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LETTER

International management of bone health in glucocorticoid-exposed individuals in the observational GLOW study

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We used the GLOW database to study the bone health management postmenopausal women with glucocorticoid exposure. GLOW is a 5-year observational study of 60,000 postmenopausal women enrolled in 17 sites in 10 countries in Europe, North America, and Australia. We studied the use of BMD testing within the past 3 years of the study and medical management in glucocorticoid-exposed individuals during the third year of survey in GLOW.

Of the 40,058 women with complete data over the 5 years, 893 (2 %) reported continuous use of glucocorticoids over the

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Table 1 Characteristics of GLOW women with 3 years of follow-up who were current continuous (CC) users versus nonusers

Region	Calcium use		Vitamin D use		AOM use		BMD testing	
	CC *n*=880	Nonuser *n*=28.992	CC *n*=881	Nonuser *n*=28,985	CC *n*=806	Nonuser *n*=24,241	CC *n*=857	Nonuser *n*=27,959
Northern Europe[a] (*n*=7976)	58 (47, 64)	14 (10, 21)	31 (22, 50)	13 (6, 19)	43 (39, 53)	11 (8, 16)	46 (34, 65)	23 (16, 29)
Southern Europe[b] (*n*=5610)	35 (22, 55)	22 (7, 31)	32 (22, 41)	22 (12, 32)	38 (26, 55)	23 (19, 27)	57 (27, 66)	47 (43, 50)
USA and Canada[c] (*n*=14,649)	80 (71, 95)	70 (63, 78)	89 (77, 100)	79 (72, 86)	42 (20, 67)	22 (8, 28)	71 (59, 86)	62 (35, 81)
Total[d]	67	45	68	49	42	19	65	48

Data given as per cent (minimum, maximum of sites within region)

CC current continuous user

[a] Belgium, Germany, Netherlands, UK (four sites)

[b] France, Italy, Spain (four sites)

[c] Seven US sites and one Canadian site

[d] Including Australia

past 2 or more years at the 3-year survey and 29,080 (73 %) were nonusers. Our study demonstrated considerable differences in BMD management in glucocorticoid users by site and region (see Table 1). Glucocorticoid-exposed individuals had greater use of BMD testing and medical management than nonusers, although the number of individuals remained low (≤51 %) worldwide in current continuous users. The proportion of individuals with current continuous use who were on calcium and vitamin D varied worldwide (35 to 80 and 32 to 89 %, respectively) as did AOM use (41 to 51 %). Among women who underwent BMD testing within the past 3 years, AOM and calcium/vitamin D use in glucocorticoid-exposed individuals was 1.8 times higher than that of nonusers (33 versus 18 %). Fifty percent of CC users were aware of an osteoporosis diagnosis while 29 % of nonusers were aware of an osteoporosis diagnosis.

Limitations include our inability to determine glucocorticoid dose or confirm duration of therapy. Limitations include the use of self-reported data that were not confirmed by chart review. Our sites may not be fully representative of a country or region.

We conclude that management of bone health for glucocorticoid-exposed individuals is not optimal worldwide.

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Conflicts of interest Stuart Silverman, Jeffrey Curtis, Kenneth Saag, Julie Flahive, Frederick Anderson, Roland Chapurlat, Christian Roux, JC Netelenbos, Johannes Pfeilschiffer, Nelson Watts, and Juliet Compston declare no conflict of interest. Jonathan Adachi declares that he is a consultant to Actavis, Amgen, Lilly, Merck, and Novartis and is doing clinical trials with Amgen, Lilly, Merck, and Novartis.