participants reported that they changed bedsheets once a month, 3 participants changed every two weeks, and 2 participants changed weekly. Regarding sharing personal items, 4 participants reported that they shared their personal items, whereas 7 participants didn't share. 6 participants reported that they cleaned the shared surfaces daily, 1 participant cleaned weekly, 2 participants cleaned monthly, and 2 participants cleaned only occasionally. For bathing habits, 2 participants reported that they bathed daily, 1 participant every two days, 5 participants twice a week, and 3 participants once a week. For seeking medical attention, 2 participants reported seeking medical treatment, 6 participants did not seek medical treatment, and 3 participants self-medicated. Among the participants, 4 participants went to government hospitals for treatment, 3 participants went to private clinics, 1 participant went to pharmacies, and 3 participants did not go anywhere. Regarding taking medication, 4 participants took their medicine as prescribed, 4 participants sometimes neglected it, and 5 participants completely neglected it. For the prescribed drugs, 1 participant used permethrin, 2 participants used ivermectin, 4

participants used crotamiton, 2 participants used antihistamines, and 2 participants used other drugs. In terms of same-night treatment of close contacts, 3 participants had treatment on the same night, 6 participants said they did not have same-night treatment, and 2 participants were not sure whether they had same-night treatment or not. Regarding experienced symptoms, 7 participants reported intense itching, 5 participants reported a rash, 1 participant reported skin thickening, and 1 participant reported blisters.

### **Rangpur (17 participants)**

Among the 17 participants who live in Rangpur, 6 participants reported that they changed bedsheets once a month, 6 participants changed every two weeks, and 5 participants changed weekly. Regarding sharing personal items, 6 participants reported they shared their personal items, whereas 11 participants didn't share. 3 participants reported that they cleaned the shared surfaces daily, 8 participants cleaned weekly, 2 participants cleaned monthly, and 4 participants cleaned only occasionally. For bathing habits, 5 participants reported that they bathed daily, 4 participants every two days, 3 participants twice a week, and 5 participants once a week. For seeking medical attention, 3 participants reported seeking medical treatment, 6 participants did not seek medical treatment, and 8 participants self-medicated. Among the participants, 9 participants went to government hospitals for treatment, 5 participants went to private clinics, 2 participants went to pharmacies, and 1 participant did not go anywhere. Regarding taking medication, 5 participants took their medicine as prescribed, 5 participants sometimes neglected it, and 7 participants completely neglected it. For the prescribed drugs, 5 participants used permethrin, 1 participant used ivermectin, 3 participants used crotamiton, 4 participants used antihistamines, and 5 participants used other drugs. In terms of same-night treatment of close contacts, 6 participants had treatment on the

same night, 4 participants said they did not have same-night treatment, and 7 participants were not sure whether they received same-night treatment or not. Regarding experienced symptoms, 12 participants reported intense itching, 11 participants reported a rash, 7 participants reported skin thickening, and 8 participants reported blisters.

### 3.1 Overall summary table

Table 3.1: Overall summary of the process

| Domain                            | Metric (valid n)                                        | Estimate                                                                                                                      |
|-----------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Infected with scabies at any time | Number of respondents ever affected by scabies          | 103                                                                                                                           |
| Sex                               | Gender of people                                        | 35%female,36.9%male and 28.2% preferred not to say                                                                            |
| Marital status                    | Single or married                                       | 54.4% are married,45.6% unmarried                                                                                             |
| Age                               | Age group                                               | 21.36% are between 15-25 years,31.07% are between 26-40 years % and 47.57% are above 40 years.                                |
| Current status                    | Current scabies                                         | 26.2% (27/103)                                                                                                                |
| Recurrence                        | % of participants who had scabies again after treatment | 2 times 18.4%, 3 times 27.2%, more than 3 times 26.2% and only one time 28.2% of participants                                 |
| Episode duration                  | Average duration of symptoms                            | 31.1% more than one month, 27.2% for 1–2 weeks, 23.3% for 1 month, and 18.4% for 3–4 weeks.                                   |
| Timing of the most recent episode | How recently has scabies occurred                       | Currently 26.2%; last month 20.4%; last year 21.4%; 1 year ago 18.4%; 2 years ago 13.63%                                      |
| Symptoms (multi-select)           | Types and patterns of symptoms participants experience  | Intense itching 44.7%; rash or small red bumps 43.7%; skin crusting/thickening 40.8%; blisters/sores 35.9%; no symptoms 16.5% |

|                              |                                                           |                                                                                                 |
|------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Body sites<br>(multi-select) | Where symptoms occurred                                   | Hands/finger webs 31.1%; wrists 33%; elbows 35%; genital area 34%; whole-body 26.2%; none 16.5% |
| Itch duration                | How long does the itching last                            | more than 2 weeks 17.5%, 1–2 weeks 11.7%, less than 1 week 16.5% and 54.4% had no itching.      |
| Impact                       | Sleep/daily activities affected                           | 37.9% Yes; 26.2% No; 35.9% Maybe                                                                |
| Household clustering         | Household member ever had                                 | 33% Yes; 40.8%No; 26.2% May be                                                                  |
| Perceived spread             | Spread to close contacts                                  | 30.1% Yes; 35% No;35% Maybe                                                                     |
| Same-day treatment           | A household member received the treatment on the same day | 34% yes,35% no31.1% maybe                                                                       |
| Adherence                    | Took medicine as prescribed                               | 34% yes,35% no31.1% maybe                                                                       |
| Treatment seeking            | Those who seek medical attention for symptoms             | 36.9% yes,34% no and 29.1% self-medicated                                                       |
| Hygeine                      | Handwashing habit                                         | 42.7% yes,26.2% no,31.1% maybe                                                                  |

### 3.2 Study Findings

In a country-wide online sample, 103 respondents reported they had been diagnosed with scabies. Among the patients who had been diagnosed with scabies, approximately one in four participants reported that they are currently affected by scabies, which is around 26.2% participants. From community surveys, it is found that in very crowded Bangladeshi places, such as madrasahs, hostels report a higher occurrence of scabies, which is about ~34% participants, while in some developed South Asian communities report a lower scabies rate is reported, which is 3–10% participants. Our 26.2% participants who had scabies currently sit in between other surveys (Hasan et al., 2024; WHO, 2023). Scabies occurring again among the participants who already had scabies is very common. Around 71.8% of our participants said they had scabies more than two times; similar South Asian community reports describe frequent repeat infection (some boarding-school cohorts in Bangladesh have reported re-infection around ~70% participants, while other community studies note ~25–45% participants with at least one recurrence), showing that scabies often comes back when close contacts are not treated together (Talukder et al., 2007; WHO, 2023). It can last a long time. In our survey, 31.1% participants responded that their scabies lasted more than a month. Other studies from India and Bangladesh also describe many cases lasting 5–6 weeks or longer when treatment or follow-up is incomplete (Nair et al., 2016; WHO, 2023).

In terms of symptoms, around 44.7% of our participants reported night-time itching. But in another survey conducted by the Department of Dermatology, University of Lubeck, Germany, we found that the overall nighttime itch prevalence accounted for 94.5%. This

difference may be due to the small sample size or the lack of clinical confirmation of our survey. About 37 of 9% participants of our survey reported sleeping or daily-activity hindrance. The finding on sleep quality in this study is similar to the study in Kulon Progo, where 34.8% of participants were found to have poor sleep quality, which is very close to our findings(Fatimah et al., 2023). In terms of itch duration, 17.5% participants had itch for more than 2 weeks, which aligned with IACS data that claims that itch might last from 2 to 4 weeks. (WHO, 2023).

The results indicate that scabies is still common, with high recurrence and consistent household transmission, with impacts on sleep and daily function. These observations indicate participants need to take necessary actions, make sure close contact participants also get treatment, adherence support so they follow the prescription (including the repeat dose on day 7–14 when indicated), and maintain basic hygiene and textile steps during treatment these are already prioritized in international guidance (Engelman et al., 2021; WHO, 2023; CDC, 2024).

### **3.3 Study Drawbacks**

All answers (symptoms, timing, hygiene, household spread) were based on what participants remembered. There was no clinical confirmation. We didn't examine participants or use IACS criteria. Some participants who said they have scabies might actually have other skin problems. In our survey, we had a small sample size with only 103 participants. So the findings may not be fully consistent with other studies.

## Chapter 4

### Conclusion and Future Work

This survey shows that scabies is still spreading in both family households and shared places like hostels and sublets in Bangladesh. About one-fourth of participants (26.2% ) still had symptoms at the time of the survey. Many participants get scabies again and stay sick longer, likely because treatment isn't done fully or at the same time for everyone in close contact. Programs should first focus on health education in hostels and sublets, emphasising that all contacts need treatment together, medicines must be used correctly, and bedding and clothes should be handled properly. Second, care should be clear and affordable. Many participants treat themselves through pharmacies. So needs easy instructions for pharmacists and patients, along with access to day-7 re-treatment, can help. Third, we need better data: this was a self-report survey, not medical exams, so it can't give an exact prevalence. The next step is school/hostel screening by trained staff using standard checklists.

From our survey, we get —current symptoms, frequent recurrence, household clustering, and problems with adherence, same-day contact treatment, and textile management. Based on this, we suggest a small two-part program.

**Study 1(Examination-based mapping):** This will cover hostels, sublets, and family households. We will do a cluster-sampled clinical survey using IACS 2020 levels (Confirmed/Clinical/Suspected). Non-specialists will get short training. Dermoscopy will be used to detect the sign, and burrow-ink will guide targeted scrapings (Engelman et al., 2020;

Dupuy et al., 2007; Dermoscopedia, 2023; Del Barrio-Díaz et al., 2022; Rauwerdink & Balak, 2023). Sampling will focus on shared living (hostels/sublets) where crowding risk is highest in Bangladesh (Hasan et al., 2024; WHO, 2023). The primary outcome is to find point prevalence using standard clinical criteria, instead of just online reports. So the results are based on real examinations.

**Study 2 (Pragmatic bundle trial):** Test a simple, low-cost care bundle that fixes the three main gaps we saw (adherence, synchronised contact treatment, and textile management). Both aims follow IACS/WHO guidance (Engelman et al., 2020; Engelman et al., 2021; CDC, 2024). This “measure first, then fix” plan will replace weak online signals with exam-based prevalence. It will give solid evidence to guide whether Bangladesh should focus on targeted specific case management or larger campaigns in high-risk areas (Engelman et al., 2021; WHO, 2023; CDC, 2024).

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