

Health-related quality of life at diagnosis in multiple myeloma: EQ-5D-5L results from the Myeloma and Related Diseases Registry and comparison with an Australian population norm

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Background: Multiple myeloma (MM) is an incurable cancer associated with a high disease burden and early assessment of health-related quality of life (HRQOL) can help to personalise therapy planning.

The EQ-5D-5L¹ is collected in the ANZ Myeloma and Related Diseases Registry (MRDR) at diagnosis and subsequent time-points.

We assessed the HRQOL profile of MM patients using results of this simple, generic QOL survey. Participants' results were also compared to South Australian estimated population normative values² to evaluate the functional status of MM patients at diagnosis in ANZ compared to a local population norm².

Methods: Patients with EQ-5D-5L data at diagnosis were compared to the rest of the MM cohort to check that they were representative of the overall group and those missing EQ-5D data. Age and sex-matching to the local normative values was conducted using McCaffrey et al.¹.

Results: 413 patients on the MRDR had completed all 5 EQ5D domains (mobility, self-care, usual activities, pain/discomfort, anxiety/depression) and the EQ VAS score (self-rated health status from the worst [0] to the best [100] health imaginable). Median age was 67 years (60-74) and 65% were male. Despite the sample composing only a third of MM patients in

Table 2 & 3. Comparing HRQOL in MM with age- and sex-matched Sth Australian population norm

	Mobility problem*	Self-care problem*	Usual activities problem*	Pain/discomfort problem*	Anxiety/depression problem*
	%	%	%	%	%
Entire cohort					
- Sth Aust Norm	10.8	1.3	7.1	15.2	8.4
- MRDR MM	27.9	14.8	40.7	38.7	18.6
Age group, <55					
- SA Norm	6.0	0.5	3.9	9.6	8.9
- MRDR MM	14.7	14.7	41.2	39.7	26.5
Age group, 55-65					
- SA Norm	13.5	1.8	8.6	22.1	7.7
- MRDR MM	22.8	7.0	34.2	33.3	17.5
Age group, 65-75					
- SA Norm	20.6	2.3	14.1	25.1	7.8
- MRDR MM	30.4	14.5	37.0	41.3	18.8
Age group, 75+					
- SA Norm	30.6	4.0	21.2	32.3	6.2
- MRDR MM	39.8	24.7	53.8	40.9	14.0

*moderate, severe and extreme problems.

the registry, characteristics did not differ significantly between patients who completed the EQ5D (n=413) and those who did not (n=848), p>0.18 except for gender (p=0.05).

In self care (washing or dressing), 69% of pts reported no problems at diagnosis, while only 22% were pain-free. Problems with mobility were reported in 55%, anxiety/depression in 56%, and problems with usual activities in 68% of patients at diagnosis.

41% of patients reported moderate to extreme problems in usual activities and 39% in pain/discomfort. With increasing age, more patients had problems with mobility, self-care and usual activities (p≤0.009), and a lower EQ VAS score (p=0.04). As disease stage (ISS) increased, limitations in mobility and usual activities were more frequent (p≤0.01), and EQ VAS score reduced (0.005). Problems in all 5 health domains were more frequent in patients with ECOG≥2 and EQ VAS score was lower (53±21 v 74±18) compared to ECOG<2 (p<0.001).

Problems with mobility, usual activities, and EQ VAS score were associated with a higher risk for early mortality (12m post diagnosis, p<0.05) in univariate analyses.

Compared to the South Australian population norm, there were notably more problems in all health domains in MM, and across all age groupings, however, the difference was more striking in the

	EQ5D: VAS	
	Mean (SD)	N
Entire cohort		
- Sth Aust Norm	78.6 (16.6)	2908
- MRDR MM	69.2 (20.1)	413
Female		
- SA Norm	78.2 (17.4)	1483
- MRDR MM	68.0 (21.5)	146
Male		
- SA Norm	78.9 (15.7)	1422
- MRDR MM	69.8 (19.3)	267
Age group, <55		
- SA Norm	79.2 (15.9)	1892
- MRDR MM	68.0 (21.7)	68
Age group, 55-65		
- SA Norm	78.9 (16.8)	443
- MRDR MM	72.2 (18.1)	114
Age group, 65-75		
- SA Norm	78.6 (17.2)	346
- MRDR MM	70.3 (20.0)	138
Age group, 75+		
- SA Norm	72.7 (17.7)	225
- MRDR MM	64.5 (20.7)	93

proportion of MM patients who had problems with routine activities and with pain and discomfort.

There was also a consistent gap between groups for self-rated health status (EQ-VAS), with higher scores (better health) for the normative group.

Conclusion: Pain/discomfort was the most frequently reported health issue at diagnosis in Australian/New Zealand patients with MM, and self-care related problems the least, compared to the other health domains. Also, more health problems were reported with increasing age, ECOG≥2 and increasing disease stage (ISS). Compared to a local population norm, the greatest difference in reporting of problems was found with routine activities, followed by pain and discomfort.

These findings identify the most challenging health issues for MM patients at diagnosis and highlight the contrast with an Australian population norm.

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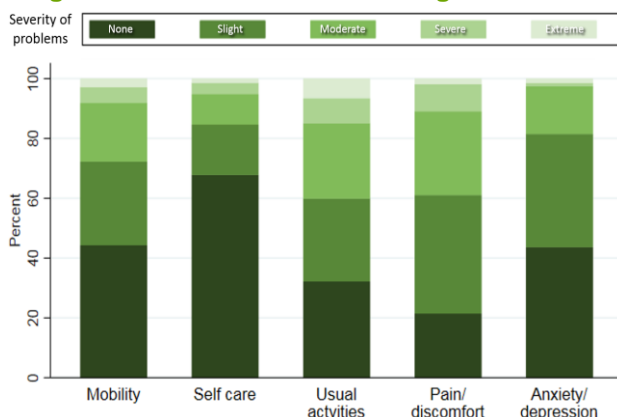
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Figure 1. EQ-5D-5L results at diagnosis



Responses to EQ5D patient survey at diagnosis. Health domains are scored on a 5 point scale for severity of problems (see legend).

Table 1. Prevalence of problems in the health domains of the EQ-5D-5L, and EQ-VAS

Characteristic	Mobility problem*		Self-care problem*		Usual activities problem*		Pain/discomfort problem*		Anxiety/depression problem*		EQ5D: VAS		
	%	P value	%	P value	%	P value	%	P value	%	P value	Mean (SD)	N	P
Total	27.9		14.8		40.7		38.7		18.6		69.2 (20.1)	413	
Age group		0.005		0.008		0.009		0.89		0.42			
≤60	19.4		11.1		40.7		38.0		20.4		70.0 (20.3)	108	
60-75	26.9		12.3		34.9		38.2		19.8		70.8 (19.5)	212	
>75	39.8		24.7		53.8		40.9		14.0		64.5 (20.7)	93	
Gender		0.59		0.32		0.11		0.17		0.07			
- Male	27.0		13.5		37.8		36.3		16.1		69.8 (19.3)	267	
- Female	29.5		17.1		45.9		43.2		23.3		68.0 (21.5)	146	
ISS		0.01		0.29		0.009		0.56		0.28			
- ISS I	18.1		10.8		31.3		37.4		12.1		73.6 (17.9)	83	
- ISS II	31.2		14.4		44.8		44.8		19.2		66.0 (21.4)	125	
- ISS III	39.0		19.5		54.9		42.7		20.7		64.4 (21.8)	82	
ECOG		<0.001		<0.001		<0.001		<0.001		<0.001			
- 0-1	13.9		8.5		25.9		30.5		13.5		74.4 (17.5)	259	
- 2-4	66.3		37.5		83.8		67.5		35.0		52.7 (20.9)	80	

*moderate, severe and extreme problems.