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EXPERT EVALUATION METHODOLOGY FOR GRADATION OF THE ANTHELMINTHIC MEDICINES ASSORTMENT ON THE PHARMACEUTICAL MARKET OF THE REPUBLIC OF UZBEKISTAN

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ABSTRACT

This study presents a structured, mathematically grounded methodology for the systematic gradation and clinical prioritization of anthelminthic medicines available on the pharmaceutical market of the Republic of Uzbekistan. A purposively recruited expert panel of 68 highly qualified parasitologists and infectious disease specialists evaluated eight active pharmaceutical ingredients (INNs) using a weighted 5-point clinical utility scale and an extended 10-point multi-criteria assessment across eight primary consumer properties. Individual expert competence coefficients (S_p) were calculated and applied as weighting factors to minimize subjective bias. Consensus levels were quantified using the coefficient of variation (CV). Mathematical modeling results classified Albendazole and Mebendazole into Group 1 — 'Favorable Market Conjuncture' (CV ≤25%; composite index ≈0.87), establishing them as obligatory first-line therapeutic agents. Pyrantel, Niclosamide, and the Albendazole + Ivermectin combination were categorized into Group 2 ('Risk Group'), warranting epidemiology-guided procurement. Levamisole, Carbendazim, and the Albendazole + Levamisole combination were assigned to Group 3 — 'Unfavorable Market Conjuncture' (CV = 56–78%), with procurement strongly discouraged. The proposed framework constitutes a reproducible, evidence-based instrument for pharmaceutical supply chain optimization in national healthcare systems.

1. INTRODUCTION

Soil-transmitted helminthiases remain among the most prevalent neglected tropical diseases globally, afflicting an estimated 1.5 billion individuals — predominantly in regions characterized by inadequate sanitation infrastructure [1]. These infections

impose a disproportionate burden on children and women of reproductive age, compromising nutritional status, cognitive development, and long-term productivity [1, 8]. In the Republic of Uzbekistan, helminthiases continue to represent a priority public health challenge requiring systematic pharmaceutical intervention.

While the domestic pharmaceutical market provides a diverse range of anthelminthic active pharmaceutical ingredients (APIs), considerable heterogeneity exists in their clinical efficacy, safety profiles, and degree of acceptance among prescribing practitioners [6, 7]. Conventional pharmaceutical market analyses predominantly rely on sales volume metrics, registration databases, and retrospective prescription audits — approaches that structurally exclude real-world clinical judgement from frontline specialists [3, 4].

Expert evaluation methodology has been validated in pharmaceutical research as a rigorous instrument for generating clinical consensus when empirical trial data are insufficient or regional prescribing patterns deviate from global norms [3, 4, 5]. By integrating competence-weighted scoring with statistical consensus analysis, this approach yields prioritization outputs directly applicable to evidence-based procurement planning and national formulary management.

The objective of the present study was to develop and apply a structured expert evaluation methodology for the systematic gradation of anthelminthic medicines available on the pharmaceutical market of the Republic of Uzbekistan, with the aim of generating clinically grounded, mathematically validated recommendations for pharmaceutical supply chain optimization.

2. MATERIALS AND METHODS

2.1. Expert Panel Formation

The study was conducted in Tashkent, Uzbekistan, applying a purposive sampling strategy to recruit clinicians holding active specializations in parasitology and pediatric infectious diseases. The total registered specialist population within the study region was N = 80 (Ministry of Health data). The minimum statistically representative sample size (n) was determined using the formula for non-repetitive sampling from a finite population:

$$n = (0.25 \times t^2 \times N) / (d^2 \times N + 0.25 \times t^2)$$ (Equation 1)

Where: n = minimum sample size; t = confidence criterion (t = 2.0 at P = 0.95); d = marginal error (d = 0.05); N = total population size (N = 80).

Applying Equation 1: n = (0.25 × 4 × 80) / (0.0025 × 80 + 0.25 × 4) = 80 / 1.2 ≈ 67, rounded to n = 68.

All 68 recruited specialists voluntarily and anonymously completed the full evaluation questionnaire, satisfying the representativeness criterion. Demographic and professional characteristics of the panel are summarized in Table 1.

Table 1. Demographic and Professional Structure of the Expert Panel (n = 68)

No.	Criterion	Categories	Distribution (n=68; %)
1	Age groups	30–44 years	22 (32.4%)
		45–70 years	46 (67.6%)
2	Gender	Male	46 (67.6%)
		Female	22 (32.4%)
3	Years of clinical experience	< 10 years	2 (2.9%)
		11–15 years	13 (19.1%)
		16–20 years	13 (19.1%)
		21–30 years	24 (35.3%)
		> 31 years	16 (23.5%)
4	Academic degree	PhD / DSc	5 (7.4%)
		No degree	63 (92.6%)
5	Medical qualification category	Highest category	20 (29.4%)
		Category I	5 (7.4%)
		Category II	14 (20.6%)
		Unclassified	29 (42.6%)
6	Specialty	Parasitology	—
		Pediatric infectious diseases	—

Note: Percentages are rounded to one decimal place. Category distribution reflects institutional ranking within the Uzbekistan healthcare system.

2.2. Expert Competence Assessment

To quantitatively reduce subjectivity in evaluation outputs, each participant's professional competence coefficient (S_p) was computed from two independently scored criteria: years of active clinical practice (J) and medical qualification category or academic degree (D), as formalized in Equation 2:

$S_p = J + D$ (Equation 2)

Scoring boundaries for each criterion are presented in Table 2. The resulting Sp values ranged from 3 to 11 points and served as individual weighting factors throughout subsequent mathematical modeling.

Table 2. Scoring Parameters for Expert Competence Coefficient (Sp) Calculation

Criterion	Score (points)	Years of practice (J)	Medical category / Academic degree (D)
Years of experience	1	< 5 years	—
	2	5–10 years	—
	3	11–20 years	—
	4	21–30 years	—
	5	> 30 years	—
Category / Degree	1	—	Category II
	2	—	Category I
	3	—	Highest category
	5	—	PhD
	6	—	DSc
Range of Sp	3–11	Min: J=1, D=1	Max: J=5, D=6

Note: J — score for years of clinical practice; D — score for medical category or academic degree. Sp = J + D; minimum = 3, maximum = 11.

2.3. Assortment Selection and Evaluation Scales

Eight anthelminthic INNs with documented market presence in Uzbekistan over the preceding five years were included. For initial screening, each INN was rated on a general 5-point clinical utility scale. The individual raw score (a_{op}) provided by each expert was weighted by the corresponding competence coefficient (S_p) to generate the modified score (E_{op}):

$E_{op} = a_{op} \times S_p$ (Equation 3)

The final competence-weighted mean score (W_{avg}) for each INN across the entire panel was calculated as:

$W_{avg} = \Sigma(a_{op} \times S_p) / \Sigma S_p$ (Equation 4)

Based on W_{avg} values, INNs were classified into three gradation groups: Group 1 — 'Favorable Market Conjuncture' (4.5–5.0 points); Group 2 — 'Risk Group' (3.5–4.0 points); Group 3 — 'Unfavorable Market Conjuncture' (1.0–3.0 points).

A comprehensive deep-dive evaluation was subsequently conducted using a 10-point scale across eight consumer and clinical properties: (1) clinical efficacy, (2) safety and side-effect profile, (3) dosage convenience, (4) formulation convenience, (5) ease of administration, (6) onset speed of therapeutic effect, (7) price affordability, and (8) overall index mean.

2.4. Statistical Consensus Analysis

The degree of agreement within the expert panel was measured for each parameter and INN using the coefficient of variation (CV):

$CV\ (\%) = (\sigma / \bar{x}) \times 100$ (Equation 5)

Where σ = standard deviation of expert scores and $\bar{x}$ = arithmetic mean. A

threshold of CV ≤ 25% was defined as indicative of acceptable clinical consensus, consistent with accepted methodological standards [3, 4].

Final clinically prioritized rankings were established through calculation of the weighted composite index (CI):

$CI = \Sigma(P_i \times V_i) / 10$ (Equation 6)

Where P_i = average score for parameter i on the 10-point scale; V_i = relative weight assigned to parameter i by the panel ($\Sigma V_i = 1.0$).

3. RESULTS AND DISCUSSION

3.1. Expert Panel Profile

The professional composition of the participating specialists (n = 68) reflected a comprehensive and clinically diverse profile. The majority of respondents (67.6%) were aged between 45 and 70 years, with over 58% possessing more than 20 years of active clinical practice. Male practitioners constituted 67.6% of participants. Academically, 7.4% held advanced postgraduate credentials (PhD or DSc), while 29.4% occupied the highest institutional category within the Uzbekistan healthcare system. The inclusion of specialists across general parasitology, pediatric infectious diseases ensured a multidimensional clinical perspective for the evaluation (Table 1).

3.2. Five-Point Gradation Results

The baseline 5-point clinical utility evaluation produced a clear stratification of the eight anthelminthic INNs into three distinct groups (Table 3). Albendazole achieved the highest weighted mean score (W_{avg} = 4.7), followed closely by Mebendazole (W_{avg} = 4.6), both qualifying for Group 1 — 'Favorable Market Conjuncture'. Pyrantel (4.1), the Albendazole + Ivermectin combination (3.8), and Niclosamide (3.7) were classified into Group 2. Carbendazim (2.3), the Albendazole + Levamisole combination (2.1), and Levamisole monotherapy (2.0) were assigned to Group 3.

Table 3. Results of 5-Point Expert Gradation of Anthelminthic INNs (n = 68)

No.	INN (Active Substance)	Weighted Mean Score (W_{avg})	Rounded Value	Gradation Group
1	Albendazole	**4.7**	4.5	Group 1 — Favorable Market Conjuncture
2	Mebendazole	**4.6**	4.5	Group 1 — Favorable Market Conjuncture
3	Pyrantel	**4.1**	4.0	Group 2 — Risk Group
4	Albendazole + Ivermectin	**3.8**	4.0	Group 2 — Risk Group
5	Niclosamide	**3.7**	3.5	Group 2 — Risk Group

6	Carbendazim	**2.3**	2.5	Group 3 — Unfavorable Market Conjuncture
7	Albendazole + Levamisole	**2.1**	2.0	Group 3 — Unfavorable Market Conjuncture
8	Levamisole	**2.0**	2.0	Group 3 — Unfavorable Market Conjuncture

Note: W_{avg} — competence-weighted mean score (Equation 4). Group boundaries: Group 1: 4.5–5.0 pts; Group 2: 3.5–4.0 pts; Group 3: 1.0–3.0 pts.

The dominant positioning of both benzimidazole derivatives reflects their documented broad-spectrum activity against nematodes and multiple cestode species, well-established pediatric and adult safety profiles, and extensive accumulated prescribing experience within the Uzbekistan clinical community [8, 9]. These findings are consistent with international formulary priorities, validating benzimidazoles as obligatory first-line anthelminthic agents for national procurement frameworks.

Group 2 agents — Pyrantel, Albendazole + Ivermectin, and Niclosamide — are characterized by defined spectrum limitations (Pyrantel: nematode-specific; Niclosamide: cestode-targeted) or residual professional uncertainty regarding routine fixed-combination use. Procurement of these agents should be contingent on validated regional epidemiological profiles rather than standardized supply templates.

Group 3 agents received critically low scores across the panel, reflecting diminished clinical utility, pronounced adverse event profiles, and effective displacement by superior chemical entities. Notably, Levamisole achieved the lowest rating (W_{avg} = 2.0), consistent with global trends of its progressive withdrawal from first-line anthelminthic practice.

3.3. Deep-Dive 10-Point Multi-Criteria Evaluation

The extended 10-point assessment across eight consumer and clinical properties provided granular differentiation among INNs within and across gradation groups (Table 4).

Table 4. Multi-Criteria Expert Evaluation of Anthelminthic INNs on a 10-Point Scale (n = 68)

INN	Clinical Efficacy	Safety Profile	Dosage Conv.	Formulation Conv.	Ease of Admin.	Onset Speed	Price Afford.	Overall Mean
Albendazole	8.7	8.4	9.8	10.0	9.9	8.6	9.6	**9.3**
Mebendazole	8.9	8.8	9.8	9.9	9.8	8.6	9.3	**9.3**
Pyrantel	7.8	8.2	8.6	8.9	8.6	8.2	7.7	**8.3**

Albend. + Ivermectin	7.6	7.5	7.7	7.5	7.8	7.6	7.8	**7.6**
Niclosamide	7.2	7.5	7.1	7.4	7.6	6.7	8.5	**7.4**
Carbendazim	3.8	3.4	3.8	4.1	4.2	4.0	7.9	**4.5**
Albend. + Levamisole	4.5	3.2	4.0	4.0	4.1	4.3	4.8	**4.1**
Levamisole	1.9	1.6	1.9	1.9	2.1	2.1	2.6	**2.0**

Note: All values represent competence-weighted mean scores (scale: 1–10). Overall Mean = arithmetic mean of all eight parameters per INN. Color coding: Green — Group 1; Yellow — Group 2; Red — Group 3.

Figure 1. Clinical Efficacy Scores by INN (10-point scale)

Medicine (INN)	**Score (10-point scale)**	**Score**
Mebendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	**8.9**
Albendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	**8.7**
Pyrantel	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	**7.8**
Albend.+Ivermectin	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	**7.6**
Niclosamide	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	**7.2**
Albend.+Levamisole	■■■■■■■■■■■■■■■■■■	**4.5**
Carbendazim	■■■■■■■■■■■■■■■	**3.8**
Levamisole	■■■■■■■■	**1.9**

Regarding clinical efficacy, Mebendazole (8.9) and Albendazole (8.7) achieved unambiguous superiority. Pyrantel maintained a reputable score (7.8), attributed to its established track record in pediatric ascariasis and enterobiasis management. Levamisole scored lowest (1.9), confirming its clinical obsolescence within contemporary prescribing practice.

Figure 2. Safety and Side-Effect Profile Scores by INN (10-point scale)

Medicine (INN)	**Score (10-point scale)**	**Score**

Mebendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	8.8
Albendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	8.4
Pyrantel	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	8.2
Niclosamide	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	7.5
Albend.+Ivermectin	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	7.5
Carbendazim	■■■■■■■■■■■■■■	3.4
Albend.+Levamisole	■■■■■■■■■■■■■	3.2
Levamisole	■■■■■■	1.6

For safety profile, Mebendazole (8.8) and Albendazole (8.4) presented the most favorable parameters. The Albendazole + Levamisole combination registered a critically low safety score of 3.2 points, indicating that panelists associate this dual therapy with an elevated risk of adverse reactions — a finding that reinforces the evidence base for its exclusion from routine formulary inclusion.

Figure 3. Dosage Convenience and Ease of Administration Scores by INN (10-point scale)

Medicine (INN)	Score (10-point scale)	Score
Albendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	9.8
Mebendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	9.8
Pyrantel	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	8.6
Albend. + Ivermectin	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	7.7
Niclosamide	■■■■■■■■■■■■■■■■■■■■■■■■■■■■	7.1
Albend. + Levamisole	■■■■■■■■■■■■■■■■	4
Carbendazim	■■■■■■■■■■■■■■■	3.8
Levamisole	■■■■■■■■	1.9

Both leading benzimidazoles scored above 9.5 for dosage convenience, attributable to their simplified short-course regimens and diverse, patient-friendly formulation options — including chewable tablets and oral suspensions — widely accessible within the domestic market. This practical utility is of particular relevance for mass deworming program implementation.

Figure 4. Price Affordability Scores by INN (10-point scale)

Medicine (INN)	Score (10-point scale)	Score
Albendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	9.6
Mebendazole	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	9.3
Niclosamide	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	8.5
Pyrantel	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	7.7
Albend. + Ivermectin	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	7.8
Carbendazim	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■	7.9
Albend. + Levamisole	■■■■■■■■■■■■■■■■■■■	4.8
Levamisole	■■■■■■■■■■	2.6

Regarding price affordability, Albendazole (9.6) and Mebendazole (9.3) received the highest scores, underscoring that the clinical community perceives their domestic market prices as highly proportionate to their demonstrated therapeutic output. Niclosamide also rated favorably (8.5), reflecting its cost-effectiveness perception despite its limited spectrum.

3.4. Statistical Consensus and Composite Index

The coefficient of variation analysis revealed a pronounced consensus gradient aligned with gradation group assignment (Table 5; Figure 6). All CV values for Albendazole, Mebendazole, and Pyrantel remained strictly below the 25% consensus threshold across all eight evaluated parameters, confirming robust and reproducible expert agreement.

Table 5. Coefficient of Variation (CV, %) for Expert Scores by INN and Parameter

INN	Clinical	Safety Profile	Dosage Conv.	Formulation Conv.	Ease of	Onset	Price Afford.	Consensus Status

	Efficacy				Admin.	Speed		
Albendazole	22%	6%	2%	2%	18%	17%	12%	Consensus ✓
Mebendazole	15%	7%	5%	9%	13%	14%	13%	Consensus ✓
Pyrantel	15%	15%	12%	15%	19%	15%	20%	Consensus ✓
Niclosamide	28%	36%	34%	31%	30%	25%	25%	Moderate divergence
Albend. + Ivermectin	40%	39%	37%	37%	38%	35%	34%	High divergence
Carbendazim	42%	40%	39%	38%	42%	41%	32%	High divergence
Albend. + Levamisole	78%	66%	66%	65%	56%	58%	57%	Extreme divergence
Levamisole	74%	68%	68%	64%	71%	71%	57%	Extreme divergence

Note: CV ≤ 25% — consensus achieved (■ green); 26–40% — moderate divergence (■ yellow); >40% — high or extreme divergence (■ red). M — Mebendazole.

Figure 6. Coefficient of Variation (CV, %) by Parameter and INN — Consensus Analysis

INN	Clin. Eff.	Safety	Dosage	Formul.	Admin.	Onset	Price
Albendazole	22%	6%	2%	2%	18%	17%	12%
Mebendazole	15%	7%	5%	9%	13%	14%	13%
Pyrantel	15%	15%	12%	15%	19%	15%	20%
Niclosamide	28%	36%	34%	31%	30%	25%	25%
Albend.+Ivermectin	40%	39%	37%	37%	38%	35%	34%
Carbendazim	42%	40%	39%	38%	42%	41%	32%
Albend.+Levamisole	78%	66%	66%	65%	56%	58%	57%
Levamisole	74%	68%	68%	64%	71%	71%	57%

Note: Green ≤25% — consensus achieved; Yellow 26–40% — moderate divergence; Red >40% — high/extreme divergence.

Niclosamide and the Albendazole + Ivermectin combination demonstrated moderate variance (CV: 25–40% range), attributable to regional prescribing heterogeneity — specifically, higher perceived utility among specialists with elevated cestode case exposure. Most significantly, Levamisole and the Albendazole + Levamisole combination triggered extreme divergence in professional opinion (CV = 56–78%), a pattern that likely reflects a generational discontinuity in clinical training: practitioners who qualified when Levamisole occupied a mainstream immunomodulatory-anthelminthic role retain residual professional familiarity, while contemporaneously trained clinicians uniformly classify it as a high-risk agent with negligible therapeutic indication in modern antiparasitic practice.

The composite index calculation (Equation 6) produced a final clinically validated priority hierarchy (Table 6), with Albendazole (CI = 0.872) and Mebendazole (CI = 0.871) occupying co-dominant first-line positions, and Levamisole achieving the lowest composite index of 0.180.

Table 6. Composite Index Values and Final Priority Ranking of Anthelminthic INNs

INN	W_avg (5-pt Scale)	Composite Index (0–1)	Priority Ranking
Albendazole	4.7	**0.872**	1st — First-Line
Mebendazole	4.6	**0.871**	2nd — First-Line
Pyrantel	4.1	**0.743**	3rd — Context-Dependent
Albend. + Ivermectin	3.8	**0.681**	4th — Context-Dependent
Niclosamide	3.7	**0.657**	5th — Context-Dependent
Carbendazim	2.3	**0.402**	6th — Restricted
Albend. + Levamisole	2.1	**0.367**	7th — Not Recommended
Levamisole	2.0	**0.180**	8th — Obsolete

Note: CI — composite index (Equation 6; scale 0–1); W_{avg} — competence-weighted mean score from 5-point gradation (Equation 4). Rankings are independent of market availability and should be interpreted in conjunction with regional epidemiological data.

4. CONCLUSIONS

1. The structured expert evaluation methodology developed in this study — integrating competence-weighted scoring, multi-criteria 10-point assessment, coefficient of variation-based consensus analysis, and composite index synthesis — constitutes a reproducible and mathematically

rigorous framework for evidence-based pharmaceutical assortment prioritization.

2. Albendazole and Mebendazole occupy co-dominant first-line positions in the domestic anthelminthic market, achieving maximum composite index values (≈0.87) and maintaining rigorous clinical consensus (CV ≤25%) across all evaluated parameters. Their inclusion as mandatory foundation agents in national procurement frameworks and public health deworming programs is strongly supported by this analysis.

3. Group 2 agents — Pyrantel, Niclosamide, and the Albendazole + Ivermectin combination — should be procured selectively and dynamically based on verified regional epidemiological surveillance data, rather than standardized institutional supply templates, in recognition of their defined spectrum limitations and moderate consensus profiles.

4. Levamisole, Carbendazim, and their fixed-dose combinations should be systematically minimized in centralized public procurement, given their critically low clinical acceptance scores, extreme expert opinion divergence (CV = 56–78%), and limited therapeutic safety margins relative to contemporary alternatives.

5. The proposed methodological framework is directly transferable to other pharmacotherapeutic classes requiring evidence-based formulary prioritization under conditions of incomplete clinical trial data or significant prescriber opinion heterogeneity, and is recommended for adoption in pharmaceutical supply chain optimization processes across healthcare systems with similar epidemiological and resource profiles.

References:

1. World Health Organization. Soil-transmitted helminth infections: Fact sheet. Geneva: WHO; 2023. Available from: who.int
2. Hotez PJ, Brindley PJ, Bethony JM, et al. Helminth infections: the great neglected tropical diseases. Journal of Clinical Investigation. 2008;118(4):1311–1321. DOI: 10.1172/JCI35261
3. Dremova NB, Lazareva EV, Solomka SV, Gordienko LA. Expert evaluation of medicines at the regional level. Remedium. 1997;(4):28–29
4. Dremova NB, Solomka SV, Dzyuba VF, Kholyavina MM. Marketing research of consumers of medical and pharmaceutical goods and services. Novaya Apteka. 2001;(4):34–41
5. Gatsan VV, Tovsultanov AA. Expert evaluation of antituberculosis drugs used in the Chechen Republic. Sovremennye Problemy Nauki i Obrazovaniya. 2014;(1). Available from: science-education.ru
6. Rakhimov AA, Saipova DT. Methodology for grading the assortment of medicines using expert evaluations (on the example of the antidepressant market of the Republic of Uzbekistan): guidelines. Tashkent; 2023. 28 p.
7. Ministry of Health of the Republic of Uzbekistan. State Register of Medicines Registered in the Republic of Uzbekistan. Official Edition. Tashkent; 2023

8. World Health Organization. WHO Model List of Essential Medicines, 23rd List. Geneva: WHO; 2023
9. Albonico M, Allen H, Chitsulo L, et al. Controlling soil-transmitted helminthiasis in pre-school-age children through preventive chemotherapy. PLOS Neglected Tropical Diseases. 2008;2(3):e126. DOI: 10.1371/journal.pntd.0000126