Aus dem Dieter Scheffner Fachzentrum
für medizinische Hochschullehre und evidenzbasierte
Ausbildungsforschung der Medizinischen Fakultät
Charité – Universitätsmedizin Berlin

DISSERTATION

Qualitative und quantitative Integration von gendermedizinischen Inhalten und Perspektiven in den Modellstudiengang Medizin der Charité – Universitätsmedizin Berlin: Methoden und Ergebnisse

zur Erlangung des akademischen Grades
Doctor rerum medicinalium (Dr. rer. medic.)

vorgelegt der Medizinischen Fakultät
Charité – Universitätsmedizin Berlin

von

Sabine Ludwig

aus Heilbronn

Datum der Promotion: 9. Dezember 2016

INHALTSVERZEICHNIS

ABSTRAKT (DEUTSCH)

Einleitung

Im Wintersemester 2010/11 wurde an der Charité – Universitätsmedizin Berlin der innovative, modulare, interdisziplinäre und outcome-orientierte Modellstudiengang Medizin eingeführt. Mit dessen Einführung wurden Inhalte der Gendermedizin und Genderperspektiven systematisch über das gesamte Curriculum hinweg in alle Module von den Grundlagenmodulen bis zu den höheren klinischen Modulen und Lehrformaten longitudinal integriert. Dabei spielten sowohl biologische („Sex“) als auch soziokulturelle („Gender“) Aspekte eine Rolle. Ziel war die Vermittlung von adäquaten Kenntnissen, praktischen Fertigkeiten und Kommunikationsfähigkeiten zu Geschlechterunterschieden bei der Entstehung, Manifestation, Prävention, Diagnose, Therapie und Erforschung von Erkrankungen.

Methodik

Die Integration erfolgte im Rahmen des Modulplanungsprozesses. Hierzu wurde ein „Change Agent“ direkt in die Projektsteuerung für den Modellstudiengang Medizin platziert und hatte auf diese Weise direkten Kontakt mit allen an der Modulplanung beteiligten Akteuren und Akteurinnen. Der „Change Agent“ entwickelte eine zehn schrittige systematische Vorgehensweise, die nach jeder Modulplanungsgrunde evaluiert und verbessert wurde. Vor Beginn der Modulplanungen wurden wissenschaftliche Recherchen der zu integrierenden Inhalte für die zu planenden Module durchgeführt. Die identifizierten Inhalte wurden in die Modulplanungs-Sitzungen eingebracht und mit den Modulverantwortlichen und der Modulplanungsgruppe diskutiert. Es wurde geprüft, in welche der Lehrveranstaltungen und Lehrformate die Integration am sinnvollsten ist und gemeinsam mit den Verantwortlichen der Lehrveranstaltungen Lernziele formuliert. Die Integration wurde von Seiten der Fakultätsleitung und der Frauen- und Gleichstellungsbeauftragten unterstützt.

Ergebnisse

Lerninhalte und Lernziele der Gendermedizin und Genderperspektiven konnten sowohl quantitativ als auch qualitativ über das gesamte Curriculum in alle Lehrformate hinweg in die Grundlagen, Organ- und Körpersystem Module, die Krankheitsmodell Module, in die höheren klinischen Module sowie in die longitudinalen Lehrformate wie Kommunikation, Interaktion und Teamarbeit integriert werden. Inhalte der Gendermedizin sind Teil des summativen Assessments. Im Kerncurriculum konnte ein dreiwöchiges Modul zu „Geschlechtsspezifischen Erkrankungen“ integriert werden. Dieses Modul baut auf den bereits integrierten Inhalten der Gendermedizin auf und vertieft diese. In den Modulhandbüchern zu allen Modulen wird geschlechtergerechte Sprache verwendet. In den Wissenschaftsmodulen sind Lernziele zur Berücksichtigung von Gender- und Diversityaspekten beim Studiendesign und der Interpretation wissenschaftlicher Ergebnisse verankert. Des Weiteren konnte ein Wahlpflichtmodul zum Thema „Sexuelle und reproduktive Selbstbestimmung“ im 8. Semester integriert werden.

Schlussfolgerung

Der Einsatz eines „Change Agent“ in der Projektsteuerung eines neu zu planenden medizinischen Curriculums ist eine erfolgreiche Strategie zur systematischen Integration von neuen Lehrinhalten – in diesem Fall Gendermedizin und Genderperspektiven - in ein medizinisches Curriculum. Eine systematische Vorgehensweise und die institutionelle Unterstützung durch die Fakultätsleitung und die Frauen- und Gleichstellungsbeauftragte erleichtert die Integration.

Wortzahl: 391

ABSTRACT (ENGLISCH)

Introduction

In winter term 2010/11 Charité – Universitätsmedizin Berlin introduced the new, innovative, interdisciplinary, outcome-based modular medical curriculum for undergraduate medical education. With its introduction the aim was to systematically integrate gender medicine and gender perspectives longitudinally into the curriculum from the basic sciences modules to the higher clinical modules and into all teaching formats. The integration focused on biological ("sex") as well as sociocultural ("gender") aspects. The goal was to foster adequate knowledge, practical and communicative skills for future doctors on sex and gender differences concerning the development, clinical presentation, prevention, diagnosis, treatment, and research of diseases.

Methods

The integration was paralleled with the curricular development process. A change agent was placed directly into the curriculum development team to foster direct interactions with all stakeholders involved. The change agent developed a ten step approach for the systematic integration that was regularly evaluated and improved. Prior module planning extended research was conducted and relevant gender medicine-related content identified. The identified issues were placed into the module planning sessions and discussed with the module chairs and the module planning group. Courses were then identified where to best place the selected gender-related content. Faculty members were supported with the formulation of gender-related learning objectives. The establishment of a supporting organizational framework facilitated the integration.

Results

Gender perspectives and gender medicine-related content and learning objectives could be integrated quantitatively and qualitatively into the whole curriculum including all teaching formats from the basic science modules, organ and body system modules, disease model modules to the higher clinical modules and communication skills courses. Gender medicine-related content is part of the summative assessment. A three week module on sex and gender- specific diseases could be integrated into the core curriculum. This module builds on already integrated gender medicine-

related content and goes beyond. Gender sensitive language is used in all module handbooks. Gender-related learning objectives could be integrated into the scientific approaches modules to foster students‘ knowledge and skills concerning gender sensitive study design and the interpretation of study results. One elective module on sexual and reproductive health and autonomy could be integrated into the eigth semester.

Conclusion

The appointment of a change agent into the curriculum development team is a successful strategy for the systematic integration of new curricular perspectives – in this case gender medicine - into a new medical curriculum. The development of systematic approaches and the establishment of a supporting organizational framework facilitates the integration.

Word count: 400

EIDESSTATTLICHE VERSICHERUNG

„Ich, Sabine Ludwig, versichere an Eides statt durch meine eigenhändige Unterschrift, dass ich die vorgelegte Dissertation mit dem Thema: *„Qualitative und quantitative Integration von gendermedizinischen Inhalten und Perspektiven in den Modellstudiengang Medizin der Charité – Universitätsmedizin Berlin: Methoden und Ergebnisse“* selbstständig und ohne nicht offengelegte Hilfe Dritter verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel genutzt habe.
Alle Stellen, die wörtlich oder dem Sinne nach auf Publikationen oder Vorträgen anderer Autoren beruhen, sind als solche in korrekter Zitierung (siehe „Uniform Requirements for Manuscripts (URM)“ des ICMJE -*www.**icmje**.org*) kenntlich gemacht. Die Abschnitte zu Methodik (insbesondere praktische Arbeiten, Laborbestimmungen, statistische Aufarbeitung) und Resultaten (insbesondere Abbildungen, Graphiken und Tabellen) entsprechen den URM (s.o) und werden von mir verantwortet.
Mein Anteil an der ausgewählten Publikation entspricht dem, der in der untenstehenden gemeinsamen Erklärung mit dem/der Betreuer/in, angegeben ist.
Die Bedeutung dieser eidesstattlichen Versicherung und die strafrechtlichen Folgen einer unwahren eidesstattlichen Versicherung (§156,161 des Strafgesetzbuches) sind mir bekannt und bewusst.“

_____

Datum 21. April 2016 Unterschrift

AUSFÜHRLICHE ANTEILSERKLÄRUNG AN DER ERFOLGTEN PUBLIKATION

Frau Sabine Ludwig hatte folgenden Anteil an der Publikation

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H. A Successful Strategy to Integrate Sex and Gender Medicine into a Newly Developed Medical Curriculum. *Journal of Women's Health. December 2015, 24(12)*: 996-1005. doi:10.1089/jwh.2015.5249. Supplementary Data are available online at www.liebertpub.com/jwh

die aus einem im Rahmen des vom Berliner Senats geförderten Programms zur „Förderung der Chancengleichheit für Frauen in Forschung und Lehre“ (Berliner Chancengleichheitsprogramm) hervorging.
Bei der in Erstautorenschaft erstellten Publikation handelt es sich um eine Arbeit aus der Schnittstelle zwischen medizinischer Ausbildung, Gendermedizin, Gender Studies, Frauengesundheit und medizinischer Soziologie.
Sabine Ludwig ist korrespondierende Autorin für diesen Artikel.

Beitrag im Einzelnen

Übersicht:

-Mitarbeit am Design der Studie
-Management der Studie
-alleinige Literaturrecherche und Auswahl relevanter Studien
-Datenerhebung
-Datensammlung
-qualitative und quantitative Datenauswertung und Datenanalyse
-Erstellung der Grafiken und Tabellen
-hauptverantwortlich für die Verfassung des Manuskriptes
-Einreichung des Manuskriptes
-Revision des Manuskriptes
-Beteiligt bei der Einwerbung von Drittmitteln für dieses Projekt
-korrespondierende Autorin für diesen Artikel

Detaillierte Ausführung des Beitrags

Sabine Ludwig entwarf das Design der Studie gemeinsam mit allen Autoren und Autorinnen und war für das Management der Studie verantwortlich.

Sie führte die komplette wissenschaftliche Literaturrecherche durch und erarbeitete Vorschläge, welche Inhalte der Gendermedizin und Genderperspektiven in die Module des Modellstudiengangs integriert werden sollten. Hierzu prüfte sie unter anderem die international vorhandenen genderbezogenen Lernzielkataloge auf ihre Anwendung im Modellstudiengang Medizin kontinuierlich. Die von ihr erarbeiteten Vorschläge wurden in regelmäßigen von Frau Ludwig koordinierten Treffen mit Frau Dr. Sabine Oertelt-Prigione und Frau Dr. Christine Kurmeyer besprochen und abgestimmt.
Zudem wurde gemeinsam unter anderem auch mit Frau Prof. Dr. Vera Regitz-Zagrosek eine Lernspirale für das Institut für Geschlechterforschung entwickelt, die als Orientierung zur Integration von genderspezifischen und vom Institut für Geschlechterforschung durchgeführten Lehrveranstaltungen diente. Diese Inhalte wurden im Rahmen des fakultätsweiten Modulplanungsprozesses in die Module des Modellstudiengangs integriert.

Ein durch Frau Ludwig etabliertes und durch Herrn Prof. Dr. Harm Peters, Herrn Prof. Dr. Manfred Gross, Frau Prof. Dr. Annette Grüters-Kieslich und Frau Dr. Christine Kurmeyer unterstütztes institutionelles Rahmenwerk erleichterte die Integration der Inhalte.

Für den Modulplanungsprozess wurde innerhalb der Fakultät ein mehrstufiger, formalisierter Prozess durchlaufen. Die Einrichtungen der Charité hatten regelmäßig vor dem Beginn jeder Modulplanungsrunde die Möglichkeit, Lehrinhaltsvorschläge einzureichen. Hierfür wurde eine Datenbank *„Curriculare Planungspfade Modellstudiengang Medizin“* eingerichtet, an deren Entwicklung Frau Ludwig maßgeblich beteiligt war. Frau Ludwig prüfte in dieser Datenbank die jeweils vorgeschlagenen Lehrinhalte auf die mögliche Integration von Gendermedizin und kontrollierte die Einträge des Instituts für Geschlechterforschung gemeinsam mit Frau Dr. Sabine Oertelt-Prigione.

Die Planung jedes Moduls gliederte sich in acht Sitzungen. In diesen Sitzungen wurden die eingereichten Lehrinhalte geprüft und diskutiert und das Modul interdisziplinär mit Fachvertretern und Fachvertreterinnen der grundlagenmedizinischen, psychosozialen, klinisch-theoretischen und klinischen Fächern geplant. Für jedes Modul wurde ein Modulhandbuch mit Hilfe der Lehrveranstaltungs- und Lernzieldatenbank (LLP) erstellt, in dem die einzelnen

Lehrveranstaltungen beschrieben sind. Es enthält unter anderem die Kurzbeschreibung, die Lernziele und die Lernspirale der einzelnen Veranstaltungen. Immer zwei Mitglieder der Projektsteuerung waren der Modulleitung eines zu planenden Moduls zugeordnet.

Sabine Ludwig nahm an den Modulplanungs-Sitzungen teil und betreute Module von Seiten der Projektsteuerung. Sie entwickelte eine 10-schrittige systematische Vorgehensweise zur Integration von Genderaspekten, die an den Modulplanungsprozess angelehnt war. Dieses wurde nach dem Abschluss jeder Modulplanungsrunde evaluiert und kontinuierlich verbessert.

Die Betreuung eines Moduls umfasste die enge Zusammenarbeit mit der Modulleitung, die Koordination und Vorbereitung der Vorbesprechungen zu den Modulplanungssitzungen, die Teilnahme an den Modulplanungssitzungen, inhaltliche Inputs zum formalen Ablauf des Modulplanungsprozesses, zu den Lehr- und Prüfungsformaten und zur Bedienung der Lehrveranstaltungs- und Lernzieldatenbank.

Zu den von ihr betreuten Modulen gehörte das Modul 12 „Ernährung, Verdauung, Stoffwechsel“, das Modul 14 „Niere, Elektrolyte“, das Modul 19 „Neoplasie als Krankheitsmodell“, das Modul 22 „Sexualität und endokrines System“, das Modul 35 „Geschlechtsspezifische Erkrankungen“, das Modul 38 „Blockpraktikum Allgemeinmedizin, Notfallmedizin, „Paperwork“, Schnittstellen“ und die Wahlpflichtmodule. Auf diese Weise konnte eine Integration von Inhalten der Gendermedizin und Genderperspektiven leichter erfolgen.

Bei den Modulplanungs-Sitzungen der Module, die sie nicht betreute, war sie anwesend und brachte die Inhalte der Gendermedizin in die Sitzungen mit ein. Hierfür prüfte sie die für das jeweilige Modul vorgeschlagenen Lehrveranstaltungen. Sobald die Modulplanungsgruppe und die Lehrveranstaltungsverantwortlichen den zu integrierenden Genderinhalten und Lernzielen zugestimmt hatten, überprüfte sie, ob diese in der Lehrveranstaltungs- und Lernzielplattform integriert waren und stellte somit deren Transfer in den Blueprint der Prüfungen sicher. Wenn dies nicht der Fall war, kontaktierte sie die für die Lehrveranstaltung zuständigen Personen. Sie unterstützte und beriet die Verantwortlichen der Lehrveranstaltungen bei der Formulierung von genderbezogenen Lernzielen und Lehrveranstaltungen und machte Vorschläge für deren Ausarbeitung, die sie mit Herrn Prof. Harm Peters, Frau Dr. Christine Kurmeyer und Frau Dr. Oertelt-Prigione abstimmte und mit internationalen Lernzielkatalogen abglich. Zudem verschickte sie den Lehrveranstaltungsverantwortlichen relevante Publikationen zu dem jeweiligen Thema. Zum Ende der Modulplanung wurde mit der Modulplanungsgruppe ein Review der eingereichten

Lehrveranstaltungen durchgeführt, dort merkte sie an, wo genderbezogene Aspekte bisher noch nicht integriert waren, jedoch Berücksichtigung finden sollten.

Bevor das Modulhandbuch finalisiert und dem Studienausschuss für den Modellstudiengang vorgelegt wurde prüfte sie dieses auf geschlechtergerechte Sprache.

Frau Sabine Ludwig begleitete das Modul 35 „Geschlechtsspezifische Erkrankungen“ (9. Semester) von Seiten der Projektsteuerung in enger Kooperation mit Frau Prof. Dr. Regitz-Zagrosek, der Modulverantwortlichen und Direktorin des Instituts für Geschlechterforschung in der Medizin und stimmte die dort integrierten genderspezifischen Lehrveranstaltungen mit den bisher integrierten Inhalten zur Gendermedizin ab. Dieses Modul stellt ein Kernmodul für die Integration von Gendermedizin und Genderperspektiven und ein Alleinstellungsmerkmal der Charité dar.

Sabine Ludwig nahm an den Studienausschuss-Reviews für alle vierzig Module teil, merkte an, wo Genderaspekte noch berücksichtigt werden sollten bzw. begründete auf Nachfragen, warum sie in bestimmten Lehrveranstaltungen integriert waren und beibehalten werden sollten. Sie arbeitete zudem an der Entwicklung des Konzepts für das Wahlpflichtmoduls zum Thema “Sexuelle und reproduktive Selbstbestimmung“ mitgearbeitet, das im 8. Semester integriert werden konnte.

Frau Ludwig analysierte und wertete anhand der Modulhandbücher und der Lehrveranstaltungs- und Lernzielplattform die genderbezogenen Lernziele und Lerninhalte quantitativ und qualitativ nach Semester, Modul und Lehrformaten aus. Sie erstellte die Grafiken und Tabellen und verfasste den Manuskriptentwurf, der von den anderen Autoren und Autorinnen geprüft, überarbeitet und in seine Endfassung gebracht wurde. Sabine Ludwig wählte gemeinsam mit Herrn Prof. Dr. Harm Peters, Herrn Prof. Dr. Manfred Gross, Frau Prof. Dr. Vera Regitz-Zagrosek und Frau Dr. Sabine Oertelt-Prigione wissenschaftlichen Zeitschriften aus, die für die Veröffentlichung dieses Artikels geeignet waren und reichte das Manuskript ein. Sie formulierte die Antworten auf die Kommentare der Reviewer und überarbeitete das Manuskript dementsprechend. Das überarbeitete Manuskript und die Antworten an die Reviewer wurden von allen Autoren und Autorinnen geprüft. Zudem warb sie gemeinsam mit Herrn Prof. Dr. Manfred Gross, Herrn Prof. Dr. Harm Peters, Frau Prof. Dr. Annette Grüters-Kieslich und Frau Dr. Christine Kurmeyer Drittmittel für das Projekt ein. **Sabine Ludwig ist korrespondierende Autorin dieses Artikels.**

Unterschrift, Datum und Stempel des betreuenden Hochschullehrers/der betreuenden Hochschullehrerin

_____

Unterschrift des Doktoranden/der Doktorandin

_____

AUSZUG AUS DER JOURNAL SUMMARY LIST (ISI Web of Knowledge[SM])

Im Fachbereich Women's Studies ist das Journal of Women's Health an **2. Stelle von 41** der nach Impact Factor sortierten Journals gelistet. Das Journal verfügt über einen **Impact Factor von 2,050, einen 5 Jahres-Impact Factor von 2,183 und einen Eigenfaktor von 0,01196 und gehört somit zu den Topjournals.** Im Folgenden ist ein Auszug aus der Journal Summary List JCR (ISI Web of Knowledge[SM]) für den Fachbereich Women's Studies sortiert nach Impact Factor beigefügt.

Quelle: ISI Web of Knowledge
http://admin-apps.webofknowledge.com/JCR/JCR?RQ=LIST_SUMMARY_JOURNAL Stand 180416

Journal Citation Reports®

WELCOME HELP 2014 JCR Social Science Edition

Journal Summary List Journal Title Changes

Journals from: subject categories WOMEN'S STUDIES VIEW CATEGORY SUMMARY LIST

Sorted by: Impact Factor SORT AGAIN

Journals 1 - 20 (of 41) [1 | 2 | 3] Page 1 of 3

MARK ALL UPDATE MARKED LIST *Ranking is based on your journal and sort selections.*

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data						Eigenfactor® Metrics	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor® Score	Article Influence® Score
☐	1	WOMEN HEALTH ISS	1049-3867	1357	2.330	2.396	0.325	80	5.0	0.00437	0.865
☐	2	J WOMENS HEALTH	1540-9996	3601	2.050	2.183	0.395	124	5.3	0.01196	0.781
☐	3	GENDER SOC	0891-2432	2510	1.956	3.570	0.188	32	>10.0	0.00507	2.113

☐	4	PSYCHOL WOMEN QUART	0361-6843	2295	1.879	2.142	0.395	38	>10.0	0.00260	0.832
☐	5	ASIAN WOMEN	1225-925X	73	1.848	0.833	0.000	15		0.00032	0.243
☐	6	SEX ROLES	0360-0025	4970	1.735	2.067	0.187	75	9.7	0.00837	0.838
☐	7	WOMEN HEALTH	0363-0242	1235	1.354	1.515	0.277	47	9.5	0.00183	0.507
☐	8	VIOLENCE AGAINST WOM	1077-8012	2264	1.191	1.751	0.455	77	8.4	0.00377	0.657
☐	9	GENDER PLACE CULT	0966-369X	938	1.183	1.768	0.165	79	7.3	0.00181	0.549
☐	10	FEM ECON	1354-5701	628	1.067	1.417	0.879	33	8.8	0.00159	0.760
☐	11	RADICAL PHILOS	0300-211X	151	1.054	0.761	0.167	18	6.2	0.00069	0.470
☐	12	SOC POLIT	1072-4745	424	1.043	1.292	0.208	24	8.8	0.00123	0.733
☐	13	GENDER WORK ORGAN	0968-6673	986	0.963	1.766	0.222	36	8.4	0.00201	0.688
☐	14	SIGNS	0097-9740	1354	0.896	0.996	0.123	57	>10.0	0.00261	0.662
☐	15	FEM THEOR	1464-7001	301	0.816	0.946	0.316	19	7.6	0.00074	0.500
☐	16	HEALTH CARE WOMEN IN	0739-9332	1064	0.802	0.932	0.090	78	9.1	0.00137	0.268

☐	17	FEM PSYCHOL	0959-3535	510	0.800	0.920	0.036	28	8.5	0.00100	0.361
☐	18	J MIDDLE E WOMENS ST	1552-5864	83	0.750		0.056	18		0.00051	
☐	19	POLIT GENDER	1743-923X	305	0.722	1.639	0.263	19	6.4	0.00154	1.165
☐	20	J GENDER STUD	0958-9236	204	0.681	0.842	0.138	29	5.8	0.00084	0.443

MARK ALL | UPDATE MARKED LIST

Impact Factor | SORT AGAIN

Journals 21 - 40 (of 41) [1 | *2* | 3] **Page 2 of 3**

MARK ALL | UPDATE MARKED LIST ***Ranking is based on your journal and sort selections.***

Mark	Rank	Abbreviated Journal Title *(linked to journal information)*	ISSN	JCR Data						*Eigenfactor®* Metrics	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	*Eigenfactor®* Score	*Article Influence®* Score
☐	21	EUR J WOMENS STUD	1350-5068	337	0.660	0.809	0.087	23	8.3	0.00083	0.475
☐	22	ASIAN J WOMEN STUD	1225-9276	69	0.628	0.385	0.214	28		0.00004	0.029
☐	23	J WOMEN AGING	0895-2841	290	0.600	0.779	0.105	19	8.7	0.00047	0.282
☐	24	AFFILIA J WOM SOC WO	0886-1099	249	0.538	0.697	0.081	37	6.8	0.00053	0.221
☐	25	INT FEM J POLIT	1461-	280	0.500	0.650	0.432	37	8.2	0.00095	0.428

			6742								
☐	26	INT J FEM APPROACHES	1937-4585	48	0.486		0.000	23		0.00031	
☐	27	WOMEN STUD INT FORUM	0277-5395	780	0.468	0.657	0.133	105	>10.0	0.00169	0.349
☐	28	GENDER LANG	1747-6321	39	0.448		0.000	16		0.00027	
☐	29	HYPATIA	0887-5367	616	0.446	0.778	0.019	54	>10.0	0.00126	0.369
☐	30	FEMINIST REV	0141-7789	390	0.368	0.552	0.077	13	>10.0	0.00051	0.307
☐	31	FEMINIST STUD	0046-3663	425	0.288	0.374	0.000	9	>10.0	0.00040	0.206
☐	32	TRAV GENRE SOC	1294-6303	34	0.261	0.164	0.000	6		0.00007	0.070
☐	33	DIFFERENCES	1040-7391	182	0.231	0.327	0.278	18	>10.0	0.00054	0.329
☐	34	FEM LEGAL STUD	0966-3622	121	0.207	0.595	0.000	11	7.0	0.00051	0.431
☐	35	WOMEN THER	0270-3149	203	0.200	0.191	0.043	23	>10.0	0.00013	0.061
☐	36	FRONTIERS	0160-9009	91	0.196	0.181	0.000	28		0.00019	0.105
☐	37	J WOMEN POLIT POLICY	1554-477X	56	0.182	0.373	0.077	13		0.00027	0.231
☐	38	AUST FEMINIST STUD	0816-	135	0.176	0.312	0.233	30	6.9	0.00044	0.198

			4649								
☐	39	J WOMENS HIST	1042-7961	151	0.120	0.180	0.000	30	>10.0	0.00038	0.149
☐	40	INDIAN J GEND STUD	0971-5215	60	0.100	0.256	0.053	19		0.00021	0.145

MARK ALL UPDATE MARKED LIST

Journals 21 - 40 (of 41) [1 | *2* | 3] **Page 2 of 3**

Journals 41 - 41 (of 41) [1 | 2 | *3*] **Page 3 of 3**

MARK ALL UPDATE MARKED LIST ***Ranking is based on your journal and sort selections.***

Mark	Rank	Abbreviated Journal Title *(linked to journal information)*	ISSN	JCR Data						*Eigenfactor®* Metrics	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	*Eigenfactor®* Score	*Article Influence®* Score
☐	41	FEMINISTISCHE STUD	0723-5186	19	0.036	0.043	0.083	12		0.00000	0.000

MARK ALL UPDATE MARKED LIST

Journals 41 - 41 (of 41)

DRUCKEXEMPLAR

DER AUSGEWÄHLTEN PUBLIKATION

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H. A Successful Strategy to Integrate Sex and Gender Medicine into a Newly Developed Medical Curriculum. Journal of Women's Health. December 2015, 24(12): 996-1005. doi:10.1089/jwh.2015.5249. Supplementary Data are available online at www.liebertpub.com/jwh

Impact Factor: 2.050
Eigenfactor Score: 0.01196

JOURNAL OF WOMEN'S HEALTH
Volume 24, Number 12, 2015

DOI: 10.1089/jwh.2015.5249

A Successful Strategy to Integrate Sex and Gender Medicine into a Newly Developed Medical Curriculum

Sabine Ludwig, Dipl. oec., MA,[1] Sabine Oertelt-Prigione, MD, MScPH,[2,3] Christine Kurmeyer, PhD, MA,[4] Manfred Gross, MD,[5] Annette Grüters-Kieslich, MD,[6] Vera Regitz-Zagrosek, MD,[2,3] and Harm Peters, MD[1]

Abstract

Background: A new modular, outcome-based, interdisciplinary curriculum was introduced for undergraduate medical education at one of the largest European medical faculties. A key stated institutional goal was to systematically integrate sex and gender medicine and gender perspectives into the curriculum in order to foster adequate gender-related knowledge and skills for future doctors concerning the etiology, pathogenesis, clinical presentation, diagnosis, treatment, and research of diseases.
Methods: A change agent was integrated directly into the curriculum development team to facilitate interactions with all key players of the curricular development process. The gender change agent established a supporting organizational framework of all stakeholders, and developed a 10-step approach including identification, selection, placing relevant sex and gender medicine–related issues in the curricular planning sessions, counseling of faculty members, and monitoring of the integration achieved.
Results: With this approach, quantitatively sex and gender medicine–related content was widely integrated throughout all teaching and learning formats and from early basic science to later clinical modules (94 lectures, 33 seminars, and 16 practical courses). Gender perspectives involve 5% of the learning objectives and represent an integral part of the assessment program. Qualitatively, the relevance of gender (sociocultural) differences was combined with sex (biological) differences in disease manifestation throughout the curriculum.
Conclusions: The appointment of a change agent facilitates the development of systematic approaches that can be a key and serve as practice models to successfully integrate new overarching curricular perspectives and dimensions—in this case sex and gender medicine—into a new medical curriculum.

Introduction

Medicine in the 21st century is characterized by an ongoing rapid and global increase in knowledge and understanding of human health and disease as well as progressive discussions on how best to approach them. Medicine is constantly changing and so is undergraduate medical education. Medical progress should continuously be evaluated regarding its relevance for incorporation into undergraduate medical curricula. Diversity issues such as gender/sex, age, culture or ethnicity, religious beliefs, sexual orientation, and disabilities represent one area of major changes in knowledge and is an understanding and perspective that has impacted medicine in recent years.[1,2] Undergraduate medical education has some tendency to stereotype patients through the study of presenting clinical signs and symptoms, yet it is evident that diversity issues have an important influence on the prevention, development, diagnosis, clinical presentation, progression, and treatment of diseases. They can also lead to different health behavior, including the acceptance of preventive measures and therefore require adequate knowledge and skills from medical doctors.[3–7]

The impact of sex and gender represents a major domain in the field of diversity and is analyzed in the novel discipline of

[1]Dieter Scheffner Centre for Medical Education and Educational Research, [2]Institute of Gender in Medicine, [4]Office for Equal Opportunities, [5]Department of Audiology and Phoniatrics, and [6]Institute of Experimental Pediatric Endocrinology, Charité–Universitätsmedizin, Berlin, Germany.
[3]German Centre for Cardiovascular Research (DZHK), Berlin, Germany.

sex and gender medicine.[8,9] Sex and gender medicine takes into account both biological sex and gender as a sociocultural process and their effects on women's and men's health to improve health and health care for both women and men.[10,11] Because sex and gender cannot be properly separated in the medical field, biological sex is seen to influence health by modifying one's behavior and lifestyle and gender-behavior can modify biological factors and thereby health, thus the term ''sex and gender medicine'' was introduced.[12]

Since sex and gender medicine is rapidly growing in respect to knowledge and importance,[13] the content and modality of its implementation are relevant questions in the development of novel strategies for undergraduate medical education.[14–18]

In 2010, a large European medical faculty, the Charité–Universitätsmedizin Berlin, started to enroll all new medical students into a new medical curriculum (see Supplementary Fig. 1; Supplementary Data are available online at www.liebertpub.com/jwh). This undergraduate program is of modular structure, fully integrated, competence based, outcome oriented, and involves patient contact from the beginning. The new curriculum has been sequentially (i.e., module and term-wise) planned and implemented following a standardized, systematic, and faculty-wide approach. Along with the fundamental curricular changes, the faculty directors declared the goal to implement sex and gender medicine and gender perspectives throughout the curriculum and assigned a change agent to achieve this mission. The final aim is to foster the students' ability to apply the gender perspective as an important tool to improve their diagnostic, clinical and treatment skills as well as communication abilities with the patient. The consideration and knowledge of sex and gender differences in the development, diagnosis, and treatment of diseases results in a more personalized, cost-effective, and better quality of medical care for men and women.[19]

Since both the medical treatment as well as the interaction between the doctor and the patient is highly influenced by gender,[20–23] the students need to be aware that next to clinical relevance, gender roles, and gender stereotypes are important aspects that can affect their professional activities.[24] Many diseases, like thyroid gland disorders[25] for instance, and various cancers follow different patterns depending on the patient's sex.[26] Gender as the psychosocial and the cultural determinant of the sex of the patient is an important predictor of many attitudes and behaviors that have an impact on health and disease.[27] Several studies have shown that communication can lead to different treatment decisions depending on the gender/sex of the patient or doctor.[21] For example, women are more likely to receive prescriptions during a visit to the physician, are more often prescribed psychotropic medication, and spend more money on prescription and nonprescription drugs in general.[28]

A standard for integration of sex and gender medicine and gender aspects in undergraduate medical education was proposed by Verdonk et al.[29] This includes: (1) a list of diseases and issues with sex and gender differences which are to be recognized and explained including risk factors, prevention, development, diagnosis, progression, and treatment of diseases; (2) the incorporation of gender differences into the final block objectives; (3) an education that focuses on both biomedical and sociocultural differences; (4) an education on gender differences over the course of several study years (minimum of 2 years); (5) a coverage of at least six to eight blocks of the central curriculum; and (6) the opportunity to select one optional block on sex and gender issues.

In this article, we report on systematic strategies for the integration of new aspects (e.g. sex and gender medicine issues and gender perspectives) by a change agent and on the extent and quality of curricular implementation, which was achieved in reference to the standard defined by Verdonk et al.[29] The following questions are addressed: (1) How could sex and gender medicine issues be integrated into the different teaching formats of the new curriculum and what factors played a role? (2) Was the integration successful?

Materials and Methods

Basic information on the new curriculum and planning process

The new undergraduate medical training program is 6 years long and follows the European Union standard requirement of 5500 teaching hours per student. There are two intakes per year, comprising 300 students each. Years 1–5 consist of 10 semesters and comprise 40 modules. Year 6 consists of 3 clinical rotations, each 4 months long. The planning of the modules of the new curriculum started in 2010 and was finalized in 2014. During each curricular development cycle, four modules of one semester were planned. The planning cycle began nine months before the corresponding semester started. Module planning and design involved a standardized eight-step approach, with eight sessions, where one session was 2 hours per week.

Introduction of a change agent for sex and gender medicine

The main objectives of the change agent were the development of a supporting organizational structure for sex and gender medicine and gender perspectives as well as a standardized approach along the general curricular development process allowing a systematic and efficient incorporation of sex and gender medicine and gender aspects into the new curriculum. It also involved a monitoring of the integrated contents.

There was one change agent employed for a full position as research officer being recruited through a common vacancy announcement. The position was co-financed by a grant of the Berlin state government (Berliner Chancengleichheitsprogramm). The change agent did not receive any special training, but was supported—mainly content-wise—by the Institute of Gender in Medicine at Charité. That person was then given the opportunity and also expected to deepen his/her knowledge while being in this position (''learning on the job''). In addition to the characteristics similar to those of a curriculum developer, the key features of the change agent were a medical background (medicine, public health) and a qualification involving social sciences/gender studies. Also, a thorough knowledge of sex and gender medicine aspects as well as gender mainstreaming into organizations, like those of higher education institutions, were compulsory. It is not necessary that the change agent is in fact a medical doctor, but she/he needs to have a reasonable understanding of medicine.

Establishing a supporting organizational framework for incorporating sex and gender medicine into the new curriculum

The change agent established an organizational framework based on the resources available at the university and the structures and stakeholders providing support to the integration of sex and gender medicine–related aspects into the new curriculum (see Fig. 1). The key to the organizational framework was the placement of the change agent directly into the project management team in charge of the curricular development process of the new curriculum. The project management team consists of an interdisciplinary group of curriculum developers and works in close and constant communication with (1) faculty delegates from all disciplines and departments; (2) centrally located educational experts for e-learning, problem-based learning, communication training, evaluation, and assessment; and (3) members of the faculty directory, especially the dean of student affairs. By being part of this team, the change agent participated regularly in the module planning process and thus could ensure that diversity perspectives, especially sex and gender medicine aspects, were taken into consideration in all important decisions during each step of the curricular planning process.

The work of the change agent was supported by three pillars: governance, faculty, and society (Fig. 1). The faculty directors depicted the goal—besides the initial project concept and a successful grant application—to widely foster sex and gender medicine in research, practice and education (''governance''). The meetings of the curricular academic board were held weekly. The change agent participated actively and provided routine updates on the incorporation of sex and gender medicine–related issues during the module planning process. Further support came from the equal opportunities officer of the faculty, who supported the change agent politically in the module planning sessions and in the meetings of the curricular academic board and the board of the faculty directors when necessary.

The second pillar (''faculty'') represents internal professional support by the faculty. This occurred mainly along module planning processes with constant and intense interactions with different faculty members (i.e., the teaching coordinators and professors of the Charité departments and institutes who were counseled individually on sex and gender medicine issues when appropriate). An intense and regular cooperation and interaction was established with the Institute of Gender in Medicine at Charité that significantly contributed to the process.

The third pillar (''society'') was formed by society demands (e.g., higher attention to gender and diversity in medical research, practice, and education). This led to political initiatives and pressure on universities and contributed to increased public funding for this subject, including funding opportunities for this project. Furthermore, the knowledge in the population of sex- and gender-specific aspects in medicine has increased mainly through media reports and discussions. The change agent served as contact person for media and was involved in Berlin governmental activities on sex- and gender-specific aspects in medical education to further civil society's enhance the awareness of those issues.

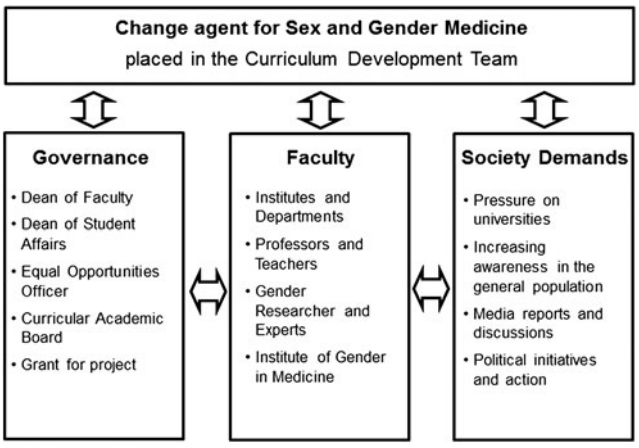


FIG. 1. Organizational framework at the university to support the integration of sex and gender medicine and gender perspectives into the new medical curriculum.

Approach to identify, select, and place sex and gender medicine issues into the module planning process

The change agent developed and followed a systematic, 10-step approach (Fig. 2). For the planned curriculum, this approach involved three phases and was adjusted to the general standardized curriculum planning process.

The first phase (pre-module planning phase, steps 1–3) served as a preparation for the upcoming module planning cycle (Fig. 2). The basis here was an extended, wide-ranging search on sex and gender medicine–related knowledge, skills, and attitudes to be potentially integrated into specific modules. This involved a systematic search of the published literature[30–35] and of international learning objective catalogues.[36] Further input came from the Institute of Gender in Medicine,[9] the equal opportunities officer, and other gender experts of the faculty. The potential teaching and learning contents were then selected on the basis of what had previously been incorporated into the curriculum and the appropriateness for undergraduate medical education.

During the module-planning phase (steps 4–8), the selected sex and gender medicine issues were placed in the early planning sessions. The role of the change agent was then two-fold: (a) to foster and support the curricular integration of teaching courses predominantly on sex and gender medicine and gender perspectives with sex- and gender-related teaching content and sex- and gender-related learning objectives (monothematic courses), and (b) to position and aid the inclusion of teaching contents for items in which sex and gender medicine aspects were not yet incorporated or were insufficiently visible. Furthermore, the change agent provided counseling to faculty members on sex and gender medicine aspects to be included in their teaching proposals when appropriate, and provided support with the formulation of learning objectives and the course description. At the end of the module-planning phase, the change agent monitored the curricular incorporation of sex and gender medicine issues actually achieved and their translation into the assessment blueprint.

In the third phase (post-module planning, steps 9–10), the change agent participated in the module review process of the curricular academic board, in case additional information on

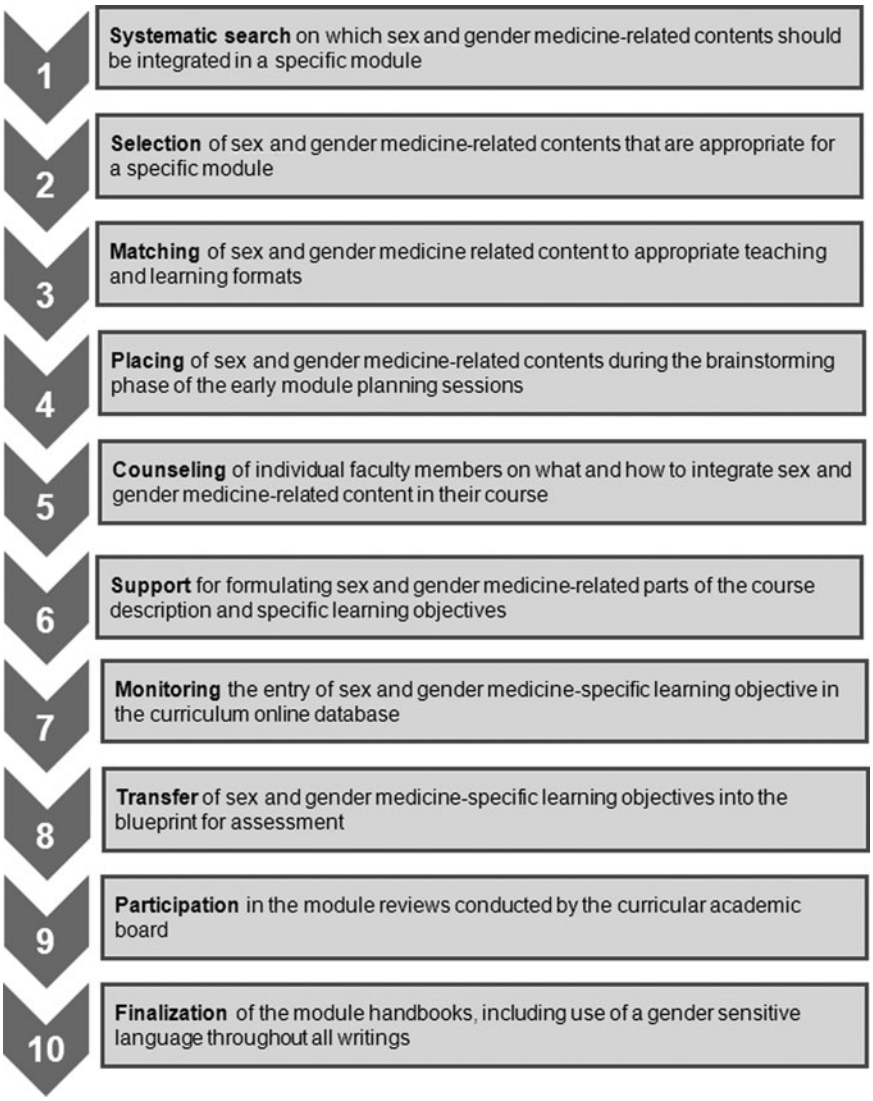


FIG. 2. Systematic, 10-step approach to incorporate sex and gender medicine issues along the regular module-planning cycles of the new medical curriculum.

the incorporated sex and gender medicine aspects was needed. After the module-planning group had addressed and integrated the proposed changes by the curricular academic board appropriately, the change agent supported the finalization of the module handbook by editing it for the use of gender sensitive language throughout all writings.

Results

Quantitative and qualitative results demonstrating the success and efficacy of the described approach as well as the identified success factors for the integration of sex and gender medicine aspects into the curriculum are summarized as follows.

Quantitative integration of sex and gender medicine aspects throughout the curriculum

The integration of sex and gender medicine aspects and gender perspectives throughout the curriculum was realized in the form of monothematic courses on sex and gender medicine and through the integration of sex and gender medicine aspects into other subject courses whenever deemed relevant by the overall subject and in agreement with the lecturers. Sex and gender medicine–relevant teaching content was made explicit in module handbooks (e.g., in learning objectives, title, and short descriptions of the individual teaching courses).

Figure 3 provides an overview of the quantitative integration of sex and gender medicine aspects within the entire curriculum into the different modules and the different teaching formats. In total, there are 94 lectures (out of 442, 21%), 33 seminars (out of 284, 12%), and 16 practical courses (out of 199, 8%) integrating sex and gender aspects. Lectures are given to a large group of students (80–300 students depending on the semester and the rotation of modules). The size of a seminar group is 20 students, and of a practical course, either 8 or 16 students. Lectures focus on conveying cognitive skills, whereas seminars convey mostly cognitive and some practical skills. In practical courses, practical skills-oriented learning objectives prevail. In the basic sciences modules (modules 1–8), there are six lectures including sex and gender aspects as teaching content and/or learning objective; three of them are monothematic courses on sex and gender aspects taught by gender experts of the faculty. In the organ and body system modules (modules 9–20), there are

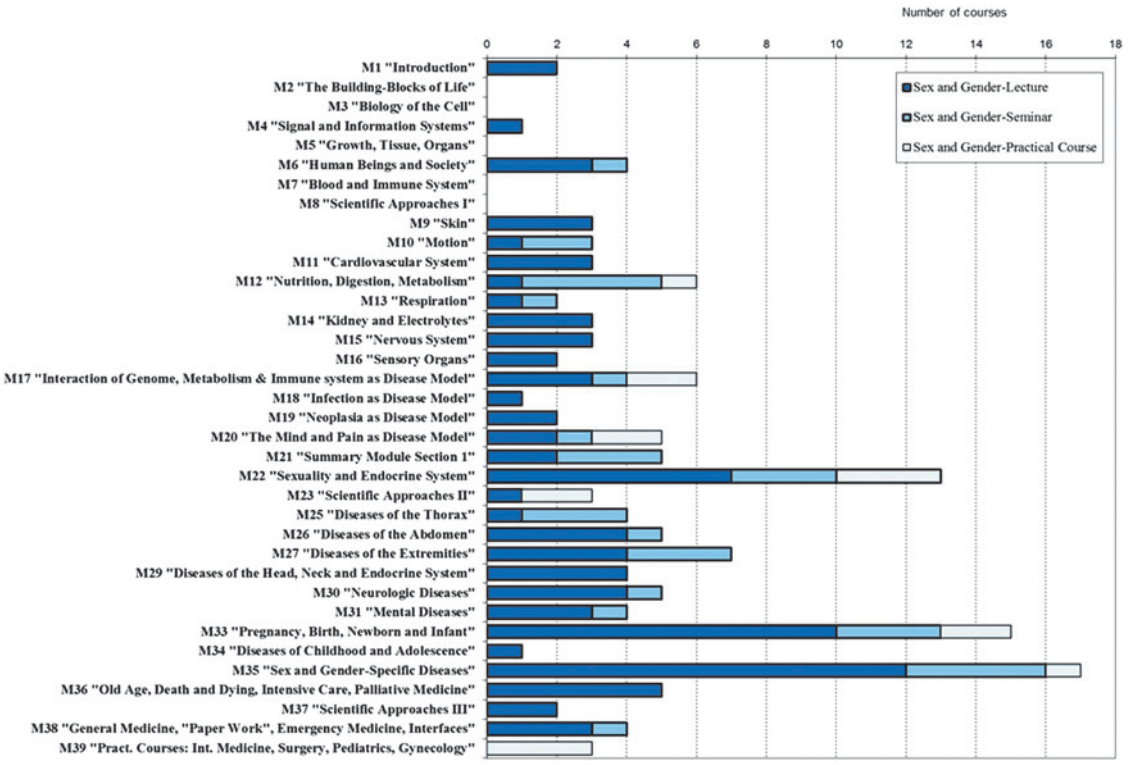


FIG. 3. Integration of sex and gender aspects and perspectives into different teaching formats and into the modules throughout the new undergraduate medical curriculum (M, module). Color images available online at www.liebertpub.com/jwh

25 lectures, 9 seminars, and 5 practical courses incorporating gender aspects as teaching content and/or learning objectives. One lecture is a monothematic course on sex and gender medicine aspects taught by the Institute of Gender in Medicine.

In the clinical modules (modules 21–39), there are 60 lectures, 22 seminars, and 8 practical courses with integrated gender aspects as teaching content and/or learning objective. In Module 35, ''Sex and Gender-Specific Diseases,'' there are 12 lectures, 4 seminars, and 1 practical course on gender aspects. Out of these lectures, three are taught by the Institute of Gender in Medicine.

In total, the new curriculum includes 223 learning objectives (out of 4456, 5.0%), whereby there is an explicit focus on sex- and gender-specific aspects. These learning objectives provide a basis for the assessment blueprint and thus for the incorporation of sex and gender medicine aspects and gender perspectives into the regular assessment program of the new curriculum.

Qualitative integration of sex and gender medicine aspects throughout the curriculum

The qualitative integration of sex and gender medicine into the new curriculum is illustrated in Tables 1 and 2.

In addition to courses on sex-specific expressions of diseases, the impact of gender (sociocultural) differences was incorporated throughout the curriculum in order to provide a holistic sex and gender medicine view on the health and disease of women and men.

Table 1 shows examples of sex and gender medicine-specific learning objectives that were integrated into the different modules. In the first week of their studies (i.e., during Module 1, ''Introduction,'' the students have two compulsory lectures on sex and gender medicine and gender aspects in health). One of the lectures is taught by the Institute of Gender in Medicine with the title ''Sex and Gender Aspects in Clinical Medicine.'' Table 1 lists one of its learning objectives. The other discusses the impact of gender and other aspects on career planning in medicine (Table 2). Furthermore, examples of learning objectives within the basic sciences modules (module 4), the organ and body system modules (module 11), the disease model modules (module 19), the clinical modules (module 35) and a communication course on gender-specific aspects in doctor–patient communication discussing gender roles and gender stereotypes are depicted.

Gender perspectives were also integrated into the modules with a focus on scientific approaches (Table 1) to make students consider diversity, sex, and gender aspects when designing, conducting, and presenting their compulsory scientific project or when interpreting scientific results in general.

A new qualitative dimension for the curricular integration of sex and gender medicine and gender aspects was reached by assigning one compulsory, 3-week module in the ninth semester to sex and gender differences in health and diseases (Module 35, ''Sex and Gender-Specific Diseases''). In this module, one week is dedicated to broaden and deepen sex and gender medicine knowledge and understanding on factors influencing the development of sex and gender differences in

Table 1. Examples of Integrating Sex and Gender Medicine-Specific Learning Objectives into the New Modular Medical Curriculum

Students shall be able to:
M1: ''Introduction'' (first semester)
• define sex (biological) and gender (sociocultural)
M4: ''Signal and Information Systems'' (first semester)
• name functions that are sexual steroid hormone-dependent and gender-specific symptoms of diseases (cardiovascular diseases)
M6: ''Human Beings and Society'' (second semester)
• reflect on the influence of gender-specific roles on the doctor-patient relationship
• reflect on the relevance and influence of their own gender stereotypes on the doctor-patient relationship
M11: ''Cardiovascular Diseases'' (third semester)
• name the most important psychosocial and gender-specific risk factors for cardiovascular diseases
• name the clinical forms of manifestation of myocardial infarction including gender-specific differences
M19: ''Neoplasia as Disease Model'' (fifth semester)
• explain the possibilities of primary prevention of neoplastic diseases taking age and patient gender into consideration
• explain the possibilities of support and the different needs of the patient taking gender and sex aspects into account
M23: ''Scientific Approaches II'' (sixth semester)
• explain the strategic planning of a scientific study using the example of new therapies of inflammatory diseases taking aspects like sex, gender, age and comorbidities into consideration
M35: ''Sex and Gender-Specific Diseases'' (ninth semester)
• explain gender differences on a cellular level for type 2 diabetes mellitus, lung cancer and cardiovascular diseases
• conduct a gender sensitive anamnesis, gender sensitive diagnosis and therapy
• explain gender-specific differences in pharmacokinetics
• explain the gender bias as far as the development of pharmaceuticals and their admission to the market and its possible consequences are concerned
• explain gender differences in pain perception on an anatomic and functional level
• explain the basics for the development of gender differences in inflammatory liver diseases
• explain gender differences in health behavior
M37: ''Scientific Approaches III'' (ninth semester)
• take diversity aspects like gender, age and ethnicity into consideration when interpreting and communicating the study results

M, module.

diseases like genes, hormones and the environment, as well as sex and gender differences in diagnosis, disease manifestation, management, and therapy. Furthermore, sex and gender differences in pharmacodynamics and pharmacokinetics, the health behavior of men and women, and the relevance of domestic violence are incorporated. The other weeks cover diseases of the sexual organs, such as hyperplasia of the prostate gland, prostate carcinoma, or diseases of the penis as well as, for example, ovarian or vulva carcinoma and uterine bleeding. Infertility, HIV/AIDS, sexually transmitted diseases, and rehabilitation after mamma and prostate carcinomas are also discussed. For all issues covered in this module, both the impact of sex and gender are part of teaching and learning. Table 1 shows some of the learning objectives integrated into this module. Electives also incorporate sex and gender aspects; for example, there is one elective module on sexual and reproductive autonomy specifically covering gender issues in family planning including abortion.

Table 2 illustrates the integrated sex and gender medicine issues throughout the curriculum compared with those proposed by Verdonk et al.[29] and the ones going beyond these criteria, for instance, sex and gender aspects in pain perception, pediatric orthopedics, and neoplasia.

Success factors for the curricular integration of sex and gender medicine

In our view, the following factors were important for the successful and far-reaching integration of sex and gender medicine aspects and gender perspectives into our undergraduate medical curriculum:

- appointment of a gender change agent;
- placement of the change agent into the curriculum development team;
- establishment of a supportive structure;
- development of a 10-step approach;
- constant participation and attendance of the module design sessions;
- close contact with the main stakeholders of the curricular change process;
- continuous interaction with the Institute of Gender in Medicine and other gender experts and gender researchers of the faculty with expertise in this field;
- institutional support by the dean of the faculty, the dean of student affairs, and the equal opportunities officer; and
- civil society support, political interest, and interest by the media.

Table 2. Examples of Integrating Gender-Related Issues into the New Undergraduate Medical Curriculum

Integrated sex and gender medicine aspects according to those proposed by Verdonk et al.[23]
M22, 33, 35: Transitional phases (menopause, adolescence)
M25, 35: Pharmacotherapy
M11, 25: Cardiovascular diseases
M14, 35: Urinary tract infections, other micturition complaints
M35, 36: Urinary incontinence
M22, 32, 35: Reproduction, contraception, sexually transmitted diseases, infertility
M31, 34: Eating disorders
M6, 12, 17: Obesity
M31: Addiction to alcohol or benzodiazepines
M20, 31: Depression, anxiety disorders
M22, 33, 35: Sexual abuse and violence, child abuse, partner violence
M6, 20, 31: Post-traumatic stress disorders
M6, 22, 35: Sexuality and sexual problems, sexual identity
M6, 35: Communication
M6, 12, 22, 35: Gender and culture
M6, 22, 35: Gender-specific health care/quality of care
Further integrated issues taking gender differences into account beyond those proposed by Verdonk et al.[23] *(in the order in which they appear in the curriculum)*
M1: Career planning
M4: Basic sciences: Steroid hormones
M6: Social determinants of health and disease
M9: Hormones and skin
M9: Dermatitis and eczema
M10: Osteoporosis
M13: Chronic obstructive pulmonary disease
M15: Multiple sclerosis
M15: Idiopathic Parkinson syndrome
M15: Dementia
M17: Diabetes mellitus
M17: Hemochromatosis
M17: Autoimmune diseases
M18: Hepatitis
M19: Neoplasia
M20: Pain perception
M21: Burn-out
M23 and M37: Research
M25: Bronchial asthma
M26: Transplantation
M26: Irritable bowel syndrome
M27: Orthopedics
M27: Sports injuries
M27: Pediatric orthopedics
M29: Hearing disorders
M29: Diseases of the mucosa

Discussion

Integration of sex and gender medicine in other medical curricula

The inclusion of sex and gender medicine into undergraduate medical curricula has started recently and has already made progress in several countries. In Europe, for example Radboud University in the Netherlands,[29,37] Umea University,[38] and the Karolinska Institute[39] in Sweden as well as several universities in Austria[40] have made significant efforts to integrate sex and gender aspects into their existing curricula and improve the gender awareness of future medical doctors.[41] Also, in Canadian[15,16,42,43] and American[44–46] medical schools, sex- and gender-sensitive curricula are being developed.[47] Verdonk et al. developed the previously described catalogue of characteristics for a successful integration of gender into a medical curriculum, first for the basic curriculum of the University of Nijmegen[29] and then for a Dutch national project,[48] and developed the Nijmegen Gender awareness scale that was used in a study with Dutch and Swedish medical students.[49] Dielissen et al. have also developed a teaching program in gender-specific medicine for general practice training.[50]

Compared with the work by Verdonk et al.,[29] we have gone further and have integrated sex and gender differences into the additional issues presented in Table 2 as described previously. Furthermore, we also achieved an integration into the learning objectives and therefore into the final module (block)

objectives of the study program as well as into the assessment blueprint (criterion 2); the integration of both biomedical (sex) and sociocultural (gender) differences all over the curriculum (5 years, 40 modules; criteria 3–5); and one elective and one complete module on sex and gender-specific diseases being compulsory for all students (criterion 6). In this sense, our new curriculum has successfully integrated sex and gender and goes beyond the criteria already developed.

Barriers

Several barriers were experienced during the curricular integration of sex and gender medicine aspects within the framework of this study. One barrier involved some resistances from faculty members towards this subject. However, in many cases this could be overcome by the change agent through qualified arguments to explain the integration and the provision of research findings on sex and gender differences in diseases. Another barrier was the limited curricular teaching time available in the curriculum and the competition of all disciplines to place their contents. This problem was partly approached by deciding to integrate the selected sex and gender medicine issues into other subject courses over the whole curriculum. Another barrier was and still is that the planned courses are not always taught by the actual course planners who were present in the module planning sessions and responsible for the course conception, but rather by other faculty members of their respective institute or clinic. In some cases, partly due to insufficient briefing by the course planner, those lecturers did not teach the integrated sex and gender medicine aspects as originally foreseen. Finally, a concern may be the sustainability of the integrated sex and gender medicine aspects when there is no more change agent. We think that the establishment of a quality control process linked to the periodic module review cycles and the curricular academic board as well as a network of sex and gender medicine experts within the faculty participating in the periodic module review cycles and the approval of curricular changes by the curricular academic board will contribute to the sustainability of the integrated aspects.

Limitations

When interpreting this report, several limitations should be considered. Firstly, the study was situated in a single, large university medical school with relevant institutional support. Secondly, there was third party funding for the change agent. Thirdly, the integration of sex and gender medicine issues was paralleled with the introduction and implementation of a completely new curriculum. This may limit its transferability to situations where different conditions prevail. Those could for instance be differences in the size of the medical school, the degree of institutional support, the resources for a change agent, or the extent of the curricular change process.

Concept for different levels of sex and gender medicine integration

Figure 4 illustrates our concept of different levels of integration of sex and gender medicine. This model is based on Silverman's[51] description of the integration of communication skills into a medical curriculum. While the loose appearance of sex- and gender-related content represents a low level of integration, full integration is achieved when sex and gender medicine is taught in the form of sex and gender medicine-specific and complementary courses, multiple teaching formats and modules, and when it is an integral part of the assessment program. All of the above elements could be achieved in the current curriculum.

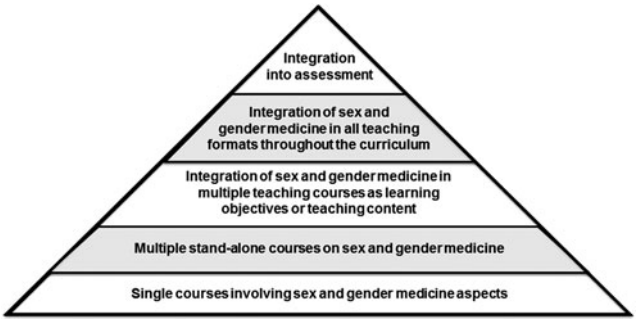


FIG. 4. Levels of sex and gender medicine integration into a medical curriculum.

Conclusions

Appointing a change agent is a successful strategy for the systematic and successful integration of new educational overarching aspects and perspectives (e.g., sex and gender medicine and gender perspectives) into a new medical curriculum. This clearly applies to the integration of sex and gender medicine but may apply to other diversity categories as well. We believe that this report offers relevant and adaptable approaches for other medical faculties, who wish to achieve a comprehensive integration of sex- and gender-related content into their curricula. As those approaches are already developed, we believe that it will be possible for other faculties to integrate sex and gender medicine aspects with less financial and time resources than our faculty has needed.

Acknowledgments

The authors wish to thank the curriculum development team and the curricular academic board of the new modular medical curriculum for the continuous support of this project.

The study was financed by a grant from the Berlin state government within the Promotion of Gender Equality in Research and Higher Education program (Berliner Chancengleichheitsprogramm).

The content of this article is solely the responsibility of the authors and does not necessarily represent the official views of the Charité–Universitätsmedizin Berlin.

Author Disclosure Statement

No competing financial interests exist here.

References

1. Lee M, Coulehan JL. Medical students' perceptions of racial diversity and gender equality. Med Educ 2006;40:691–696.
2. Cooper-Patrick L, Gallo JJ, Gonzales JJ, et al. Race, gender, and partnership in the patient-physician relationship. JAMA 1999;282:583–589.

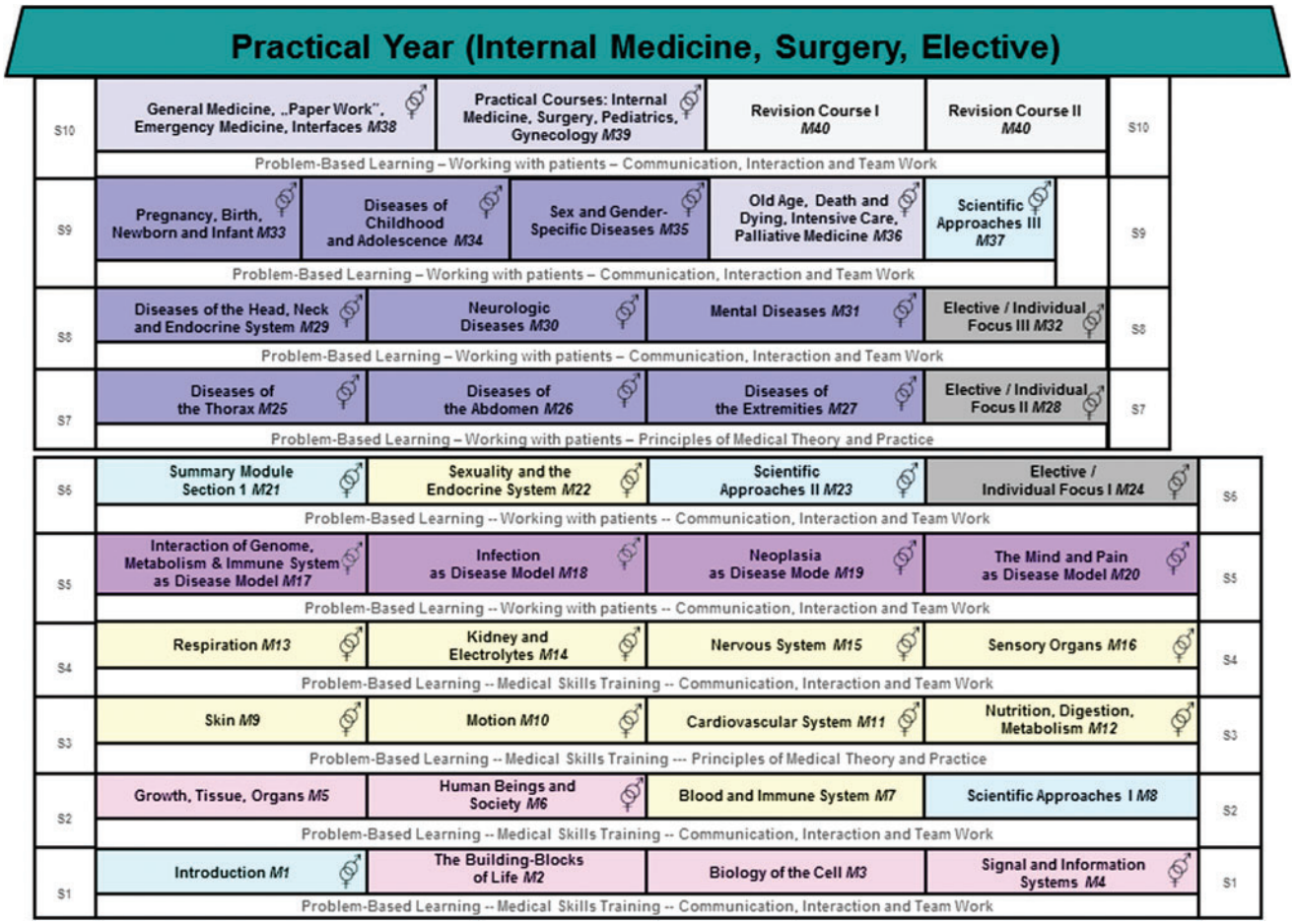
3. Andersson J, Salander P, Hamberg K. Using patients' narratives to reveal gender stereotypes among medical students. Acad Med 2013;88:1015–1021.
4. Weisman CS. Advocating for gender-specific health care: A historical perspective. J Gender-Specific Med 2000;3:22–24.
5. Hoffmann E, Magrane D, Donoghue G. Changing perspectives on sex and gender in medical education. Acad Med 2000;75:1051–1055.
6. Lagro-Janssen T. Gender and sex: issues in medical education. GMS Ger Med Sci 2010;27:Doc27.
7. Legato M. Untying the gordian knot: What We do and don't know about gender-specific medicine–keynote address for the 2014 Academic Emergency Medicine Consensus Conference. Acad Emerg Med 2014;21:1320–1324.
8. Rieder A, Lohff B. Gender medizin: Geschlechtsspezifische Aspekte für die klinische Praxis [Gender medicine: Gender-specific aspects for clinical practice]. Wien and New York: Springer, 2008:1–12.
9. Oertelt-Prigione S, Regitz-Zagrosek V, eds. Sex and Gender Aspects in Clinical Medicine. London: Springer, 2012.
10. Regitz-Zagrosek V. Why Do we need gender medicine? In: Oertelt-Prigione S, Regitz-Zagrosek V, eds. Sex and Gender Aspects in Clinical Medicine. London, 2012:1–4.
11. Oertelt-Prigione S. Sex and Gender in Medical Literature. In: Oertelt-Prigione S, Regitz-Zagrosek V, eds. Sex and gender aspects in clinical medicine. London: Springer, 2012:9–15.
12. Regitz-Zagrosek, V. Sex and gender differences in health. EMBO reports 2012; 13:596–603.
13. Lagro-Janssen T, Lo Fo Wong S, van den Muijsenbergh M. The importance of gender in health problems. Eur J Gen Pract 2008;14:33–37.
14. Pfleiderer B, Burghaus D, Bayer G, Kindler-Rohrborn A, Heue M, Becker JC. Integration of gender-specific aspects into medical curricula–status quo and future perspectives. GMS Ger Med Sci 2012;29:Doc65.
15. Phillips S. The social context of women's health: Goals and objectives for medical education. Can Med Assoc J 1995; 152:507–511.
16. Phillips SP. Measuring the health effects of gender. J Epidemiol Community Health 2008;62:368–371.
17. Weiss LB, Levison SP. Tools for integrating women's health into medical education: clinical cases and concept mapping. Acad Med 2000;75:1081–1086.
18. Doyal L. Sex, gender, and health: the need for a new approach. BMJ 2001;323:1061–1063.
19. McGregor AJ, Templeton K, Kleinman MR, Jenkins MR. Advancing sex and gender competency in medicine: Sex and gender women's health collaborative. Biol Sex Differ 2013;4:11.
20. Hall JA, Irish JT, Roter DL, Ehrlich CM, Miller LH. Gender in medical encounters: an analysis of physician and patient communication in a primary care setting. Health Psychol 1994;13:384–392.
21. Hall JA, Roter DL. Patient gender and communication with physicians: results of a community-based study. Women's Health 1995;1:77–95.
22. Cousin G, Schmid Mast M, Jaunin-Stalder N. Finding the right interactional temperature: Do colder patients need more warmth in physician communication style? Soc Sci Med 2013;98:18–23.
23. Cousin G, Schmid Mast M, Jaunin-Stalder N. When physician-expressed uncertainty leads to patient dissatisfaction: A gender study. Med Educ 2013;47:923–931.
24. Hamberg K. Gender bias in medicine. Women's Health (Lond Engl) 2008;4:237–243.
25. Kautzky-Willer A. Sex and gender differences in endocrinology. In: Oertelt-Prigione S, Regitz-Zagrosek V, eds. Sex and gender aspects in clinical medicine. London: Springer, 2012:125–149.
26. Fox JG, Rogers AB, Ihrig M et al. Helicobacter pylori-associated gastric cancer in INS-GAS mice is gender specific. Cancer Res 2003:63:942–950.
27. Dielissen PW. Gender medicine in GP training. Design, evaluation and development. Thesis. Department of Primary and Community Care and Department of Women's Studies Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, the Netherlands, 2012.
28. Rosenfeld J A. Handbook of women's health. Cambridge: Cambridge University Press, 2001:7.
29. Verdonk P, Mans LJ, Lagro-Janssen AL. Integrating gender into a basic medical curriculum. Med Educ 2005;39:1118–1125.
30. Kuhlmey A, Rauchfuß M, Rosemeier H. Frauen in Gesundheit und Krankheit: Die psychosoziale Lebensperspektive [Health and diseases of women: The psychosocial perspective on life]. Berlin: trafo-Verlag, 1998:7–61.
31. Maschewsky-Schneider U. Frauen sind anders krank: Zur gesundheitlichen Lage der Frauen in Deutschland [Diseases present differently in women: The health situation of women in Germany]. München: Juventa, 1997.
32. Bundesministerium für Familie, Senioren, Frauen und Jugend. Bericht zur gesundheitlichen Situation von Frauen in Deutschland [German Federal Ministry of Family Affairs, Senior Citizens, Women and Youth: Report on the health situation of women in Germany]. Berlin: Bundesministerium für Familie, Senioren, Frauen und Jugend, 1999.
33. Oertelt-Prigione S, Gohlke BO, Dunkel M, Preissner R, Regitz-Zagrosek V. GenderMedDB: An interactive database of sex and gender-specific medical literature. Biol Sex Diff 2014;5:7.
34. Legato, MJ. Principles of gender-specific medicine. Amsterdam: Academic Press, 2009.
35. Schenk-Gustafsson K, DeCola PR, Pfaff DW, Pisetsky DS, eds. Handbook of clinical gender medicine. Basel, Switzerland: Karger AG, 2012.
36. Association of Professors of Gynecology and Obstetrics (APGO). Women's health care competencies for medical students: Taking steps to include sex and gender differences in the curriculum. Crofton, MD: Women's Healthcare Education Office, A PG O, 2005.
37. Verdonk P, Benschop YW, De Haes JC, Lagro-Janssen AL. Making a gender difference: case studies of gender mainstreaming in medical education. Med Teach 2008;30:e194–201.
38. Risberg G, Johansson EE, Hamberg K. A theoretical model for analysing gender bias in medicine. Int J Equ in Health 2009;8:28.
39. Education at Center for Gender Medicine Stockholm, Sweden: Karolinska Institute. http://ki.se/en/research/education-at-centre-for-gender-medicine Accessed July 10, 2014.
40. Hochleitner M, Nachtschatt U, Siller H. How do we get gender medicine into medical education? Health Care Women Int 2013;34:3–13.
41. Verdonk P, Benschop YW, de Haes HC, Lagro-Janssen TL. From gender bias to gender awareness in medical education. Adv Health Sci Educ Theory Pract 2009;14:135–152.

42. Zelek B, Phillips SP, Lefebvre Y. Gender sensitivity in medical curricula. CMAJ 1997;156:1297–1300.
43. Canadian Institute of Health Research. Institute of Gender and Health. www.cihr-irsc.gc.ca/e/8673.html Accessed July 5, 2014.
44. Donoghue GD. Women's health: A catalyst for reform of medical education. Acad Med 2000;75:1056–1060.
45. Miller VM, Rice M, Schiebinger L, et al. Embedding concepts of sex and gender health differences into medical curricula. J Womens Health 2013;22:194–202.
46. Sex and gender-based medicine curriculum. Texas Tech University, Health Sciences Center, School of Medicine. Available at: www.ttuhsc.edu/som/curriculum/sgbm_curriculum.aspx Accessed May 20, 2014.
47. Nicolette J, Nelson M. Women's health curriculum at Stanford. J Am Med Womens Assoc 1998;53:135–136.
48. Verdonk P, Mans L, Lagro-Janssen A. How is gender integrated in the curricula of Dutch medical schools? Gender Educ 2006;18:399–412.
49. Andersson J, Verdonk P, Johansson EE, Lagro-Janssen T, Hamberg K. Comparing gender awareness in Dutch and Swedish first-year medical students–Results from a questionaire. BMC Med Educ 2012;12:3.
50. Dielissen PW, Bottema BJ, Verdonk P, Lagro-Janssen TL. Incorporating and evaluating an integrated gender-specific medicine curriculum: A survey study in Dutch GP training. BMC Medic Educ 2009;9:58.
51. Silverman J. Teaching clinical communication: A mainstream activity or just a minority sport? Patient Educ Couns 2009;76:361–367.

Address correspondence to:
Sabine Ludwig, Dipl. oec., MA
Office of Medical Education and Student Affairs
Charité–Universitätsmedizin Berlin
Campus Mitte
Charitéplatz 1
Berlin 10117
Germany

E-mail: sabine.ludwig@charite.de

Supplementary Data



SUPPLEMENTARY FIG. S1. Overview of the modular structure and the module themes of the new undergraduate medical curriculum. The symbol ⚥ indicates the integration of sex and gender medicine issues and gender perspectives.

CURRICULUM VITAE

Mein Lebenslauf wird aus datenschutzrechtlichen Gründen in der elektronischen Version meiner Arbeit nicht veröffentlicht.

PUBLIKATIONSLISTE

PUBLIKATIONSLISTE

Veröffentlichte Artikel

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H. A Successful Strategy to Integrate Sex and Gender Medicine into a Newly Developed Medical Curriculum. Journal of Women's Health. December 2015, 24(12): 996-1005. doi:10.1089/jwh.2015.5249. Supplementary Data are available online at www.liebertpub.com/jwh
Impact Factor: 2.050
Eigenfactor Score: 0.01196

Eingereichte Artikel

Seeland U, Nauman AT, Cornelis A, Dunkel M, **Ludwig S**, Kararigas G, Regitz-Zagrosek V. eGender – from eLearning to eResearch: a web-based interactive knowledge sharing platform for sex and gender-specific medical education.
(Eingereicht bei Biology of Sex Differences 02/2016, Impact Factor: 4,837, Antwort des Journals steht aus)

Artikel in Vorbereitung

Ludwig S, Dettmer S, Peters H, Kaczmarczyk G. Geschlechtsspezifische Medizin in der Lehre der deutschen Universitätsmedizin – eine Bestandsaufnahme.
(Einreichung geplant für 05/2016)

Yang BC, **Ludwig S**, Zhu J, Peters H. 側記柏林 Charité 醫學大學與國立成功大學的醫學教育改革中醫學生的參與性楊倍昌(Comparative Study of Student Engagement in the Medical Education Reform of Charité - University Medicine Berlin, Germany and National Cheng Kung University Tainan, Taiwan) (*Einreichung geplant für 06/2016*)

Back DA, Sostmann K, Behringer F, **Ludwig** S, Haberstroh N, Peters H. Impact of gender on medical students‘ use of elearning tools.

Buchbeitrag

Schefold B, Grüske KD, Hax H, Heertje A (Hrsg.). Huan Kuan: Yantie lun (鹽鐵論): Debatte über Salz und Eisen, von 81 v. Chr., Vademecum zu dem Klassiker der chinesischen Wirtschaftsdebatten, **Übersetzung von Sabine Ludwig**. In: Klassiker der Nationalökonomie, gegründet von: Wolfram Engels, Friedrich August von Hayek, Horst Claus Recktenwald; Verlag Wirtschaft und Finanzen im Schäfer-Poeschl Verlag ein Unternehmen der Verlagsgruppe Handelsblatt GMBH Düsseldorf, Juni 2002.

Erstmalige Übersetzung des chinesischen Klassikers der Nationalökonomie ins Deutsche, eine Debatte über die chinesische Wirtschaftspolitik im klassischen China 81 v. Chr.

Konferenzbeiträge 2010-2015 (Poster, Vorträge und Workshops)

Kongressbeiträge 2010

Poster

Ahlers O, Breckwoldt J, Hein J, Hitzblech T, **Ludwig S**, Maaz A, Mossakowski A, Pelz J, Peters H, Riedlinger A, Wendt O, Gross M, Grüters-Kieslich A.

Planungsprinzipien Modellstudiengang Medizin der Charité.

Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), Bochum.

Kongressbeiträge 2011

Vorträge

Brunk I, Breckwoldt J, Hitzblech T, **Ludwig S**, Maaz A, Mossakowski A, Wendt O, Vogt K, Peters H.

Optimierung von Modulstruktur und Modulinhalt im Modellstudiengang Medizin der Charité - Universitätsmedizin Berlin, Deutschland.

Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), München 2011.

Hitzblech T, Maaz A, Hein J, Ahlers O, **Ludwig S**, Brunk I, Breckwoldt J, Peters H. *Development of a modular integrated, medical curriculum: an eight step approach at Charité - Universitätsmedizin Berlin.*

Jahrestagung der International Association of Medical Education (AMEE), Wien 2011.

Maaz A, Hitzblech T, Ahlers O, Breckwoldt J, **Ludwig S**, Brunk I, Hein J, Peters H.
Experts' discussions to improve process management in developing a new modular curriculum at the Charité - Universitätsmedizin Berlin.
Jahrestagung der International Association of Medical Education (AMEE), Wien 2011.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Integration of gender-related knowledge and skills into the new medical curriculum at Charité Berlin.
Tagung „Gender Medicine, an international interdisciplinary Conference on the practical turn in gender and medical education", Radboud Universität, Nijmegen, the Netherlands 2011.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Integration of gender-related knowledge and skills into the new modular medical curriculum at Charité Berlin
Jahrestagung der International Association of Medical Education (AMEE), Wien 2011.

Poster

Ahlers O, Brunk I, Hitzblech T, Maaz A, Breckwoldt J, Vogt K, **Ludwig S**, Hein J, Blaum W, Balzer F, Peters H.
Einsatz einer webbasierten Lehrveranstaltungs- und Lernzielplattform zur Planung und Durchführung des Modellstudiengangs Medizin.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), München 2011.

Brunk I, Breckwoldt J, Hitzblech T, **Ludwig S**, Maaz A, Mossakowski A, Wendt O, Vogt K, Peters H.
Optimierung von Modulstruktur und Modulinhalt im Modellstudiengang Medizin der Charité.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), München 2011.

Peters H, Ahlers O, Brunk I, Hein J, Hitzblech T, **Ludwig S**, Maaz A, Pelz J, Breckwoldt J.
Feasibility and impact of clinical skill training during first term basic science modules of the new medical curriculum at the Charité - Universitätsmedizin Berlin.
Konferenz der International Association for Medical Education (AMEE), Wien 2011.

Peters H, Ahlers O, Brunk I, Hein J, Hitzblech T, **Ludwig S**, Maaz A, Pelz J, Breckwoldt J.
Feasibility and impact of a clinical skill training course in the early basic science modules of the new Charité medical curriculum.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), München 2011.

Kongressbeiträge 2012

Vorträge

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Modellstudiengang Medizin an der Charité Berlin – Integration von Genderaspekten.
Tagung "Integration geschlechtersensibler Aspekte in die medizinische Lehre – Status Quo und Zukunftsperspektiven", Münster, Deutschland.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Integration of Gender Aspects into the Medical Curriculum at Charité.
7th European Conference on Gender Equality in Higher Education 2012, Bergen, Norwegen.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Integration of Gender-related knowledge and skills into the new modular medical curriculum at Charité Berlin.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), Aachen, Deutschland 2012.

Hitzblech T, Maaz A, Arends P, Breckwoldt J, Brunk I, **Ludwig S**, Röhr CC, Schmidt S, Vogt K, Peters H.
Studientagebücher als sensibles Detektionsinstrument und Basis für zeitnahe Interventionen - Qualitätssicherung im Implementierungsprozess des Modellstudiengangs Medizin an der Charité - Universitätsmedizin Berlin.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), Aachen 2012.

Maaz A, Hitzblech T, Arends P, Breckwoldt J, Brunk I, **Ludwig S**, Röhr CC, Vogt K, Peters, H.
Planung und Implementierung eines integrierten, outcome-orientierten Curriculums an der Charité- Universitätsmedizin Berlin: Herausforderungen des Changemanagement und Interventionsstrategien.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), Aachen 2012.

Ludwig S, Barleben S.
Familiengerechtes Studium.
Tagung „Operation Karriere“, Berlin, Deutschland 2012.

Poster

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Integration of gender and sex-related knowledge and skills into the organ and body system modules of the new medical curriculum at Charité Berlin.
Konferenz der International Association for Medical Education (AMEE), Lyon, Frankreich 2012.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Integration von Genderaspekten in den Modellstudiengang Medizin der Charité – Universitätsmedizin Berlin.
Symposium „Gendermedizin“, Berlin, Deutschland 2012.

Kongressbeiträge 2013

Vorträge

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Integration of gender-related knowledge and skills into the new modular medical curriculum at Charité Berlin.
Konferenz der International Association of Medical Science Educators (IAMSE), St. Andrews, Scotland 2013.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
A systematic approach to integrate gender medicine issues and concepts during the planning and implementation phase of an outcome-based medical curriculum.
Konferenz der International Association for Medical Education (AMEE), Prag, Tschechien 2013.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Systematische Integration von Diversity Inhalten und Perspektiven in die Organ- und Körpersystemmodule des Modellstudiengangs Medizin der Charité.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), Graz, Österreich 2013.

Ludwig S, Barleben S.
Familienfreundliches Studium – Nachwuchsförderung fängt an der Uni an.
Tagung „Operation Karriere", Kongress des deutschen Ärzteblattes, Berlin, Deutschland 2013.

Poster

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Integration of gender and sex-related aspects into the Scientific Approaches Modules of the new modular medical curriculum at Charité"
RIME (Research in Medical Education) – Konferenz, Berlin, Deutschland *2013.*

Kongressbeiträge 2014

Vorträge

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Modellstudiengang an der Charité Berlin – Integration von Genderaspekten.
Bundeskonferenz der Frauenbeauftragten-Klinika, Berlin, Deutschland 2014.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
A systematic approach to integrate gender dimensions and perspectives into a newly developed medical curriculum.
European Gender Summit 4 –2014, Brüssel, Belgien 2014.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
A systematic approach to integrate gender and sex related perspectives and dimensions during the planning and implementation phase of an outcome-based medical curriculum.
8th European Conference on Gender in Higher Education, Wien, Österreich 2014.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Peters H.
Einsatz eines Change Agent als Strategie zur Integration von Diversity Inhalten und Perspektiven in die Krankheitsmodell-Module des Modellstudiengangs Medizin der Charité – Universitätsmedizin Berlin.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), Hamburg 2014.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Systematische Integration von geschlechterspezifischen Aspekten in den Modellstudiengang Medizin.
Workshop zum Thema *„Geschlechtervielfalt in der Urologie“*, Medizinische Hochschule Hannover, Hannover, Deutschland *2014.*

Poster

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Appointing a change agent facilitates the integration of diversity, especially gender aspects into a new undergraduate medical curriculum.
Konferenz der International Association for Medical Education (AMEE), Mailand, Italien 2014.

Kongressbeiträge 2015

Vorträge

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Curricular integration of sex and gender aspects into the new modular medical curriculum at Charité Berlin.
European Gender Medicine Network Expert Workshop *„Sex and Gender in Medicines Regulations and Medical Education“*, Brüssel, Belgien 2015.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Curricular Integration of Sex and Gender in medical education.
Final Conference “European Gender Medicine Project (EUGenMed)”, Brüssel, Belgien 2015.

Ludwig S, Oertelt-Prigione S, Grohmann G, Peters H.
Systematische Integration von Diversity-Inhalten und -Perspektiven in die Wissenschaftsmodule des Modellstudiengangs der Charité.
Jahrestagung der Gesellschaft für medizinische Ausbildung (GMA), Leipzig, Deutschland 2015.

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Integration of sex and gender aspects into the new modular medical curriculum at Charité.
International Congress for Gender and Sex Specific Medicine, Berlin, Deutschland 2015.

Poster

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
A successful strategy to integrate gender and sex aspects into a newly developed undergraduate medical curriculum.
Jahrestagung der "Organization for the Study of Sex Differences" (OSSD), Stanford, USA 2015.

Ludwig S, Oertelt-Prigione S, Grohmann G, Peters H.
Systematic integration of diversity perspectives into the scientific approaches modules of the new modular medical curriculum at Charité Berlin.
Annual meeting of the Association of Medical Educators in Europe (AMEE), Glasgow, England 2015.

Workshops 2010-2015

Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H.
Systematische Integration von geschlechterspezifischen Aspekten in den Modellstudiengang Medizin.
Bundeskongress für Gendergesundheit: Workshop Gendermedizin im Studium, Berlin, Deutschland 2015.

S Ludwig, N Jaunin.
Gender und Medizin / sozialwissenschaftliche Perspektiven Genderrollen (Arzt/Ärztin-Patient/in). Tagung "Integration geschlechtersensibler Aspekte in die medizinische Lehre – Status Quo und Zukunftsperspektiven", Münster, Deutschland 2012.

Berichte

Ludwig S.
Wissenschaftliche Begleitung der Einführung des Modellstudiengangs Medizin unter besonderer Berücksichtigung der Genderaspekte – Jahresbericht. *Charité – Universitätsmedizin Berlin, Berlin 2010.*

Ludwig S.
Wissenschaftliche Begleitung der Einführung des Modellstudiengangs Medizin unter besonderer Berücksichtigung der Genderaspekte – Jahresbericht. *Charité – Universitätsmedizin Berlin, Berlin 2011.*

Ludwig S.
Curriculare Implementierung von Genderaspekten im Modellstudiengang Medizin der Charité – Universitätsmedizin Berlin – Jahresbericht. *Charité – Universitätsmedizin Berlin, Berlin* 2012.

Ludwig S.
Curriculare Implementierung von Genderaspekten im Modellstudiengang Medizin der Charité – Universitätsmedizin Berlin – Jahresbericht. *Charité – Universitätsmedizin Berlin, Berlin* 2013.

Ludwig S.
Curriculare Implementierung von Genderaspekten im Modellstudiengang Medizin der Charité – Universitätsmedizin Berlin – Jahresbericht. *Charité – Universitätsmedizin Berlin, Berlin* 2014.

Ludwig S.
Curriculare Implementierung von Genderaspekten im Modellstudiengang Medizin der Charité – Universitätsmedizin Berlin – Jahresbericht. *Charité – Universitätsmedizin Berlin, Berlin* 2015.

DANKSAGUNG

DANKSAGUNG

An dieser Stelle möchte ich mich bei allen bedanken, die mich bei der Promotion unterstützt haben. Ein ganz besonderer Dank geht an meinen Betreuer Herrn Prof. Dr. Harm Peters, Leiter des Dieter Scheffner Fachzentrum für medizinische Hochschullehre und evidenzbasierte Ausbildungsforschung, der das Projekt von Anfang an unterstützt und begleitet und mich dazu motiviert hat, meine Promotion zu diesem Thema anzufertigen. Er hat mir in zahlreichen Gesprächen Ideen und Anregungen für die weitere Bearbeitung des Manuskripts gegeben.

Ganz herzlich möchte ich mich bei Frau Dr. Christine Kurmeyer und Herrn Prof. Dr. Manfred Gross bedanken, die das Projekt, aus dem schließlich die Promotion entstanden ist, initiiert haben. Einen besonderen Dank möchte ich der ehemaligen Dekanin der Fakultät Frau Prof. Dr. Annette Grüters-Kieslich aussprechen, die das Projekt institutionell und politisch von Seiten der Fakultätsleitung unterstützt hat.

Besonderes möchte ich mich auch bei den Mitgliedern der Projektsteuerung für den Modellstudiengang Medizin Frau Dr. Asja Maaz, Frau Dr. Tanja Hitzblech, Herrn Dr. Jörg Pelz, Herrn Dr. Jan Breckwoldt, Frau PD Dr. Irene Brunk, Herrn Peter Arends, Frau Dr. Antje Degel und Frau Jishun Zhu bedanken, denn ohne den Rahmen des Modulplanungsprozesses und die Unterstützung durch die Projektsteuerung wäre die Realisierung des Projektes kaum möglich gewesen.

Ganz besonders möchte ich mich auch bei Frau Dr. Oertelt-Prigione, Frau Dr. Ute Seeland und Frau Prof. Dr. Vera Regitz-Zagrosek vom Institut für Geschlechterforschung in der Medizin und Frau Dr. Jutta Begenau vom Institut für medizinische Soziologie bedanken mit denen ich mich regelmäßig über die zu integrierenden Inhalte abgesprochen habe. Von der Kooperation und den zahlreichen gemeinsamen Gesprächen habe ich sehr viel gelernt und konnte internationale wissenschaftliche Kontakte etablieren.

Ein besonderer Dank geht an die Vorsitzenden und Mitglieder des Studienausschusses für den Modellstudiengang Medizin sowie an die in die Modulplanungen involvierten Fakultätsmitglieder für deren Unterstützung des Projektes.

Ganz herzlich möchte ich mich bei meiner Tochter bedanken, die geduldig die vielen Stunden, die ihre Mutter beim Schreiben verbracht hat, auf sich genommen hat. Ein besonderer Dank geht auch an meine Eltern und besonders meinen Vater, der leider diesen Lebensabschnitt nicht mehr erleben durfte.