



Perception and current practices of parents with children under five years.

/Assessment report/

1. Research Methodology



1.1 The research design: “The Right to Breathe” research project surveyed the parents of children under 5 years of age in Ulaanbaatar, Mongolia to assess parents’ perception of harmful effects of air pollution on children’s health, current practices used to minimize health risks, as well as the main challenges that prevent them from taking such protective measures. The study employed an analytical cross-sectional design.

1.2 The research sampling stages:

We used purposive sampling method to select Songino-Khairkhan, Bayanzurh, Khan-Uul districts out of the 9 total districts in Ulaanbaatar. From the 5 districts, we used the sampling method to select 21 khoros.

/Figure 1/

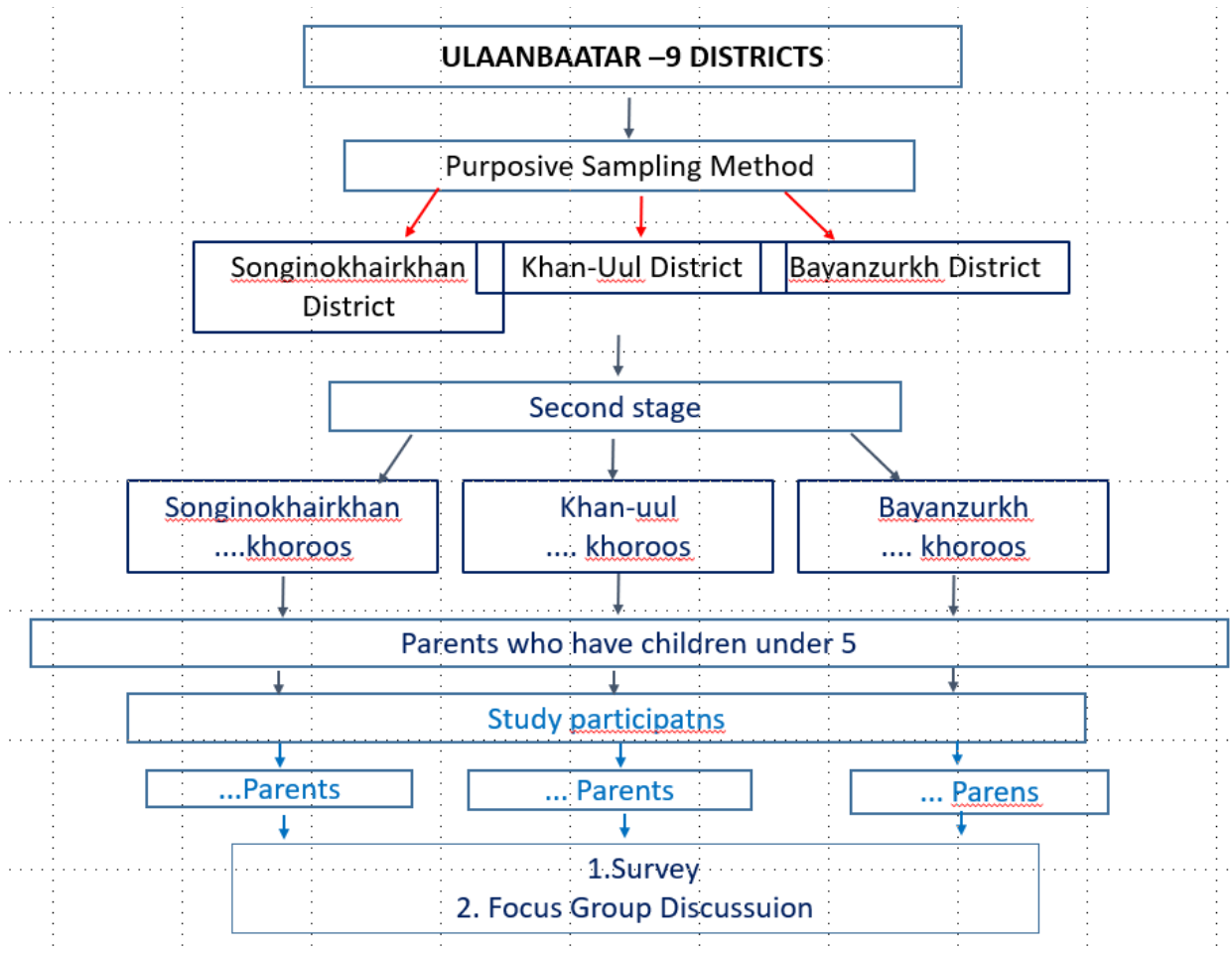


Figure 1. Participants that responded via sampling method.

1.3 QUANTITATIVE AND QUALITATIVE DATA COLLECTION

The 12 item questionnaire was completed by each participant before the training and included the following information.

- Demographic information (district, khoroo)
- Knowledge of personal practices to protect from air pollution
- Knowledge and perception of preventative measures to protect children from air pollution



Group interview with participants

Participants were randomly assigned to different groups.

Each group had a designated research team lead who directed the interview and took notes (attachment 2). The team leads used “why and how” questions to conduct the group interview and engage participants in discussion.

Guidelines for participant group discussions

- Current practices used to protect from harmful effects of air pollution
- Challenges faced in implementing these protective measures
- Potential solutions to overcome such challenges

Statistical analysis

Research data was analyzed using SPSS 25.0 program. Trained researchers entered numerical data and checked for errors. Prior to statistical processing, the data was cleaned and arranged. Quantitative data was expressed in numbers and percentages. Qualitative data was expressed by language description.

2. Research Findings

A total of 222 participants (parents of children under the age of 5) from 21 khorroos of 5 districts participated in the study.

Table 1. Children’s parents of the selected districts

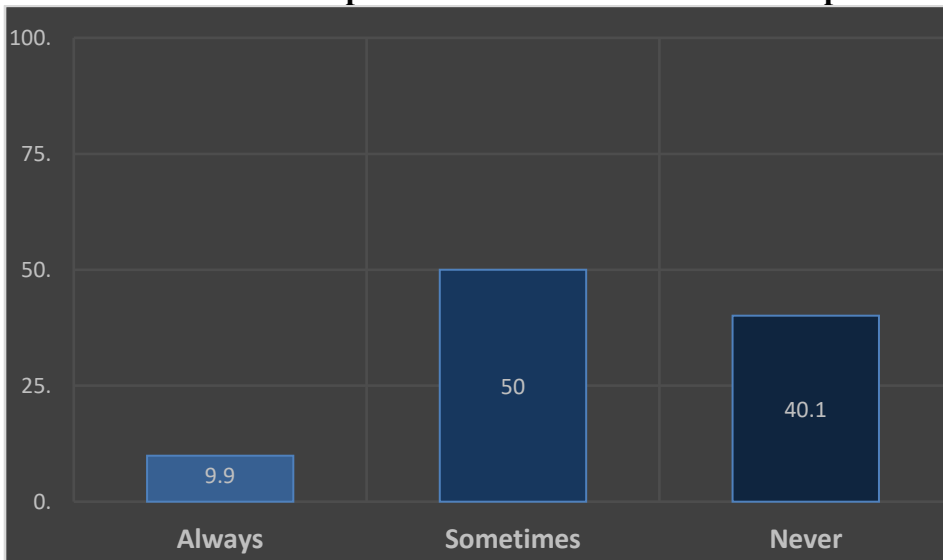
| Districts | N(%) | Khoroo | Total surveyed citizens | |
|---------------------|-----------|--------|-------------------------|------------|
| | | | Number of people | Percentage |
| Bayanzurh district | 73 (32.9) | BZD14 | 8 | 3.6 |
| | | BZD15 | 7 | 3.2 |
| | | BZD02 | 20 | 9.0 |
| | | BZD21 | 9 | 4.1 |
| | | BZD24 | 21 | 9.5 |
| | | BZD27 | 14 | 6.3 |
| | | BZD04 | 2 | 0.9 |
| Chingeltei district | 10(4.5) | CHD10 | 6 | 2.7 |
| | | CHD9 | 4 | 1.8 |
| Khan-Uul district | 30 (13.5) | KHUD16 | 17 | 7.7 |
| | | KHUD5 | 5 | 2.3 |
| | | KHUD6 | 8 | 3.6 |
| Sukhbaatar district | 50 (22.5) | SBD12 | 11 | 5.0 |



| | | | | |
|--------------|-------------------|---------------|------------|--------------|
| | | SBD13 | 10 | 4.5 |
| | | SBD16 | 5 | 2.3 |
| | | SBD17 | 16 | 7.2 |
| | 59 (26.6) | SKHD10 | 11 | 5.0 |
| | | SKHD03 | 15 | 6.8 |
| | | SKHD07 | 3 | 1.4 |
| | | SKHD08 | 17 | 7.7 |
| | | SKHD09 | 13 | 5.9 |
| Total | (222)100.0 | | 222 | 100.0 |

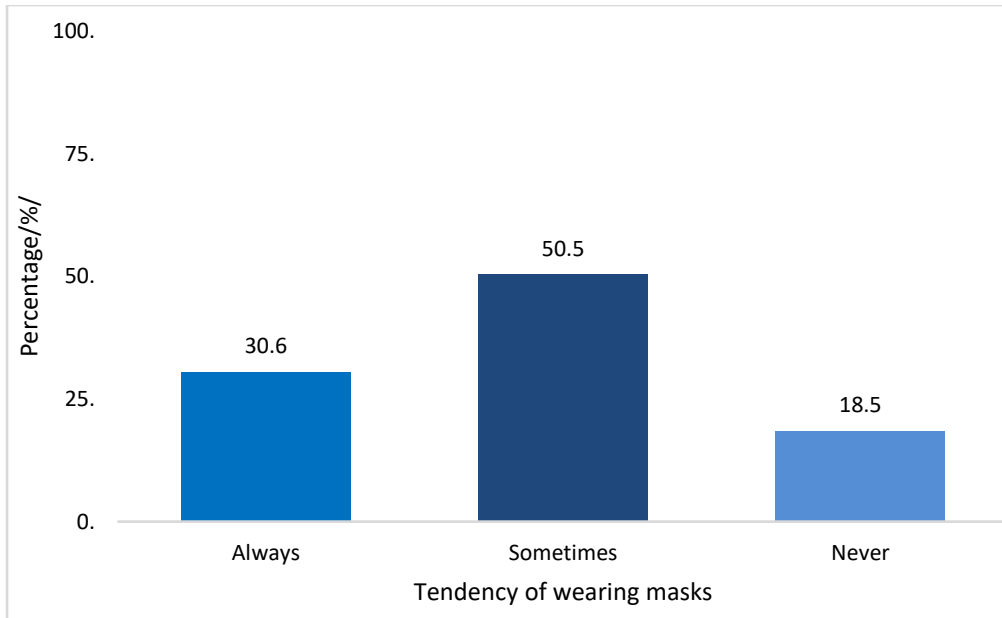
The total number of parents surveyed was Bayanzurkh district 32.9%, Songino-khairkhan district 26.6%, Sukhbaatar district 22.5%, Chingeltei district 4.5% and Khan-Uul district 13.5%. (Table 1).

Figure 1
Parental use of masks to protect from harmful effects of air pollution.



Among parents with young children involved in the survey, 89 (40.1%) does not wear masks, 111(50.0%) wears masks occasionally, and 22 (9.9%) wears masks regularly/ Figure 1/

Figure 2
Parents' report of mask wearing habits of children to protect against harmful effects of air pollution.



Among parents with young children involved in the survey, 41(18.5%) does not wear masks, 112 (50.5%) wears masks occasionally, and 68 (30.6%) wears masks regularly. /Figure 2/.

Box 1.

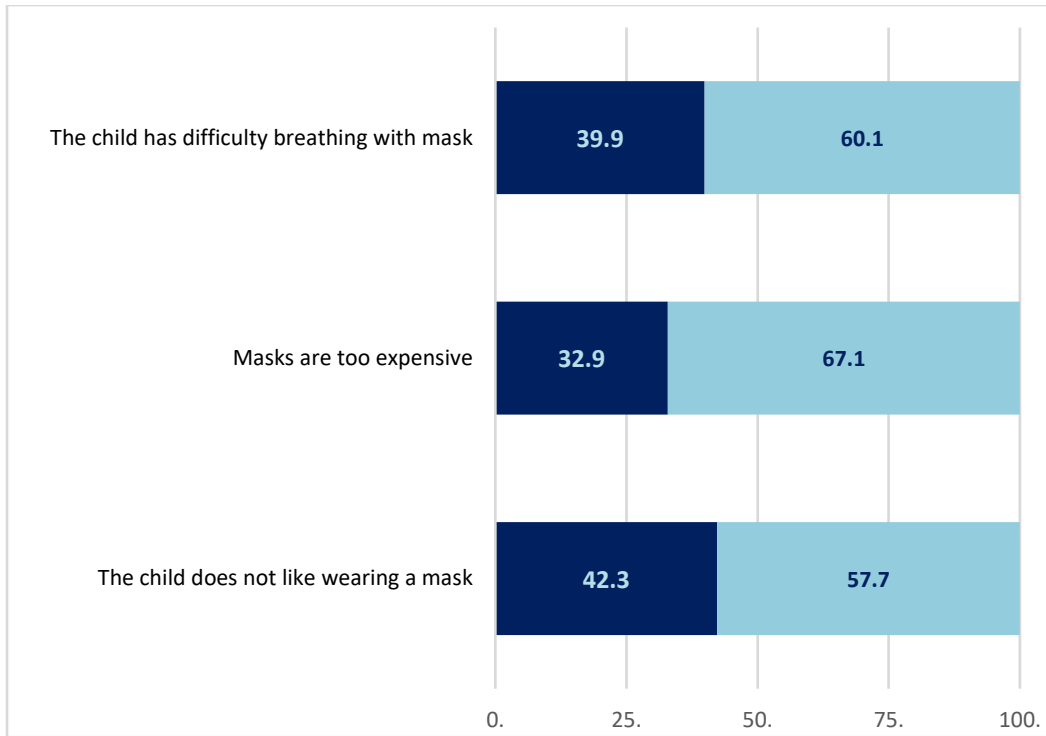
What kinds of protection measures are available?

People can't carry out every advice, but they are protecting their children by using simple tools that are appropriate for their circumstances and capabilities. Common Methods of People's Use:

- Wearing Masks
- Going out for fresh air
- Does daily cleanings
- Drinks curd and sea buckthorn juice
- Uses garlic with water
- Being at home even though it is unnecessary
- Eats nutritious food

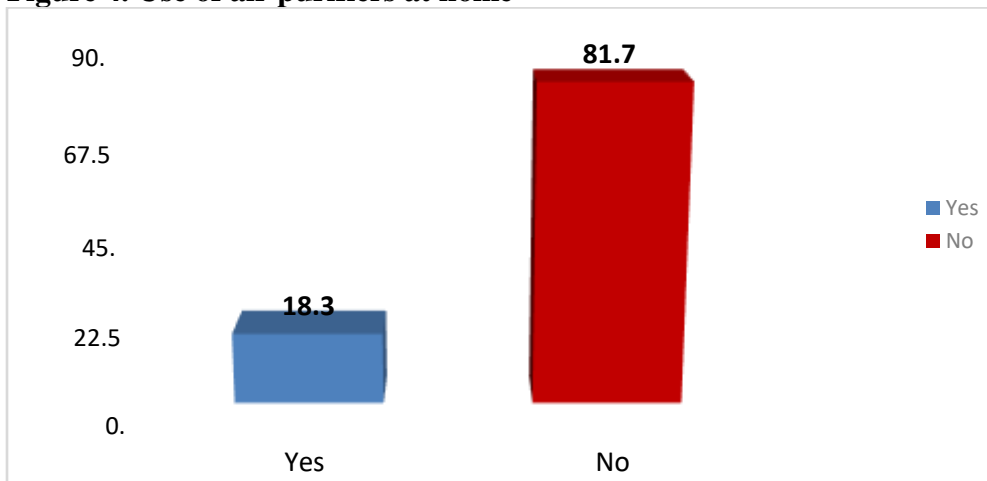
Source: Focus group interview with parents with children under 5 years old in Ulaanbaatar

Figure 3. Common reasons for not using air pollution protection masks for children



When surveyed about the common reasons for not using air pollution protection masks for children, 39.9% of the respondents (dark blue) said masks make breathing more difficult for their kids, 32.9% (dark blue) said they are unable to afford the masks, and 42.3% (dark blue) said their children refused to wear masks /Figure 3/. According to the results of the survey, there are a variety of reasons for the lack of mask use in children, ranging from financial limitations, social perceptions, and child's own dislike of masks.

Figure 4. Use of air purifiers at home



81.7% of the surveyed households do not use air purifiers at home and 18.3% use air purifiers at home.



Box 2.

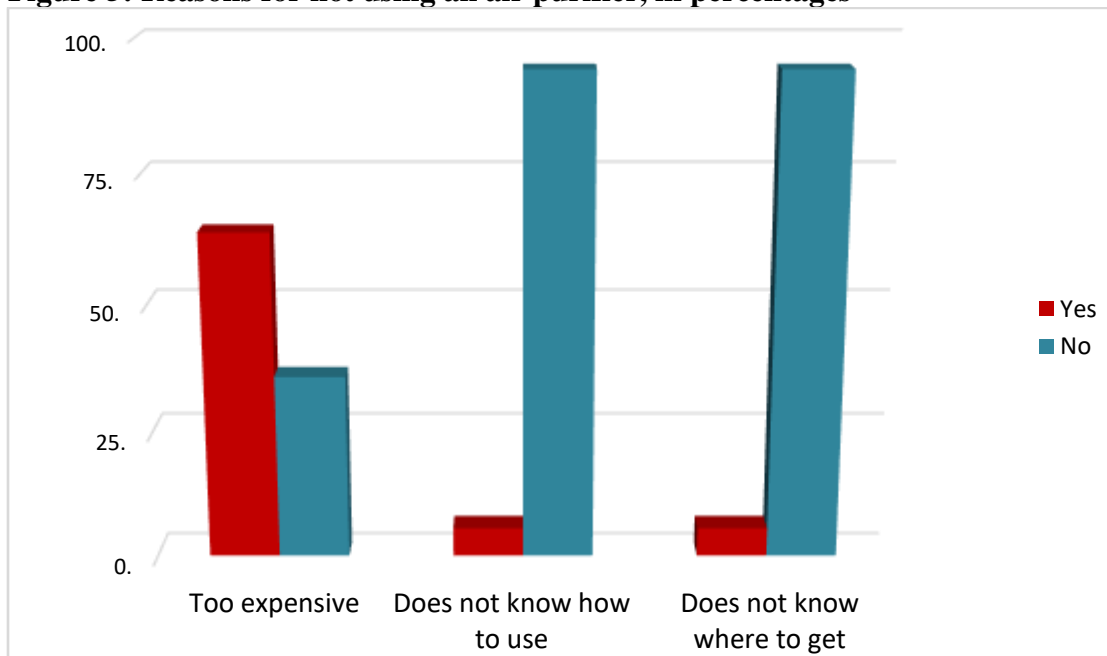
Difficulties in protecting yourself and your child from the smoke?

Our ideas coincide with the other teams. There are people who see and smell the air pollution and they are getting information on the protection methods, but we have a lot of problems with these methods. Major issues facing the community:

- Economy
- There is limited time to go out for fresh
- It is hard to keep the mask on.
- Children dislike wearing the mask
- Anchovy, sea buckthorn and dairy products are of low quality with high price
- Cheap masks are ineffective and also the masks fog up
- Citizens do not know the difference and the disadvantages of the masks
- Children are more likely to be exposed to air pollution when the school is over.

Source: *Focus group interview with parents with children under 5 years old in Ulaanbaatar*

Figure 5: Reasons for not using an air purifier, in percentages





Of all participants, 114 (64.0%) of respondents said air purifiers were too expensive, 10 (5.6%) did not know how to use air purifiers, and 10 (5.6%) did not know where to find air purifiers.

/Figure 5/

Box 3.

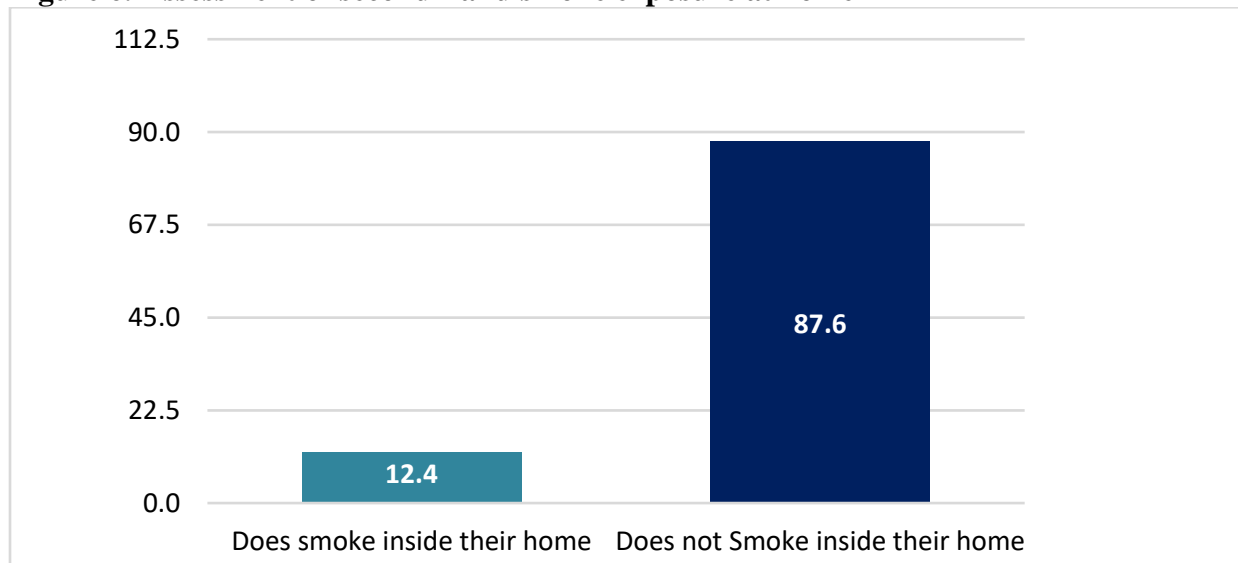
What is the solution to the problem?

Perhaps we will be able to protect ourselves from air pollution by following these steps.

- Provide quality masks for low cost to people.
- Housing citizens
- Increase electricity capacity and give a discount for the payoff
- Ensure that households get air freshener and give them the opportunity
- Introduce low-emission fuels into use +
- Solve the problem by the state policy arrangements

Source: *Focus group interview with parents with children under 5 years old in Ulaanbaatar*

Figure 6. Assessment of second-hand smoke exposure at home



Among all study participants, 27 (12.4%) of parents reported smoking at home and 190 (87.6%) reported not smoking at home. Smoking indoors in a household who young children increases indoor air pollution.

Table 2. Breastfeeding status



| Specification | Respondents | |
|----------------------------|----------------|------------|
| | Percentage /%/ | Number /N/ |
| Breastfeeding state | | |
| Does breastfeeding | 84.7 | 171 |
| Does not breastfeeding | 15.3 | 31 |

84.7% of all respondents had breastfeeding and 15.3% does not have breastfeeding.

Table 3. Evaluation of child mortality and immunization status

| Specification | Respondents | |
|--|-------------|----------------|
| | Number /N/ | Percentage /%/ |
| The frequency of flu during the month | | |
| 1 time | 90 | 40.5 |
| 2 time | 57 | 25.7 |
| 3 or more times | 45 | 20.3 |
| The hospital admissions due to colds of the child | | |
| Yes | 56 | 26.3 |
| No | 157 | 70.7 |
| Vaccination against influenza vaccine | | |
| Yes | 118 | 54.9 |

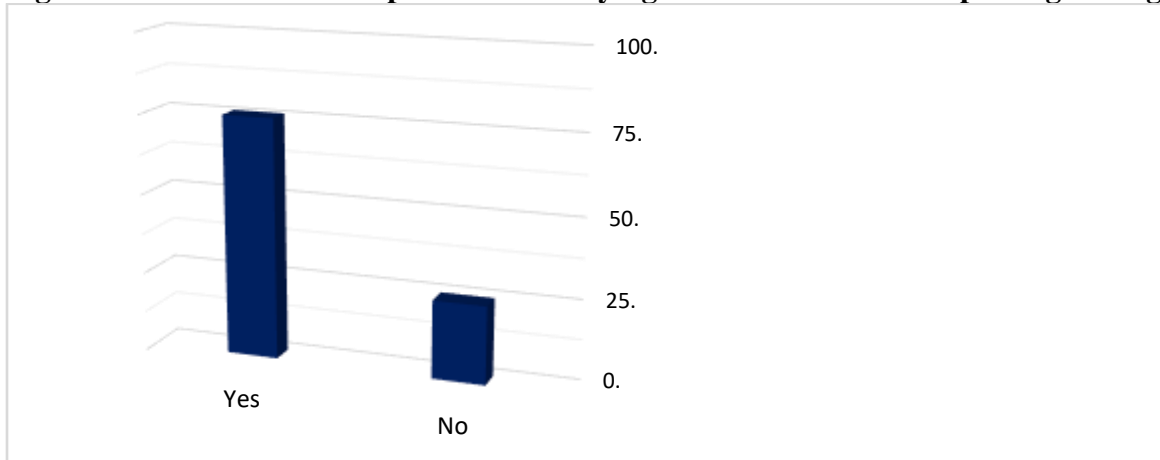


No

45.1

97

Figure 7. Assessment of the practice of carrying a child under 5 when passing through traffic.



Seventy five percent of the study participants reported carrying their child when passing through traffic, while 24.5 percent do not carry their child.

Table 4. Difference between vaccinated and non-vaccinated groups

| | The group that did get vaccinated against flu N/%/ | The group that didn't get vaccinated against flu N/%/ | P value |
|--|---|--|--------------|
| The frequency of catching flu in a month of a child | | | |
| 1 time | 49/46.7/ | 40/46.5/ | 0.015 |
| 2 time | 30/28.6/ | 27/31.4/ | |
| 3 time | 26/24.8/ | 19/22.1/ | |
| Total | 105/100.0/ | 86/100.0/ | |



CONCLUSION:

- The research study was conducted on parents of children under the age of five from 21 khoros of 5 districts in Ulaanbaatar. The number of participants ranged from 2 to 20 in each khoroo.
- Among parents with young children involved in the survey, 89 (40.1%) reported they do not wear masks and 111(50.0%) only wear masks occasionally. Based on observation, participants were not wearing masks on day of the training and interview.
- Among parents with young children involved in the survey, 41 (18.5%) reported their child does not wear masks, and 112 (50.5%) only wears masks occasionally. At the time of the training, medical doctors and air pollution experts provided information to parents regarding preventative and protective measures they can take to protect their children from the harmful effects of air pollution. We also gave out masks to be used by children when going outdoors.
- The biggest obstacle for parents in giving masks to their children to protect form air pollution was the high cost of masks and financial limitations. In addition, parents also reported that their children did not like wearing masks and would take it off. After the training and information provided, the parents verbalized their intent to wear masks themselves as well as give masks to their children to protect from air pollution.
- Of all study participants, 81.7% of the total respondents did not use air purifiers at home. The main reason for not using air purifier was high cost (64%). This indicates that parents have limited awareness of preventative measures to protect from indoor air pollution and that children are likely exposed to harmful levels of indoor air pollution. Due to the high cost barrier, parents suggested low-cost recommendations for air purifiers.
- Most participants discussed taking a variety of different measures to protect from air pollution such as wearing masks, going out for fresh air, home cleaning, drinking buckthorn and seabuckthorn juice, and taking nutritional supplements for immune system. These measures have not yet been scientifically proven as evidence-based interventions to protect from air pollution. Therefore, public policies are needed to protect the public from the harmful effects of air pollution. Every citizen has the right to breathe clean air.
- The possible solutions that proposed by study participants to reduce the air pollution includes providing good qualified and cheap air pollution mask and apartments, increasing the capability of the electricity and reducing its payment, distributing indoor home air purifier to each family with affordable prices and low-smog producing fuel with support from government.



Right to Breathe project is financed by European Union and implement by People in Need NGO

