PUBLIC HEALTH RESEARCH IN SELECTED AFRICAN COUNTRIES: A BIBLIOMETRIC ANALYSIS OF THE LITERATURE

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Presentation layout

- Introduction
- Reasons for this research
- Methodology used
- Results
- Discussion and conclusion

Introduction

- Public health
- Lack of sufficient informetric research
- Relationship of public health to other issues
- Public health research and the developing world

Public health research

- **The main purpose of health research in the developing countries is to promote the practice and conduct of research that contributes towards the improvement of human health and welfare of its citizens.**
- **The research done in this area should be able to emphasize an integrated multi-disciplinary approach in addressing health related problems and the essential requirement to link research with implementation**

Purpose of the study

- **This study examines the inter relationship among different issues relating to public health, namely: health services, health legislation, health policies, mortality, national health programme, primary health care, and risk factors.**

- **The analysis provides background information to health staff and other environmental health scientists responsible for preparing health documents, such as health assessments, health consultations, and emergency responses.**

Purpose of the study – cont.

- This paper is also intended to contribute to the knowledge of the structures required to support the expertise of public health researchers and the practice and policy sector, and to build bridges between them.

- It is further intended to increase the understanding of existing public health research that integrates research and education with policy and practice for selected African countries and exploring the feasibility of developing research in the health sector.

Methodology

- A thorough search for publications in journals from 1995 to 2005 inclusive, using Science Citation Index (SCI) and PubMed database was undertaken.
- The former was searched together through the Dialog Information Services using its duplicate-removal.
- Search was initially conducted using a free text search on public health within the selected countries.
- In order to obtain a more precise as well as controlled search, US National Library Medicine's Medical Subject Headings (MeSH) were used during the process of selecting the countries.

Methodology-cont.

- These medical subject headings include health services, health promotion, risk factors, epidemiological surveillance, mortality, health policies as well as primary health care.
- Microsoft Excel and Statistical Package for Social science Research (SPSS) were used for the analysis of production distribution by country and distribution of main Medical Subject Headings as well.
- Thirteen countries namely; Algeria, Botswana, Ghana, Kenya, Lesotho, Namibia, Nigeria, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe were selected.
- Only quantitative criteria were chosen for the selection of these countries.
- Countries which produced between five hundred and more documents during the period 1995-2005 were selected.

Results

- A total of 50874 records were retrieved for the thirteen Southern African countries chosen for this research during the period 1995 to 2005.
- The descriptors selected in health research which were more relevant to the developing world situation such as primary health, national health policy, legislation, risk factors, health services and mortality were studied.

- The results retrieved were as follows:
  - primary health (1,336 records)
  - national health service (15,273)
  - mortality (17,733)

Results contd.

- risk factors (12, 430)
- national health policy (350)
- and legislation (3,752)
- National policy retrieved the least amount of documents showing that most of the developing countries place less importance on policies regarding public health of its people, hence the poor health services.

Public Health Research in Southern African Region Distribution of Productivity by Country and Fields

- **The productivity of the countries in descending order for the ten year period was as following:**
  - **South Africa (14, 690 records)**
  - **Nigeria (6, 835)**
  - **Kenya (5, 890)**
  - **Tanzania (5,266)**
  - **Uganda (5, 166)**
  - **Zimbabwe (3,812)**
  - **Ghana (3,298)**
  - **Zambia (2,625)**
  - **Botswana (1,266)**
  - **Algeria (560)**
  - **Namibia ((503), Lesotho (460) and Swaziland (431)**

- **South Africa produced 29% of the total literature output**

Table 1: Public Health Research in Southern African Region. Distribution of Productivity by Country and Fields

	Algeria	Botswana	Ghana	Kenya	Lesotho	Namibia	Nigeria	SA	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe	Total
LEG	81	121	158	322	58	54	368	1713	61	175	229	130	282	**3752**
NHP	8	4	18	17	0	1	20	182	0	38	31	21	10	**350**
RF	159	243	617	1501	73	79	1842	3529	58	1498	1520	589	992	**12430**
PH	2	22	120	102	22	18	150	520	4	142	90	59	85	**1336**
HS	18	398	1099	1582	131	159	1769	4729	131	1529	1655	829	1080	**15273**
MO	192	478	1286	2370	176	192	2686	4017	180	1884	1912	997	1363	**17733**
Total	**560**	**1266**	**3298**	**5890**	**460**	**503**	**6836**	**14690**	**431**	**5266**	**5167**	**2625**	**3812**	**50874**
%	**1.1**	**2.5**	**6.5**	**11.6**	**0.9**	**1.0**	**13.4**	**28.9**	**0.9**	**10.4**	**10.2**	**5.2**	**7.5**	

Source: PubMed & Science Citation Index

Figure 1: Public Health Research in Southern African Region. Distribution of Productivity by Country and Fields

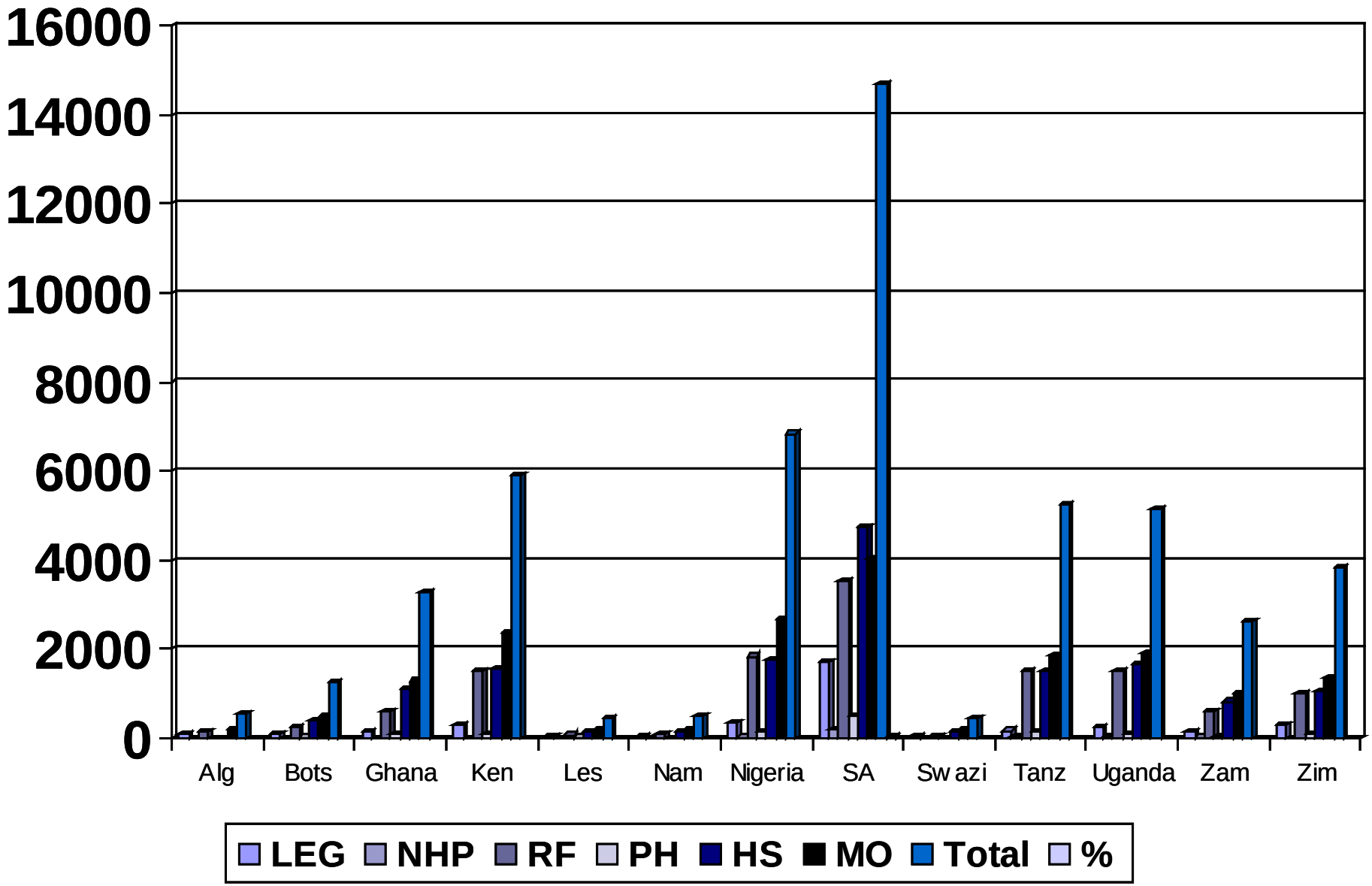
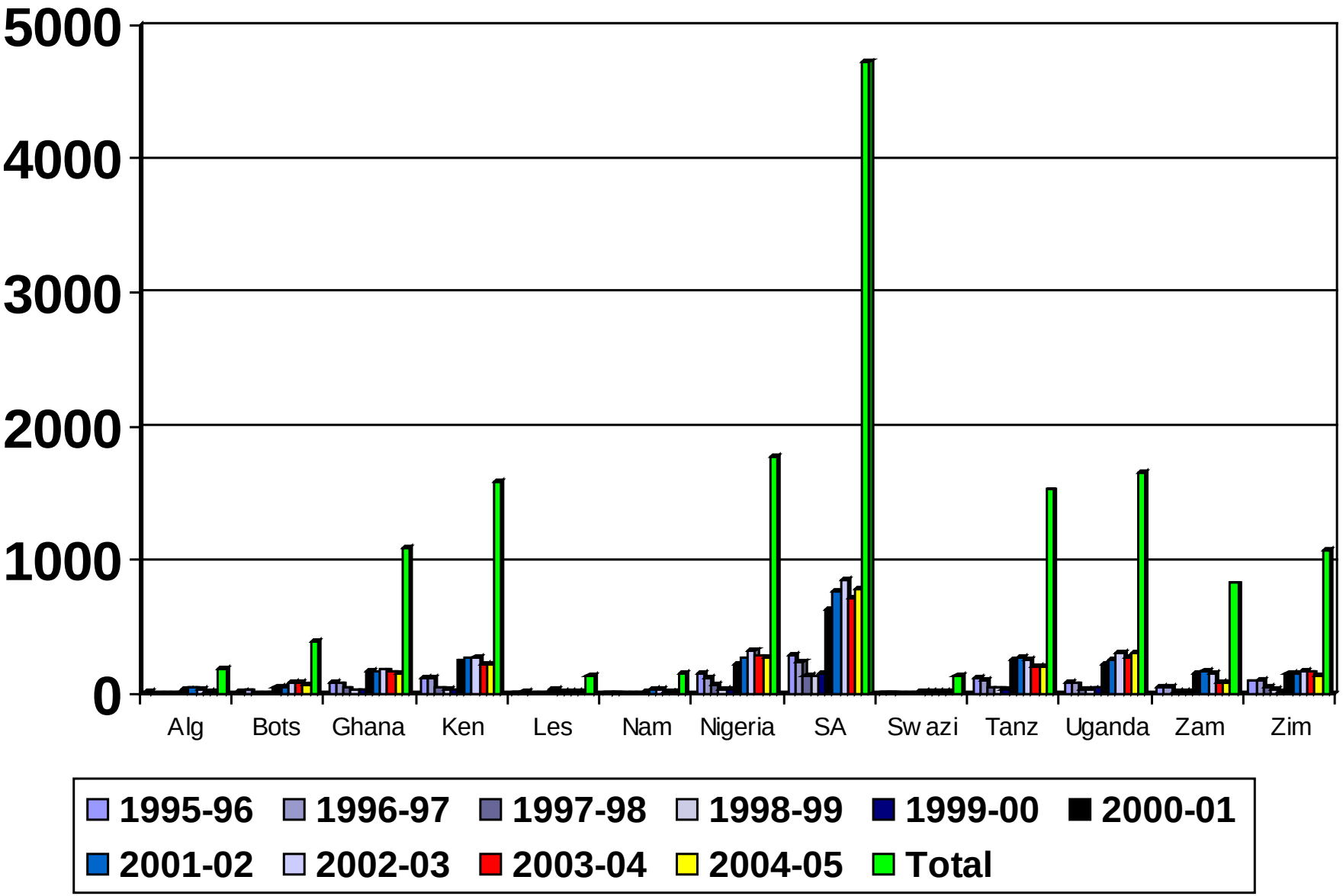


Table 2: Analyses of health research and services in the selected countries for the various years

	Algeria	Botswana	Ghana	Kenya	Lesotho	Namibia	Nigeria	SA	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe
1995-96	13	21	80	119	11	9	148	296	11	114	81	54	94
1996-97	5	27	79	116	12	10	118	247	9	103	77	53	97
1997-98	7	7	43	45	3	4	65	134	4	43	37	25	52
1998-99	5	5	26	35	2	6	39	130	6	43	42	21	30
1999-00	5	8	27	27	2	7	31	160	6	35	43	25	22
2000-01	29	50	178	248	31	25	221	639	18	257	226	148	152
2001-02	43	54	163	266	22	30	267	768	18	270	263	171	156
2002-03	30	80	181	275	16	34	325	861	19	251	303	152	172
2003-04	21	81	164	222	16	19	283	714	17	208	277	87	163
2004-05	24	65	158	229	16	15	272	780	23	205	306	93	142
Total	182	398	1099	1582	131	159	1769	4729	131	1529	1655	829	1080

Source: PubMed & Science Citation Index

Figure 2: Publication Output in Health Service



Trends in public health research in the African countries for 1995-2005

- There is a steady overall increase in articles for the period 1995 to 2005
- But there is a slow rise from 1995 to 2000
- After that period, there is a sharp increase in production until 2005
- There is also a downward trend in the amount of publications towards the end of 1997 and a marked reduction in the years 1998-2000 for most African countries except Algeria and Swaziland.

Table 3: Publication Output in Legislation

	Algeria	Botswana	Ghana	Kenya	Lesotho	Namibia	Nigeria	SA	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe
1995-96	2	2	7	14	3	1	24	93	1	10	7	4	14
1996-97	1	2	6	16	4	2	22	100	1	12	6	5	12
1997-98	4	2	8	15	5	1	11	73	1	4	6	5	12
1998-99	4	5	9	16	2	1	13	93	2	7	12	6	19
1999-00	3	9	7	17	2	2	14	142	8	11	19	11	30
2000-01	15	22	14	47	7	11	41	266	11	25	34	18	47
2001-02	19	22	29	61	9	16	62	288	12	26	37	26	40
2002-03	12	21	34	52	8	13	76	305	13	25	40	27	49
2003-04	8	18	22	40	5	3	52	160	7	22	32	15	35
2004-05	13	20	22	44	13	4	53	193	6	30	36	13	24
Total	81	121	158	322	**58**	**54**	368	**1713**	**61**	175	229	130	282

Source: PubMed & Science Citation Index

Health outcomes research

- The study of health outcomes has implications for every aspect of the health care system, including clinical practice, treatment, quality of life, health care delivery, information health policy, and health care financing
- Lezzoni, 2003, Kleinpell, 2001, Murray, 2002 and Osborne, 2002 have studied in detail about these aspects
- Health outcomes of research can affect health policy in decision-making at local, state, and national levels and in both the private and public sectors.

Table 4: Health outcomes

	Algeria	Botswana	Ghana	Kenya	Lesotho	Namibia	Nigeria	SA	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe
1995-96	5	39	39	59	7	9	85	149	4	42	54	25	58
1996-97	13	23	87	150	19	17	138	239	12	115	128	73	96
1997-98	10	30	88	145	11	13	149	119	17	110	118	76	112
1998-99	14	33	84	145	6	11	137	133	11	97	77	73	100
1999-00	20	33	99	179	12	15	182	210	13	148	129	79	107
2000-01	29	62	187	359	23	24	382	642	22	290	277	138	208
2001-02	37	72	170	334	25	30	416	681	28	272	258	167	194
2002-03	30	63	208	372	25	32	488	693	24	268	291	152	171
2003-04	17	57	167	315	21	20	359	555	19	253	281	97	154
2004-05	17	66	157	302	17	21	350	596	30	289	299	117	163
Total	192	478	1286	**2370**	176	192	**2686**	**4017**	180	**1884**	1912	997	1363

Source: PubMed & Science Citation Index

Figure 4: Publication Output in Mortality

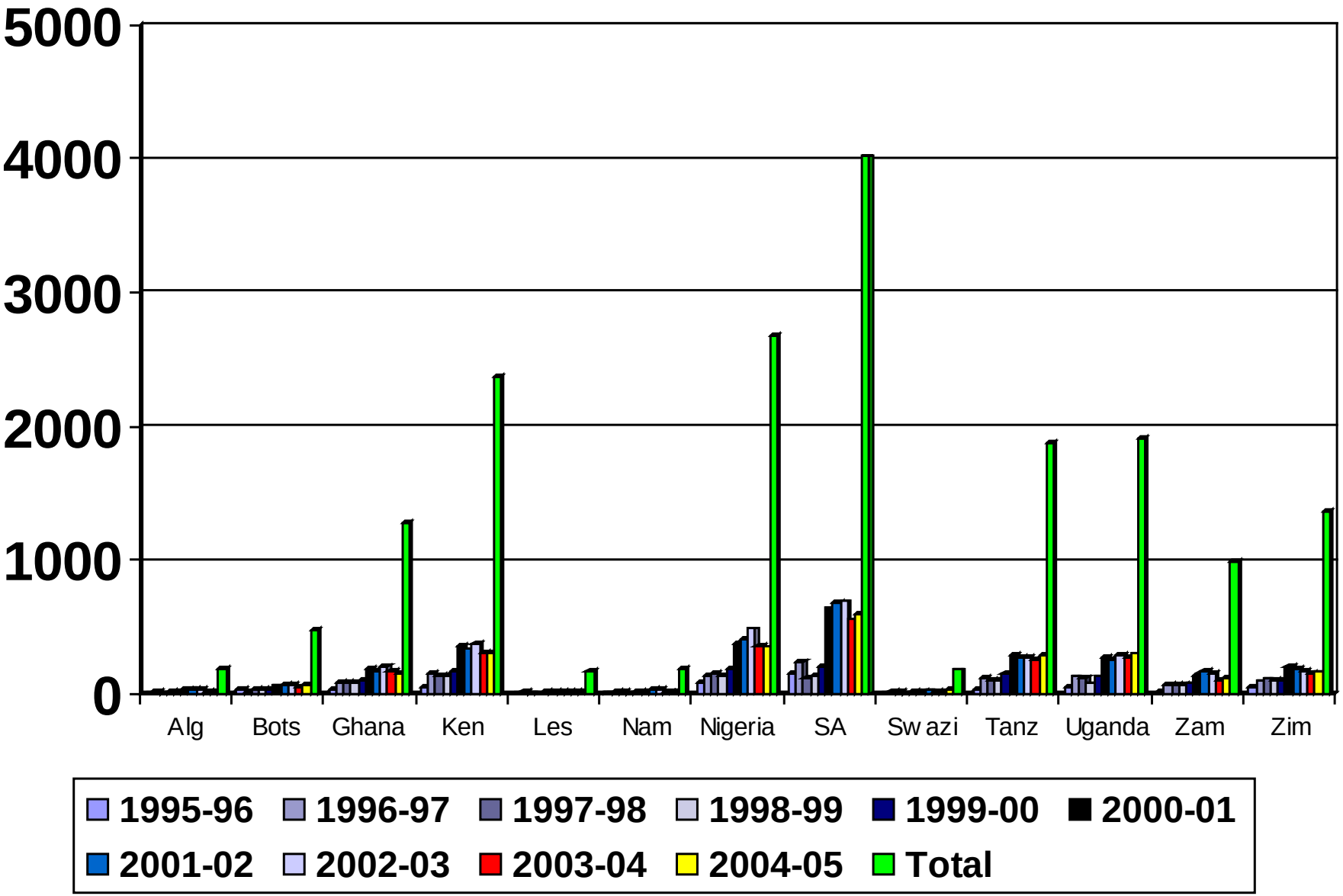


Table 5: Publication Output in Risk Factor

	Algeria	Botswana	Ghana	Kenya	Lesotho	Namibia	Nigeria	SA	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe
1995-96	4	3	18	50	1	1	45	59	0	42	29	16	29
1996-97	4	0	15	53	1	1	60	78	0	49	31	15	40
1997-98	3	3	18	53	2	2	63	87	1	46	34	15	37
1998-99	8	4	15	47	2	3	74	82	1	23	27	8	39
1999-00	9	8	12	47	0	1	87	104	1	25	37	6	43
2000-01	39	61	95	287	18	16	273	520	17	263	201	101	171
2001-02	42	64	126	292	18	24	356	564	15	282	227	125	170
2002-03	24	40	140	249	13	14	364	614	4	272	232	106	146
2003-04	15	26	82	203	9	5	227	662	15	282	227	125	170
2004-05	11	34	96	218	9	12	293	759	4	204	205	72	147
Total	159	243	617	**1501**	73	79	**1842**	**3529**	58	**1498**	**1250**	589	992

Source: PubMed & Science Citation Index

Figure 5: Publication Output in Risk Factor

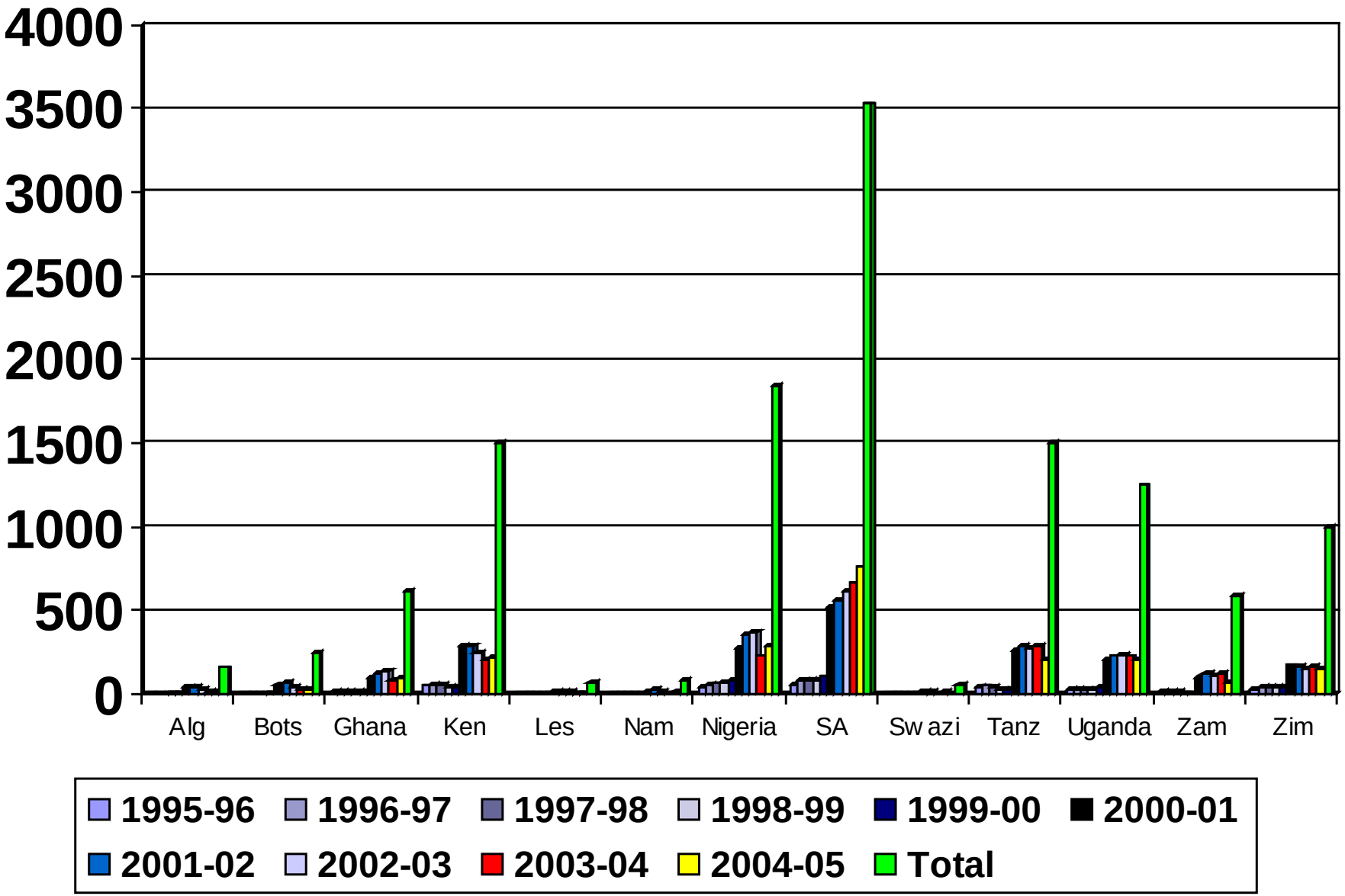


Table 6: Publication output in National Health Programme

	Algeria	Botswana	Ghana	Kenya	Lesotho	Namibia	Nigeria	SA	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe
1995-96	0	0	1	1	0	1	0	18	0	4	0	0	1
1996-97	1	0	1	2	1	0	1	11	0	3	1	2	1
1997-98	0	0	1	1	0	0	1	7	0	2	3	3	2
1998-99	0	0	2	0	0	0	2	5	0	4	0	0	1
1999-00	0	0	2	1	0	0	3	14	0	6	3	3	0
2000-01	1	1	2	5	0	0	2	30	0	7	6	6	2
2001-02	2	0	2	3	0	0	2	25	0	3	7	7	0
2002-03	1	1	3	1	0	0	4	26	0	3	4	4	2
2003-04	1	1	2	1	0	0	3	22	0	4	4	4	1
2004-05	2	1	2	2	0	0	2	24	0	2	3	3	0
Total	8	4	18	17	1	1	20	182	0	38	31	31	10

Source: PubMed & Science Citation Index

Figure 6: Publication output in National Health Programme

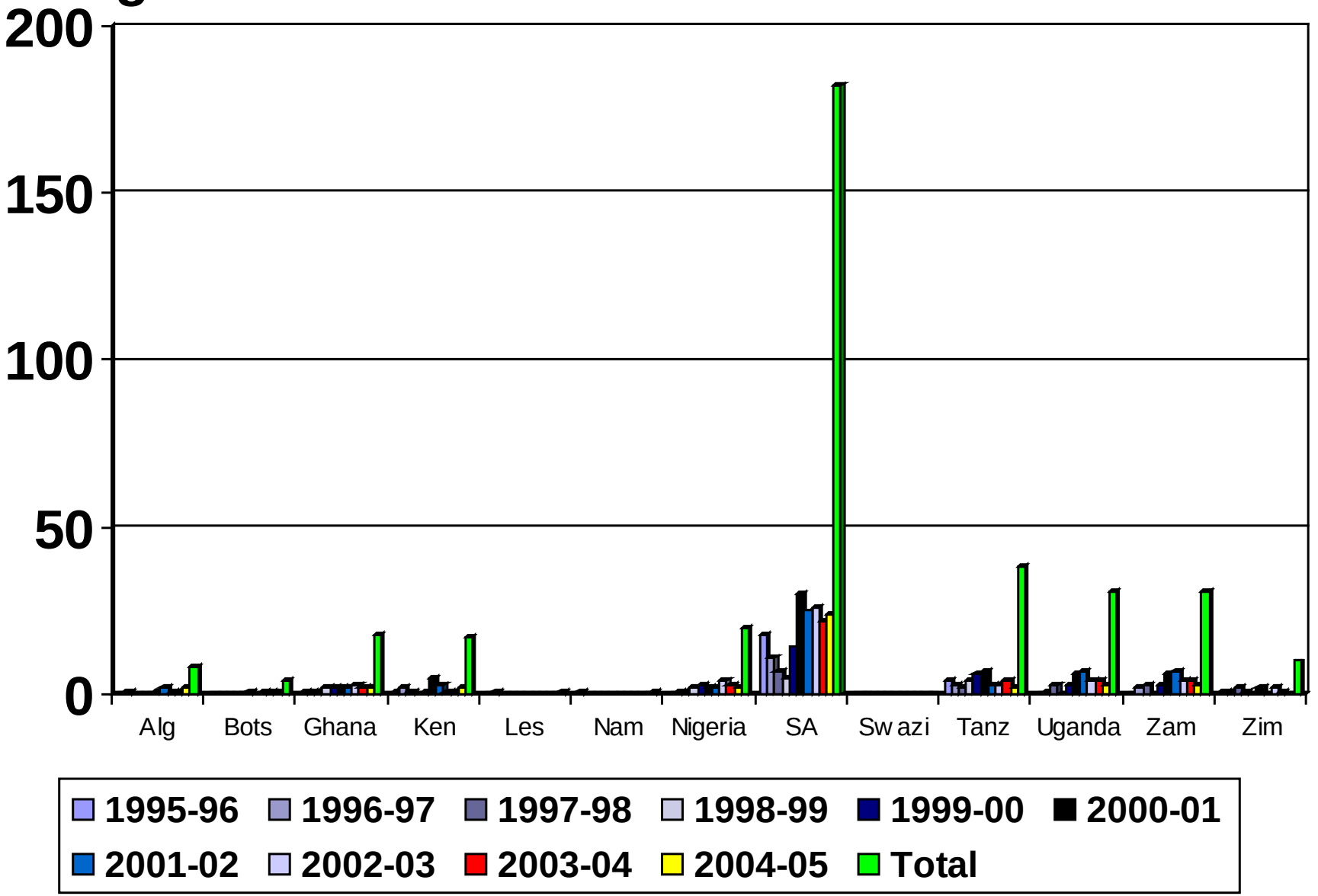
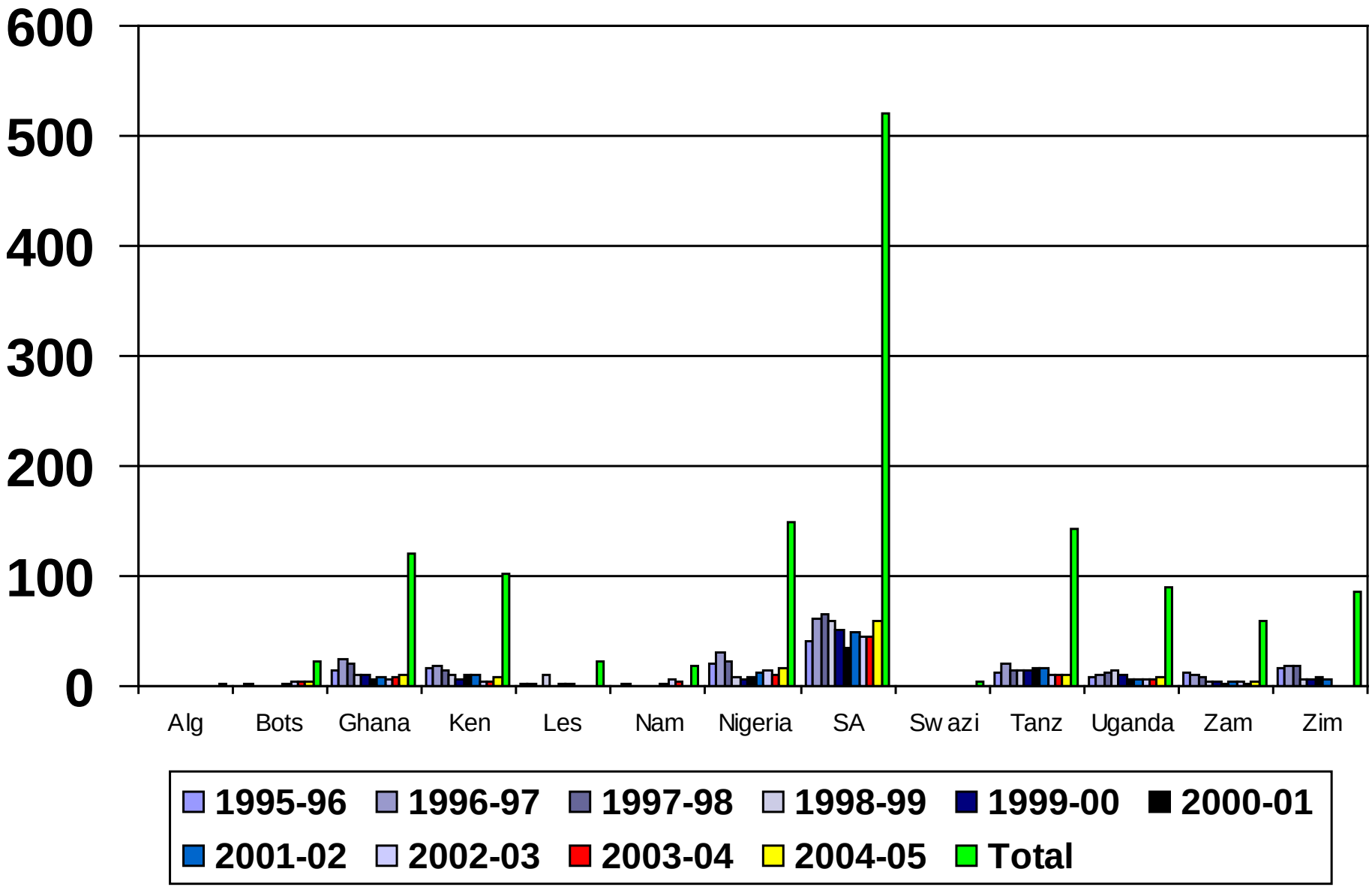


Table 7: Publication Output in Primary Health Care

	Algeria	Botswana	Ghana	Kenya	Lesotho	Namibia	Nigeria	SA	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe
1995-96	0	1	14	16	2	1	21	41	1	13	9	12	17
1996-97	0	2	24	18	3	2	30	62	1	21	10	11	19
1997-98	0	1	21	15	1	1	23	65	1	14	13	8	18
1998-99	1	1	10	10	10	0	8	60	0	14	14	4	7
1999-00	1	1	10	7	0	0	6	51	0	15	10	5	7
2000-01	0	1	7	10	2	1	8	35	0	17	7	3	8
2001-02	0	3	8	10	2	3	12	50	0	16	7	4	7
2002-03	0	4	7	4	0	6	14	45	0	11	6	5	1
2003-04	0	4	9	4	1	4	11	45	0	11	6	3	0
2004-05	0	4	10	8	1	0	17	60	1	10	8	4	1
Total	2	22	120	102	22	18	150	520	4	142	90	59	85

Source: PubMed & Science Citation Index

Figure 7: Publication Output in Primary Health Care



Discussion and Conclusion

- **The number of publications in public health research as allocated to each selected African country by the field and in total, for the period is investigated and given in table 1 as a percentage of each country**
- **Over the whole investigation, South Africa seemed to be the leading producer followed by Nigeria, Kenya and Tanzania.**
- **An interesting revelation was that most of the research output was done through journals by the researchers from these countries.**
- **Researchers in Africa who have no access to ISI databases can find research in this area by checking on journals where most of the research results are produced**

Discussion and conclusion

- Some of the journals were not directly connected to public health and several of the articles were published in Journals such as Environmental Science as well as in International journals of Libraries and Information Science etc.
- South Africa in general shows a good investment in research output compared to with other African countries.
- However, comparison among the different medical headings shows that much effort has been made in some topics than in others.
- For example, high research out put is seen among health service, mortality, legislation and risk factors.
- On the other hand it seems that least attention has been paid to health care, health policy and national health programme.

Recommendation

- Recent years have also seen an intensification of research activities in the context of the HIV/AIDS epidemic in particular
- This enthusiasm should extend towards public health research which will be beneficial to growth and development of the whole populations in a proportionate manner
- We have yet to see research that effectively contributes to the development of appropriate solutions and evidence that leads to sound policy formulation in the African region

Recommendation

- There is a definite need for research which is coordinated and regulated and the results published for all in the field to know who is conducting research in Africa, where, when and how.
- The results of this research shows the areas where very little or no research has been done by the various countries and should provide a basis for promoting multidisciplinary research
- It is that least attention has been paid to health care, health policy and national health programme.

Recommendation

- Much progress needs to be made in developing and implementing cost- effective interventions to combat these threats to global health
- It is important for governments and other stake holders to understand the role that research plays in health development and the need for skilled local research capacity
- Policies must be developed clearly which articulate processes geared towards building efforts for research capacity in all the developing countries and the existing institutions.
- Applied research must be set in the background in order to ensure that all the citizens are provided with health services that are effective and efficient
- Encouraging and communicating efficient research results should be considered a priority by the developing world.

Thank you