**Questionnaire on assessment of knowledge, attitude and prevalence of use of herbal medicines among pharmacy professionals working in drug retail outlets, Asmara, Eritrea: a cross-sectional study**

**Part I: Area Identification**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Code of Drug retail outlet Type of Drug retail outlet (Governmental/Private) Type of Drug retail outlet (Drug shop or pharmacy) Participant’s Serial number  |

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| Date of interview \_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_/2021  |
| Result of the interview 1 = Complete 2= Incomplete 3= Refused  |

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| --- | --- | --- |
| Interviewer’s name and code \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | Supervisor’s name and code \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Keyed by |

**Confidentiality note: We inform the participant that any information filled in this questionnaire is confidential and will not be disclosed to anyone other than the researchers.**

**PART II: Socio-demographic and background characteristics**

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| --- | --- | --- | --- |
| S. No | Questions | Coding Categories | Skip |
| 211 | Age (in completed years) |  |  |
| 212 | Sex | Male 1 Female 2 |  |
| 213 | Educational level | Diploma…………………………….1BPharm..2MSc3PhD 4 |  |
| 214 | Marital status  | Single 1Married 2Widowed 3Separated 4 |  |
| 215 | Religion  | Christian 1Muslim 2Others (specify) 3 |  |
| 216 | Pharmacy ownership  | Owner 1 Employee 2 |  |
| 217 | Work experience in drug retail outlets (Years) |  |  |
| 218 | Overall work experience in the pharmacy field (Years) |  |  |
| 219 | Have you taken any training or workshops on herbal medicines before? | Yes 1 No 2 |  |

**PART III: Knowledge of pharmacy professionals on herbal medicine**

**Indication**

 ***(Multiple answers are possible)***

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| --- | --- | --- | --- |
| S. No | Questions | Coding Categories | Skip |
| 311 | Aloe camperi (ሳንዳ ዕረ) | Fungal infections1 Impotency 2Abdominal pain 3If other, please specify…………….4I don’t know 5 |  |
| 312 | Zingiber officinale (ጅንጂብል) | Inflammation1 Emesis2Flatulence...3Migraine 4If other, please specify…………….5I don’t know 6 |  |
| 313  | Meriandra dianthera (ንሕባ)  | Hypertension 1 Diabetes2If other, please specify…………….3I don’t know 4 |  |
| 314  | Schinus molle (በርበረ ጸሊም)  | Diarrhea 1 Common cold 2Flu/Cough 3Abdominal pain 4If other, please specify…………….5I don’t know 6 |  |
| 315 | Ruta chalepensis (ጨና ኣዳም) | Common cold 1Flu/Cough 2Abdominal pain 3If other, please specify…………….4I don’t know 5 |  |
| 316 | Senna singueana (ሃምቦሃምቦ)  | Vomiting1 Loss of appetite2Hepatitis3If other, please specify…………….4I don’t know 5 |  |
| 317 | Azadirachta indica (ኒም)  | Hemorrhoids1 Fungal infection2Insects and pests3If other, please specify…………….4I don’t know 5 |  |
| 318  | Allium sativum (ሽጉርቲ ጻዕዳ)  | Hypertension1 Malaria2Asthma3Thrombosis4Common cold……………………..5Flu…………………………………6If other, please specify…………….7I don’t know 8 |  |
| 319 | Carica papaya (ፓፓዮ)  | Diabetes 1 Amoeba infection2Thyroid fever3Malaria4Constipation5If other, please specify…………….6I don’t know 7 |  |
| 320 | Citrus lemon (ለሚን) | Gastritis1 Digestion problems2If other, please specify…………….4I don’t know 3 |  |
| 321 | Aloe elegance (ዕረ) | Diabetic 1Bacterial infection 2If other, please specify…………….4I don’t know 3 |  |
| 322 | Chaenopodium album (ሞቕሞቆ)  | Hypertension1 Burns2Wounds3If other, please specify…………….4I don’t know 5 |  |
| 323 | Trigonella foenum-graecum (ኣባዕኸ)  | Hypertension 1 Diabetes2Asthma3Abdominal pain 4If other, please specify…………….5I don’t know 6 |  |

**Interactions**

|  |  |  |  |
| --- | --- | --- | --- |
| S. No | Questions | Coding Categories | Skip |
| 324 | Aloe camperi juice (ሳንዳ-ዕረ) reduces blood-glucose levels in patients with diabetes taking hypoglycemics such as glibenclamide. | True 1 False 2I don’t know 3 |  |
| 325 | In the case of Allium sativum (ሽጉርቲ ጻዕዳ), a patient taking ACE inhibitors such as enalapril may develop marked hypotension and become faint after taking garlic in large amount. | True 1 False 2I don’t know 3 |  |
| 326 | Allium sativum (ሽጉርቲ ጻዕዳ) and fish oils together may have beneficial effects on lowering blood lipids. | True 1 False 2I don’t know 3 |  |
| 327 | Concomitant use of Senna singueana (ሃምቦሃምቦ) and conventional corticosteroids might increase the risk of hypokalemia.  | True 1 False 2I don’t know 3 |  |
| 328 | Schinus molle (በርበረ ጸሊም) might interact with theophylline.  | True 1 False 2I don’t know 3 |  |
| 329 | Zingiber officinale (ጂንጅብል) interacts with pharmacologic effects of warfarin.  | True 1 False 2I don’t know 3 |  |
| 330 | Zingiber officinale (ጂንጅብል) can decrease the metabolism of caffeine.  | True 1 False 2I don’t know 3 |  |

**Contra-indications and precautions**

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| --- | --- | --- | --- |
| S. No | Questions | Coding Categories | Skip |
| 331 | Allium sativum (ሽጉርቲ ጻዕዳ) is contra-indicted in people with allergies. | True 1False 2I don’t know 3 |  |
| 332 | Aloe camperi (ሳንዳ-ዕረ) should be used with precaution in patients with diabetes mellitus.  | True 1False 2I don’t know 3 |  |
| 333 | Zingiber officinale (ጂንጅብል) is contraindicated in individuals with gallstones. | True 1False 2I don’t know 3 |  |
| 334 | Azadirachta indica (ኒም) seeds oil should not be administered to children.  | True 1False 2I don’t know 3 |  |
| 335 | Trigonella foenum-graecum (ኣባዓኸ) is contra-indicated in pregnancy. | True 1False 2I don’t know 3 |  |

**Adverse events and/or side-effects**

**(*Multiple answers are possible*)**

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| --- | --- | --- | --- |
| S. No | Questions | Coding Categories | Skip |
| 336 | Allium sativum (ሽጉርቲ ጻዕዳ) may cause | Indigestion 1Hypersensitivity reactions (contact dermatitis and asthma) 2I don’t know 3 |  |
| 337 | Aloe camperi juice (ሳንዳ-ዕረ) can cause; | Abdominal cramps1Diarrhea2I don’t know 3 |  |
| 338 | Zingiber officinale (ጂንጅብል) causes | Heartburn 1Allergic reactions (rashes)2I don’t know 3 |  |
| 339 | Trigonella foenum-graecum (ኣባዓኸ) causes | Abdominal distension1Diarrhea2Dyspepsia3Flatulence…………………………..4I don’t know 5 |  |
| 340 | Long term use of Azadirachta indica (ኒም) may cause; | Kidney injury 1Liver injury 2Miscarriage 3Infertility……………………………4Hypoglycemia……………………...5I don’t know 6 |  |

**PART IV: Attitude towards herbal medicine use among pharmacy professionals**

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| --- | --- | --- | --- |
| S. No | Questions | Coding Categories | Skip |
| Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
| 411 | Herbal medicines have beneficial effects. |  |  |  |  |  |  |
| 412 | Herbal medicines are as efficacious as conventional medicines. |  |  |  |  |  |  |
| 413 | Herbal medicines have placebo effects. |  |  |  |  |  |  |
| 414 | Herbal medicines have high qualities (in terms of active ingredients).  |  |  |  |  |  |  |
| 421 | Herbal medicines have fewer side effects than conventional medicines. |  |  |  |  |  |  |
| 422 | Herbal medicines are relatively safer, because they are natural. |  |  |  |  |  |  |
| 423 | Herbal medicines are readily contaminated and cannot be used safely. |  |  |  |  |  |  |
| 424 | Herbal medicines have relatively fewer interactions in comparison with conventional medicines. |  |  |  |  |  |  |
| 425 | Herbal medicines have relatively fewer contra-indications in comparison with conventional medicines. |  |  |  |  |  |  |
| 426 | Herbal medicines have significant interactions with conventional medicine. |  |  |  |  |  |  |
| 431 | Pharmacy professionals are in unique position to provide evidence-based information regarding herbal medicines to help patients and customers make safe decisions about their use. |  |  |  |  |  |  |
| 432 | Pharmacy professionals are the right persons to advise and educate people on herbal products use. |  |  |  |  |  |  |
| 441 | Herbal medications (finished herbal products) should be sold only in a pharmacy. |  |  |  |  |  |  |
| 442 | Carrying herbal medicines may have a negative influence on a pharmacy's image.  |  |  |  |  |  |  |
| 443 | Herbal medicines should be sold in pharmacies under a pharmacy professionals’ supervision. |  |  |  |  |  |  |
| 444 | Only registered pre-packaged herbal medicines should be available in community pharmacies. |  |  |  |  |  |  |
| 451 | Herbal medicines are a threat to public health. |  |  |  |  |  |  |
| 452 | Herbal medicines have a high acceptance by the public.  |  |  |  |  |  |  |  |
| 453 | Herbal medicines have a positive impact on public health. |  |  |  |  |  |  |
| 454 | Herbal medicines should be incorporated along with the conventional medicine in the health care-service, in order to avoid self-medications by the public. |  |  |  |  |  |  |
| 461 | Educational courses on herbal medicines centered on patient care (counseling and dispensing) have to be provided to pharmacy professionals.  |  |  |  |  |  |  |
| 462 | Indigenous knowledge from herbalists should be integrated for guidelines of use. |  |  |  |  |  |  |
| 463 | Pharmacy professionals need to be educated on herbal medicine use and their side effects.  |  |  |  |  |  |  |
| 464 | The use of herbal medicines is an economic alternative to conventional medicines. |  |  |  |  |  |  |
| 465 | Workshops and trainings should be provided in order to establish inter-professional relationships between herbalists, including TMPs and pharmacy professionals. |  |  |  |  |  |  |

**PART V: Prevalence of use herbal medicine among pharmacy professionals**

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| --- | --- | --- | --- |
| S. No | Questions | Coding Categories | Skip |
| 511 | Have you ever used herbal medicines for self-treatment? | Yes1No…………………………………..2I don’t remember3 |  |
| 512 | Have you ever used herbal medicines for minor ailments (common cold, scratches, tonsillitis, etc…)? | Yes1No…………………………………..2I don’t remember3 |  |
| 513 | Have you ever used herbal medicines to relieve some diseases on the recommendation of other conventional health professionals, a herbalist (even a TMP) or layman? | Yes1No…………………………………..2 I don’t remember3 |  |
| 514 | Do you have any chronic disease?  | Yes1No…………………………………..2  |  516 |
| 515 | Do you use herbal medicines to manage your chronic diseases? | Always1Often………………………………..2Sometimes………………………….3Rarely………………………………4Never………………….……………5 |  |
| 516 | Do you use herbal medicines to relieve serious diseases? | Always1Often………………………………..2Sometimes………………………….3Rarely………………………………4Never………………………………5 |  |
| 517 | Do you use herbal medicines to improve your quality of health? | Always1Often………………………………..2Sometimes………………………….3Rarely………………………………4Never………………………………5 |  |
| 518 | Do you recommend consumers to use herbal medicines for self-treatment? | Always1Often………………………………..2Sometimes………………………….3Rarely………………………………4Never……………………………….5 |  |
| 519 | Do you seek scientific references with regard to herbal medicines before use or before making recommendation? | Always1Often………………………………..2Sometimes………………………….3Rarely………………………………4Never……………………………….5 |  |

**Comment section**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_