A FIELD APPROACH TO RODENTICIDES ACCESSIBILITY AND KNOWLEDGE OF THEIR VENDORS TOWARDS THEIR CONTENT

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Objective: Many self-poisonings occur through ingestion of pesticides. Rodenticides are traditionally attractive for high-risk people with easy accessibility through pesticide/chemical shops, groceries, and even pharmacies. The aim of this study is to monitor rodenticide purchase and vending, their physical properties, labeling, formulation, and knowledge of vendors regarding what they are selling to their customers. Using this information may be essential in diagnosis of poisoning and planning preventive strategies.

Methods: Authors tried to buy rodenticides from five different resources of east, west, north, south and center of Tehran as a customer. Pesticide/chemical shops, groceries, and pharmacies (5 shops from each category in 5 geographical areas) were randomly selected based on the information from the yellow book. A self-made questionnaire was designed to document presented rodenticides, physical properties including color, bait shape, package weight, label information (if any), and knowledge of vendors in response to requested information regarding hazards of presented rodenticides. Unlabeled rodenticides were sent to toxicology analysis to determine their content.

Results: Excluding 15 vendors selling glue as a rat killer, 39 vendors including 14 pharmacies (56%), 18 groceries (72%), and 7 pesticide/chemical shops (29%) sold a total of 54 different types of rodenticides. As table shows, the most common rodenticide was superwarfarin (37.8%) followed by zinc phosphide (17.6%). There were no warning label for 17 (32%) including 9 (64%) zinc phosphide packets. Mean weight of rodenticide packs was 12 (10-50 grams) for zinc phosphide, 127 (45-500 grams) for superwarfarins, and 15 grams for thallium.

Physical characteristic, labeling, formulation and vendor knowledge regarding description of selling rodenticides

Characteristic / Vendors	Type of rodenticide				Color		Bait			Warning label		Vendor explanation		
	Super warfarin	Warfarin	Zinc phosphide	Thallium	dark	colorful	Powder/granule	pellet/grain	Wax cube	Yes	No	Nothing	right	wrong
Pharmacies (n= 25)	8	8	1	0	1	16	1	16	0	16	1	10	4	0
pesticide/chemical shops (n= 24)	9	2	3	0	7	7	3	7	4	10	4	3	3	1
herbal shops (n= 25)	11	1	10	1	13	10	10	10	3	11	12	3	8	7
Total (n=74)	28	11	14	1	21	33	14	33	7	37	17	16	15	8

CONCLUSION: Any dark and light packs of rodenticides, particularly powders, are highly suspicious to contain zinc phosphide or thallium necessitating prolonged observation period in terms of poisoning. Most vendors are not aware of what they are selling to the public.