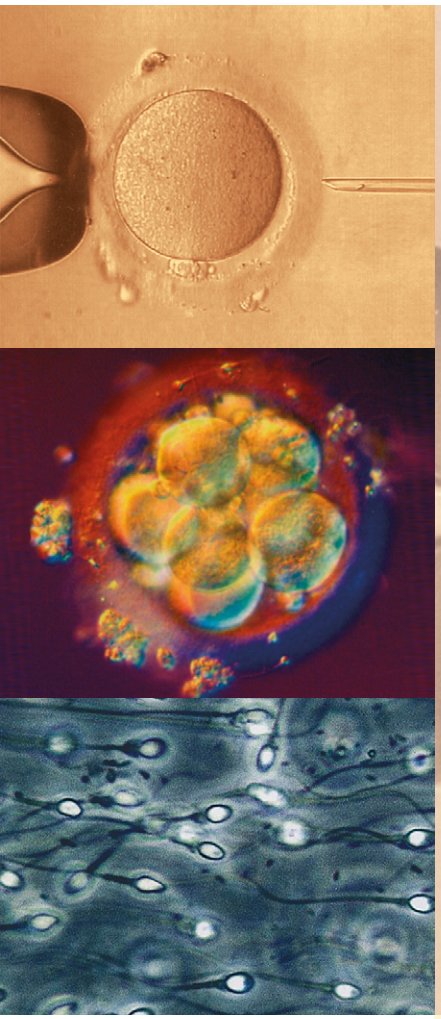
Journal für

Reproduktionsmedizin und Endokrinologie

– Journal of Reproductive Medicine and Endocrinology –

Andrologie • Embryologie & Biologie • Endokrinologie • Ethik & Recht • Genetik
Gynäkologie • Kontrazeption • Psychosomatik • Reproduktionsmedizin • Urologie



Development and Validation of an "Attitude toward Surrogacy Questionnaire" in a German Population

Mohnke M, Thomale C, Roos Y, Christmann U

J. Reproduktionsmed. Endokrinol 2019; 16 (1), 6-14

www.kup.at/repromedizin

Online-Datenbank mit Autoren- und Stichwortsuche

Offizielles Organ: AGRBM, BRZ, DVR, DGA, DGGEF, DGRM, D·I·R, EFA, OEGRM, SRBM/DGE

Indexed in EMBASE/Excerpta Medica/Scopus

Krause & Pachernegg GmbH, Verlag für Medizin und Wirtschaft, A-3003 Gablitz

For personal use only. Not to be reproduced without permission of Krause & Pachernegg GmbH.

Development and Validation of an "Attitude toward Surrogacy Questionnaire" in a German Population

M. Mohnke[1], C. Thomale[2], Y. Roos[1], U. Christmann[1]

Einleitung: Obwohl Leihmutterschaft in Deutschland zu den illegalen Methoden der Reproduktionsmedizin zählt, ist das Thema auch hierzulande relevant, da Paare aktuell in das Ausland ausweichen, um ihr Kind durch eine Leihmutter austragen zu lassen. Die Meinung der deutschen Bevölkerung zur Leihmutterschaft ist dennoch bisher nur unzureichend erfasst. Ein Grund ist, dass noch kein deutscher Fragebogen zur Erfassung der Meinung zur Leihmutterschaft existiert. Das Ziel dieser Studie war es daher, einen validierten deutschen Fragebogen zu entwickeln, der eine detaillierte Erfassung der Meinung zur Leihmutterschaft ermöglicht.

Methode: 553 Studienteilnehmer gaben ihre Meinung zur Leihmutterschaft mithilfe von 29 Items ab. Die meisten Items wurden von relevanten Studien übernommen. Zusätzlich wurden Items auf Basis der Expertise des Forschungsteams übernommen. Damit wurde unter anderem sichergestellt, dass kulturell angemessene Items vorhanden waren. Eine Hauptkomponentenanalyse wurde angewandt, um relevante Items zu identifizieren und Faktoren zu errechnen.

Ergebnis: Der „Meinung zur Leihmutterschaft Fragebogen" besteht aus 13 Items. Die Hauptkomponentenanalyse identifizierte drei Skalen des Fragebogens: allgemeine Haltung zur Leihmutterschaft, Meinung zur Bezahlung der Leihmutter, Meinung zu Leihmüttern. Diese klären 71,34 % der Varianz auf.

Diskussion: Durch die Entwicklung eines Instruments, welches die Meinung der deutschen Bevölkerung zur Leihmutterschaft erfassen kann, wird gehofft, zu einem besseren Verständnis von Leihmutterschaft beizutragen. Mithilfe des Fragebogens können mehrere Bereiche von Leihmutterschaft erfasst werden, einschließlich der allgemeinen Meinung zur Leihmutterschaft, der Meinung zu Leihmüttern, den eigenen Intentionen, rechtlichen Aspekten von Leihmutterschaft, sowie der Meinung der Bevölkerung zur finanziellen Kompensation von Leihmüttern. Bei der Fragebogenentwicklung wurde der Schwerpunkt auf statistische Validität und Reliabilität gelegt. Im Gegensatz zu existierenden Fragebögen zu Leihmutterschaft ist dieser in der deutschen Sprache verfügbar und kulturspezifisch angepasst.

Schlüsselwörter: Leihmutterschaft, Leihmütter, finanzielle Kompensation, Hauptkomponentenanalyse, Fragebogenentwicklung, deutscher Fragebogen

Introduction: Even though surrogacy is illegal in Germany, the consequences of it are present also in Germany, as several couples evade to other countries to pursue surrogacy. The opinion of the German population towards surrogacy has hardly been assessed in the past and no German questionnaire to assess this opinion exists. Therefore, the aim of this study was to develop a validated German questionnaire to enable an in-depth assessment of the opinion towards surrogacy.

Method: The opinion of 553 participants was assessed with 29 items and analysed. Most of these items were derived from relevant studies conducted in the past. Moreover, some items were added on the basis of the expertise of the research team and also, to ensure that the questionnaire was culturally appropriate. A Principal Component Analysis (PCA) was conducted, to identify relevant items and underlying factors.

Result: The final "German Attitude Towards Surrogacy Questionnaire" consists of 13 items. The PCA identified three scales of the questionnaire: general attitude, attitude towards monetary compensation and attitude towards surrogate mothers, which accounted for 71.34% of the data variance.

Discussion: By developing a tool to assess the opinion of the German population towards surrogacy, the authors hope that this will contribute to a deeper understanding of surrogacy. The questionnaire enables to capture the opinion of the German population towards several aspects of surrogacy, including the general opinion, opinion towards the surrogate mother, own intentions, legal aspects, as well as towards monetary compensation of the surrogate. The questionnaire was developed by concentrating on statistical validity and reliability. In comparison to the existing questionnaires about surrogacy this questionnaire is available in German and adapted to be cultural-specific. **J Reproduktionsmed Endokrinol 2019; 16 (1): 6–14.**

Key words: surrogacy, surrogate mothers, monetary compensation, principal component analysis, questionnaire development, german questionnaire

Acknowledgement: The authors thank the WIN-project "Metaphern und Modelle. Zur Übersetzung von Wissen in Verstehen" of the Academy of Science Heidelberg for its generous financial support for this study.

Introduction

There are various reasons for couples for being involuntarily childless and the rate of involuntary childless couples increases. In Germany, about 3% of the couples are definitely involuntarily childless [1]. Nowadays, several infertility treatment options exist, such as in-vitro-fertilisation or intracytoplasmic sperm injection. In Germany, about 2% of all births result from those procedures [2]. However, those procedures are not always feasible for couples. Other options in reproductive medicine exist, such as egg donation or surrogate mothering. Those options are prohibited in Germany [3], but the legislation is inconsistent throughout

Received: August 27, 2018; accepted: November 16, 2018 (responsible Editor: Dr. U. Hilland, Bocholt)

From the [1]Psychologisches Institut, Ruprecht-Karls-Universität Heidelberg, and the [2]Institut für ausländisches und internationales Privat- und Wirtschaftsrecht, Ruprecht-Karls-Universität Heidelberg

Correspondence: Margaux Mohnke, M. Sc., Psychologisches Institut, Ruprecht-Karls-Universität Heidelberg, Hauptstraße 47–51, 69117 Heidelberg, Germany; e-mail: margaux.mohnke@adw.uni-heidelberg.de

Europe and in some European countries egg donation or surrogacy are legal procedures. To exemplify, surrogacy is – under certain conditions – legal in the Netherlands, Greece and England. Nevertheless, in addition to Germany, surrogacy is among others forbidden in Switzerland, Austria and Norway. Apart from some European countries, surrogacy is legal in some states of the US. In contrast, surrogacy has been restricted to the local population in India.

Medical reproductive procedures have evoked a discussion about ethical and legal aspects and German questionnaires have been developed on several topics related to controversial methods in reproductive medicine. To exemplify, German questionnaires exist to assess the attitude towards sperm donation [4], egg donation [5, 6], embryonic stem cell research [6], multiple birth following in-vitro-fertilisation [7], and preimplantation genetic diagnosis [8].

In Germany, there has been little debate about surrogacy in comparison to other reproductive techniques. As surrogacy will most likely remain illegal in Germany in the near future, both politics and medicine could bypass the topic so far. In fact, discussions in Germany are mostly restricted to isolated international incidents which have caught the attention of the media. However, notwithstanding the lack of a public discussion, surrogacy is an important topic for many childless couples for various reasons. First, surrogate mothering is possible in many other countries. Second, to enable the possibility of having a child through surrogacy, couples currently evade German regulations by travelling to other countries such as Hungary or the US, leading to the so-called "reproductive tourism" [9, 10]. However, in Germany, legally, the mother of the child is defined as the women who gave birth to the child [3]. Therefore, performing a surrogate procedure in a foreign country is related to several problems such as the legal descent of the child in Germany. Most of the German couples do not anticipate the dimensions of the legal, social and psychological consequences that follow the decision of seeking a surrogate in another country [11].

Thus, even though surrogacy is not openly discussed in Germany, the consequences of it are present nonetheless. Not discussing surrogacy means that German couples will continue making uninformed decisions in the future, as they are gaining most of their information about surrogacy from companies which make their profit by promoting surrogacy. This demonstrates the relevance to start an open discussion about the issues of surrogacy and to assess the public opinion towards this topic. To gain information about the public opinion, several methodologies exist. One of the most common methods are self-report scales, ideally within a validated and reliable questionnaire [12], which does not exist in Germany yet. Therefore, a German questionnaire is needed, covering a wide range of topics in order to address various groups of interest.

Existing questionnaires about the attitude towards surrogacy

Non-German questionnaires to assess attitude towards surrogacy of infertile participants

When a questionnaire is developed, its questions can be adjusted to a certain target group. Regarding attitude towards surrogacy, one of the target groups are infertile people. Questionnaires targeting infertile people can differ from other questionnaires in several aspects. To exemplify, questions can take into account how personally affected participants are by reproductive medicine techniques. Studies have shown that attitude towards medical reproductive procedures may significantly differ between fertile and infertile couples [13]. In Germany, no study has assessed attitude towards surrogacy in infertile couples yet. However, there are a couple of studies that assessed infertile couples' attitudes towards surrogacy which have been conducted in Turkey, Iran and Japan. While some of them exclusively assessed the opinion on surrogacy, others assessed the attitude towards several reproductive medicine techniques and included only few questions about surrogacy within a larger questionnaire.

Firstly, in Turkey, two studies included a question about surrogacy in their questionnaire for infertile women. Baykal et al. [14] administered a questionnaire to infertile Turkish women regarding their attitudes towards gamete donation and gestational surrogacy. In this questionnaire, only the intention to use a surrogacy arrangement in case of infertility was addressed. Similarly, Kilic et al. [15] asked woman who had applied for an infertility treatment about their preference for possible treatments. Options given were to use no treatment, to consider adoption, egg donation or surrogate mothering. Like in Baykal et al. [14], other aspects of surrogacy were not covered.

Secondly, in Iran, an elaborated questionnaire on this topic in infertile couples is the "gestational surrogacy attitudes scale" developed by Kian et al. [16] to assess the approval of surrogacy in Iranian infertile couples. The questionnaire was developed by gathering item material from literature reviews and from a qualitative pilot study. Its items were divided into five subscales including „acceptance of surrogacy", „surrogacy and public attitudes", „child born through surrogacy", „surrogate mother", and „intentional attitude and surrogacy future attempt". Content validity was rated high by an expert panel. Another questionnaire used on an Iranian sample is the one by Rahmani et al. [17]. Most items regarding participants' opinion on surrogacy were gathered from previous studies [15, 18–21]. Additionally, some items were developed by the research team. Together, the items covered legal and religious issues, conditions for the use of surrogacy, children born through surrogacy, surrogate mother, and the tendency to use surrogacy. In contrast to the two previous studies which dedicated a whole questionnaire to the topic of surrogacy, the study by Sohrabvand and Jafarabadi [21] covered a range of assisted reproductive techniques. More specifically, knowledge and attitudes of infertile couples about assisted reproductive technology, including surrogacy, was gathered in a multiple-choice format. This resembles both Baykal et al. [14] and Kilic et al. [15].

Lastly, in Japan, Saito and Matsuo [22] asked infertile couples about their willingness to use surrogacy if they were not able to have a child on their own. Moreover, participants indicated their preference for asking an acquaintance or a relative to be the surrogate mother. Participants could explain their answers in an open ended format.

In sum, most studies assessed the attitude towards surrogacy in infertile couples without using a validated questionnaire. To exemplify, in Baykal et al. [14] a single question about the intention to use surrogacy in case of infertility was given. Exceptions are two studies conducted in Iran [17, 23], in which attitude towards multiple facets of surrogacy were covered.

Non-German questionnaires to assess attitude towards surrogacy of fertile participants

Attitude towards surrogacy of fertile couples has been assessed in several countries. Some of the studies developed a questionnaire to exclusively assess the opinion on surrogacy, others assessed the attitude towards several reproductive medicine techniques. In Japan, for a study about attitude towards surrogacy two surveys were conducted [24]. Both included one question concerning surrogacy, asking whether surrogacy should be approved by society. Moreover, the questionnaire included questions concerning demographic data. Among others, attitudes towards surrogacy were compared between age groups and educational levels. On one hand, the focus of the survey on demographic data enabled to compare attitude between different groups and even between two different surveys. To exemplify, the first one conducted in 1999 found that those who disapproved surrogacy were more often female and were more often older than 40 years. In the later one, conducted in 2003, those who disapproved surrogacy were more likely to be above 30 years old and higher educated. On the other hand, due to the focus of the survey on demographic data, it could not be determined what exactly the older participants disapproved about surrogacy and which aspects they might approve. Moreover, the question concerning attitude towards surrogacy is restricted to the case of a medical condition of the woman's womb, which is only a sub-aspect of a more extensive issue. This demonstrates the necessity to assess the attitude towards surrogacy with more than a single question.

In the US, an extensive questionnaire was developed on the attitude towards reproductive medicine techniques, including surrogacy [25]. After having collected data from 300 social workers on a self-developed questionnaire, a Principal Component Analysis was conducted on the data, resulting in four underlying factors. Among others, questions dealt with rights of participants involved in surrogacy. The factors were named "withholding information" „favouring the non-traditional family" „favouring biological parents over adoptive parents" and „favouring government regulation".

In Canada, attitude towards surrogacy was examined by two studies. First, attitude towards commercial surrogacy was examined in Canadian women [26] by asking whether participants agree with couples who cannot have children and have other women bear a child for them, in exchange for money. In addition, several sociodemographic variables as well as fecundity status were assessed. Information on of women's attitude towards other aspects of commercial surrogacy was not gathered. As in the study by Suzuki et al. [24], the extensive assessment of sociodemographic variables enabled an in-depth analysis of the attitude towards commercial surrogacy between different sociodemographic groups. However, additional information, for example which aspects of commercial surrogacy Canadian women approve or disapprove exactly, could have only be gathered by administering a questionnaire about the attitude towards commercial surrogacy. Second, public attitude towards assisted reproductive technology was studied in Canada via mail survey [27]. In a hypothetical scenario, a case of gestational surrogacy was illustrated, in which the reason for having a surrogate mother were time constraints. Thereafter, the participants were asked for their opinion on the scenario. Again, no further questionnaire on participants´ attitude towards surrogacy was used.

This scenario was used in a later study in Greece [28]. In this study, a questionnaire consisting of 50 items was developed to assess the attitude towards surrogacy and gamete donation in Greek inhabitants living in an urban area [29]. The final questionnaire was a combination of the existing scenario [27] and the results of a pilot study with open ended questions. It covered several subtopics. First, sociodemographic information was assessed. Second, intention to use surrogacy was examined by several questions. Third, attitude towards surrogacy was assessed by 15 items. On those items a Principal Component Analysis was conducted, which resulted in two underlying factors with a satisfying internal consistency. Lastly, like in Genuis et al. [27], a case of gestational surrogacy was illustrated, in which the reason for conducting surrogacy were time constraints. Thereafter, participants were asked for their opinion on the scenario. Overall, different aspects on surrogacy were covered by an extensive questionnaire. Various methods were combined in order to collect information on the attitude towards surrogacy.

In the same vein, an attitude towards surrogacy questionnaire was developed for a survey of British women [18] both by adaption of a previous questionnaire [30] and by adding own items. The questionnaire covered several subtopics, ranging from their own intention to become a surrogate to the consequences of surrogacy.

Moreover, in a study about the attitude towards gestational surrogacy in Iranian fertile women a questionnaire was developed, too [31]. The questionnaire was developed by adapting existing questionnaires and questions considered by the research team as suitable. The final questionnaire consisted of a section related to demographic data, a section related to the maternal history of the women and a section related to the attitude towards surrogacy. The latter one consisted of five subtopics, covering legal and religious issues, conditions for surrogacy, children born through surrogacy, surrogate mother and own intention to conceive a child through surrogacy. Importantly, the questionnaire was developed to be culturally appropriate for the Iran. The test-retest reliability was established by conducting a pilot study.

Concluding, many studies did not develop a questionnaire to assess the attitude towards surrogacy only. In those studies, few questions related to surrogacy itself [24, 26, 27, 32]. Instead, those studies focused on demographic data of the participants. In contrast, others developed a questionnaire, sometimes even covering cultural specific topics [18, 28, 31].

Questionnaires to assess attitude towards surrogacy of German population

In Germany, only few studies regarding the public opinion towards surrogacy

have been conducted. First, in a study by Stöbel-Richter et al. [33] the opinion of the German population regarding reproductive medicine and preimplantation genetic diagnosis was assessed. The questionnaire included one question about the permission of surrogate mothering. The question was introduced by a short text informing about surrogacy. Overall, a comprehensive questionnaire assessing the attitude towards controversial reproductive medical techniques – such as surrogate mothering, egg donation and cloning – was developed in this study. Nevertheless, regarding the attitude towards surrogacy, only the aspect of approval of surrogacy in Germany could be assessed.

Second, general attitude towards surrogacy was assessed in Schröder et al. [5]. The authors developed a questionnaire to assess the attitude towards assisted reproduction techniques, including among others egg donation and surrogacy. Its questions relating to surrogacy referred to the intention of the participants to engage in a surrogate procedure, addressing whether participants could imagine being a surrogate mother or using surrogacy themselves as a way to conceive a child. The questions were introduced by a short text informing about surrogacy. The questionnaire was not statistically validated. Overall, this study found that participants had a rather negative attitude towards surrogacy, however specific reasons for this negative attitude remained unclear.

Third, a report [34] about several reproductive medicine techniques found that German participants are hardly considering surrogacy as a possibility for themselves. To exemplify, 6% of the involuntarily childless women and 10% of the involuntarily childless men aged 20–50 years would consider surrogacy, although most of the participants have heard about the possibility of surrogacy.

Finally, a study in Germany with the topic "the future of the family" included a subsection regarding alternative ways to conceive a child. In this survey, it was both assessed whether participants would accept surrogacy in general, as well as whether participants would consider surrogacy for themselves (https://www.eltern.de/baby/die-zukunft-der-familie, study was executed by the panel forsa.omninet).

Concluding, of the previous studies that have been conducted on the public opinion towards surrogacy, only few have established a reliable and validated questionnaire. Instead, several studies focused on demographic data of the participants, thereby being able to investigate which characteristics of the participants might be related to their attitude towards surrogacy. Moreover, up to now, little research has been conducted on the opinion of the German population on surrogacy. A German questionnaire assessing the public opinion towards different aspects of surrogacy is still lacking.

Aim of the study

Thus, the intention of this study was to develop and validate a questionnaire in order to assess the attitude of the German population towards a controversial aspect of reproductive medicine, namely surrogacy.

In contrast to the few studies on opinion towards surrogacy in the German population, this questionnaire aims towards a detailed understanding of the opinion on different aspects of surrogacy, including legal and commercial aspects. Furthermore, the questionnaire aims to assess the attitude towards different parties involved in surrogacy, such as the surrogate mother, the intended parents and the child conceived through surrogacy. At the same time, the aim for this questionnaire was to be general enough to address people with varying horizons of experience, such as people with little knowledge about surrogacy, as well as people who have already performed surrogacy. Moreover, the aim for this questionnaire is to allow for addressing various groups of interest, such as people who have had their wish for a family already fulfilled as well as people who have an unfulfilled wish for a child.

Methods

Measures

A German questionnaire assessing the attitude towards surrogacy of the general public was constructed on the basis of a literature review, previous questionnaires, and a pre-test. First, a literature review was conducted to search for German or English questionnaires assessing the attitude towards surrogacy. Second, German questionnaires assessing attitude towards other topics related to reproductive medicine were reviewed as well. Third, forum discussions and books dealing with people's own experience with surrogacy were reviewed. Then, a pool of items was formulated, covering attitudes towards various aspects of surrogacy.

From the pool of items, 16 relevant items were selected in order to measure attitudes towards surrogacy in general as well as several subtopics. Those items were translated and adapted from the validated English questionnaire from Kian et al. [23], from Svanberg et al. [30] and from Rahmani et al. [31]. Moreover, by synthesizing information from the literature review and expert discussions, 13 additional items were constructed. The questions were formulated and adapted to be culturally appropriate for Germany, also regarding the existing laws and practices, as this has been proven to be relevant in previous studies (Kian et al., 2014; Rahmani et al., 2014). The questionnaire was pre-tested with a group of 10 people for comprehensiveness and feasibility before being applied in the study. Based on these results and the comments, the questionnaire was revised.

The final version comprised 29 items which covered opinion on surrogacy in general (7 items), public opinion on surrogacy (3 items), the German law regarding surrogacy (4 items), attitude towards the surrogate mother (7 items), attitude towards the intended parents (3 items), attitude towards the child born through surrogacy (2 items) and the intentional attitude of the participants (3 items). Questions could either be answered on a five-point Likert-type scale ranging from "I totally agree" to "I totally disagree" (20 items) or by yes/no decisions (7 items). Moreover, two items required the participant to complete a numerical value. For most items, a higher score indicated a more positive view of gestational surrogacy with respect to that item. To prevent acquiescence response bias, some items were reversed.

Design and procedure

An online study was constructed with SoSci Survey [35], a survey generation website, and was made available to the participants on www.soscisurvey.com. Prior to the attitude towards surrogacy questionnaire, participants´ socio-de-

mographic information was collected. Following the questionnaire, participants answered several questions regarding their own family situation, for example if participants had children or whether participants have ever lost a child. Thereafter, participants were given space for comments, further explanations and critique. The online survey could be filled out any time of the day and lasted approximately 20 minutes.

The study was approved by the Ethics Commission of the Faculty of Faculty of Behavioural and Cultural Studies of the University of Heidelberg. It was emphasized that participation was voluntary, could be discontinued at any time and that data collection would be anonymous. During the whole study, contact information of the study leader was displayed at the bottom of the page.

Participants

In January and February 2018 a total of 553 participants (75.6% identified as female, 24.1% as male, 0.2% as intersex and 0.2% as non-binary) were recruited online. Age ranged from 17 years to 79 years with a mean of 31.92 years and a standard deviation of 8.63 years. Most (94.8%) of the participants were native German speakers and the majority (53.1%) had some university degree. Half of the participants (52.8%) had children and most (77.2%) have not lost a child through miscarriage, early death, abortion, or by giving it up for adoption. While 5.6% knew someone who has pursuit a surrogacy arrangement, 4 % have pursuit a surrogacy arrangement themselves. Table 1 provides an overview of the demographic data of participants. No exclusion criteria existed for the participants. Invitations to participate in the study were distributed via several websites (e.g. Facebook.de, Mamikreisel.de, Babyforum.de, vaeter-in-niedersachsen.de), via E-Mail distributors of several organizations (e.g. LSVD, afg-elkb, Papagen) and via word of mouth propaganda. Participants were asked to help develop a questionnaire concerning reproductive medicine. As an incentive to participate, amazon vouchers were raffled among the participants (Table 1).

Table 1. Demographic Characteristics of the Sample (n = 553).

Characteristic		N	%
Gender	Female	418	75.6
	Male	133	24.1
	Intersex	1	0.2
	Non-Binary	1	0.2
Age		31.93[1]	8.62[2]
Education	Still attending school	5	0.9
	Secondary school (9–10 years of education)	37	6.7
	Vocational training or vocational school (10–12 years of education)	103	18.6
	Grammar school qualification (12–13 years of education)	114	20,6
	University degree (Bachelor, Master or PhD)	291	52,6
	University degree (Professor)	3	0.5
Occupation	School	5	0.9
	Vocational training	11	2.00
	Student (Bachelor, Master or PhD)	145	26.3
	Employed	278	50.3
	Self-employed	29	5.2
	Parental leave	45	8.1
	Not working (homemaker, child carer or similar)	24	4.3
	Pension	4	0.7
	Unemployed	6	1.1
	Other	5	0.9
Relationship Status	Single	100	18.1
	In a relationship	188	34.0
	Married	254	45.9
	Other[3]	11	2.0
Sexual Orientation	Heterosexual	459	83.00
	Homosexual	66	11.93
	Bisexual	22	3.98
	Asexual	4	0.72
	Others	2	0.36
Children	Have own children	292	52.8
	Have lost a child[4]	126	22.8
	Infertile	80	14.5
	Have pursuit a surrogacy arrangement	22	4.0

Note. [1]Mean; [2]Standard Deviation; [3]Divorced, widowed, or living separated; [4]Through miscarriage, early death, abortion, or adoption.

Statistical analysis

Statistical analysis was performed using both SPSS software (version 22.0) and R Software [36]. Data from two participants, whose average time taken to complete the questionnaire was two standard deviations lower than the mean time of all participants, were excluded from analysis. No further data from participants had to be excluded. Missing values were completely at random and concerned only demographic data. Items associated with the questionnaire were free from missing values.

The data obtained were then reviewed to evaluate item range and variance by using descriptive statistics, such as means and standard deviations as well as histograms. As two items required the participants to complete a numerical value, those were excluded from the PCA. Moreover, seven items displayed a restricted range and/or low correlations with all other items. Those seven items were therefore excluded from further analysis. Thus, 20 items remained for the PCA calculations.

To extract a preliminary factor structure, PCA was conducted. The PCA was chosen for two main reasons: firstly, in an effort to find the linear component which exist within the data and secondly, in order to reduce the large number of variables.

The present sample met the requirements for a PCA. First, the sample consist of 553 participants, which exceeds the sam-

ple size recommendation of at least 300 participants [37]. Second, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was calculated and results (KMO = 0.92) verified that the factor analysis should yield distinct and reliable factors [38]. All KMO values for individual items were greater than 0.76, which is above the limit of 0.5 [39]. Third, Bartlett's test indicates whether the correlation matrix is significantly different from an identity matrix. Results show that intercorrelations were high enough. The anti-image matrix of correlations demonstrated sampling adequacy for each variable and each pair of variables.

A PCA for factor extraction was conducted on the remaining 20 items, which was followed by an oblique rotation (direct oblimin), as the underlying dimensions were not expected to be completely independent [40]. To determine the number of factors, the Kaiser-Guttman criterion (including all factors with an "Eigenvalue" > 1 [41]) and the scree plot [41] were used. As some items were dichotomous, a second PCA was conducted with R, using the tetrachoric and polychoric correlations as a starting point for a sequence of factor analysis. Thereafter, results of the factor analyses with SPSS and with R were compared (for an in depth comparison of the results, see supplementary material). Comparison of both calculations revealed similar results, which indicated to us that the SPSS calculations had provided meaningful results. Therefore, the following description of the results is based on the SPSS calculations.

Results

The final solution was a three factor solution, with all factors having a meaningful theoretical content. SPSS and R supplied a very similar solution. For both programmes, the criteria "Eigenvalues" > 1 and the scree plot suggested a four factor solution at first. However, the forth factor, which included items related to the attitude towards children born through surrogacy, displayed a relatively low reliability of its items (Cronbach's α = 43). Therefore, items of factor four were dropped from further analysis. After reviewing loadings and content of items of factor one and calculating a Cronbach-Mesbah Curve, reliability of factor one could further be improved by dropping five items with loadings < 0.66.

Afterwards, for the 13 items a three factor solution was suggested by the criteria "Eigenvalue" > 1 and the scree plot. Moreover, on a theoretical level, all three factors displayed meaningful content. Factor loadings were all > 0.70 and the communalities of items ranged from 0.53–0.86. The Corrected Item-Total Correlation verifies that all items correlate well with the scale overall (all < 0.39, which is above the limit of 0.3, Field [39]).

Thus, the final questionnaire consisted of 13 items and the variance explained was 71.34%. Items loading on factor one mostly aim at whether participants could imagine surrogacy for themselves or others and what they think about the concept of surrogacy in general. Consequently, factor 1 was named "attitude towards surrogacy in general". Items loading on factor two both ask for the opinion on paying the surrogate mother for the surrogacy arrangement. Consequently, factor 2 was named "attitude towards monetary compensation". Items loading on factor three both relate to the rights surrogate mothers should have within the surrogacy arrangement. Consequently, factor 3 was named "attitude towards surrogate mothers". Cronbach's alpha was used to calculate reliability of the scales and was 0.94, 0.67 and 0.84 respectively for each factor.

In sum, the final factor solution met the following criteria: First, the factors were internally consistent and well defined by the relevant items. Second, factor extrac-

Table 2. Item loadings of the Principal Component Analysis.

Item No.	Items	Factors		
		1	2	3
	General attitude towards surrogacy			
1	If me and/or my partner could not conceive a child on our own, I would consider surrogacy	0.90		
2	A befriended couple cannot have children on their own. Would you advise them on conceiving a child through surrogacy?	0.87		
3	What is your general opinion on surrogacy	0.85		
4	If one of my relatives or friends decided to pursue a surrogacy arrangement, I would support them	0.83		
5	I would prefer to be voluntarily childless rather than to pursue a surrogacy arrangement	–0.82		
6	The concept of surrogacy does not harm any ethical principles	0.78		
7	Surrogacy is a good way to help infertile couples to have a child with their own genetic characteristics	0.77		
8	A good friend of yours wants to conceive a child through surrogacy, which is illegal in Germany. Would you advise her on pursuing a surrogacy arrangement abroad?	0.73		
9	I would prefer to adopt a child rather than to pursue a surrogacy arrangement	–0.70		
	Attitude towards monetary compensation			
10	If surrogacy would be legalised in Germany, would you support a monetary compensation for surrogate mothers?		0.93	
11	A friend considers becoming a surrogate mother. Would you advise her to ask for a monetary compensation?		0.91	
	Attitude towards surrogate mothers			
12	After giving birth, the surrogate mother should have the right to see the child regularly			0.94
13	After giving birth, a surrogate mother should have the right to decide if she really wants to give the child away			0.74
% of variance explained		51.9	10.5	9.0
Cronbachs Alpha		0.94	0.84	0.67

Note: Only factor loadings exceeding 0.30 are displayed in the table; total explained variance is 71.34%

tion was based on an Eigenvalue > 2.5. Third, items displayed a communality of at least 0.53. Forth, only items with a factor loading of at least 0.70 were included. Fifth, items loaded on other factors with 0.18 or below. Table 2 displays the factor loadings and the percentage of variance of each factor after rotation.

Discussion

With the aim of developing a German questionnaire to assess the attitude towards surrogacy of the general public, the present study found a total of 13 relevant items which can be classified into three factors. Those factors can be described as "general attitude towards surrogacy" (factor 1), "attitude towards monetary compensation" (factor 2) and "attitude towards the surrogate mother" (factor 3). The "general attitude towards surrogacy" factor includes, among others, questions about the intended parents, about own intentions and about legal issues.

Prior to this study, to our knowledge, no validated German questionnaire assessing surrogacy existed. Generally, little research has been done on the opinion of the German population on surrogacy. Moreover, in those studies which have been conducted, surrogacy has not been the sole topic, resulting in too few questions to sufficiently capture the different aspects of surrogacy. In order to add to the studies which assessed attitude towards surrogacy in Germany by including one question [33] or few questions [5] about surrogacy to their questionnaire, the current study developed a tool for the in depth assessment of attitude towards surrogacy.

In comparison to the existing questionnaires about surrogacy [18, 23, 28, 31], this questionnaire is available in German and adapted to be cultural-specific. Similar to Chliaoutakis et al. [28], questions were translated and adapted from previous questionnaires and additionally, culturally appropriate items were added to ensure the applicability of the questionnaire to the German population.

The present questionnaire was developed by concentrating on statistical validity and reliability of the questionnaire. This is only comparable to few existing questionnaires about surrogacy. The present statistical approach to create a valid questionnaire is similar to the methodology of both Chliaoutakis et al. [28] and Holbrook [25], in which a PCA was conducted on a pool of items, too. However, most of the previous studies chose other methods. To exemplify, while the current study developed subscales by calculating a PCA, Kian et al. [23] developed subscales on the basis of a literature review and an expert panel and Poote and van den Akker [18] developed a questionnaire using questions of previous questionnaires and the Theory of Planned Behaviour. In the current study, Cronbach´s alpha was used as a reliability measurement, like it has been in various other studies [23, 28, 31]. Furthermore, in the same way as most studies [18, 28, 31], for the item scoring, the present study used a Likert Scale. This has been proven to be a well-established method of capturing the opinion of participants.

The content of the items of this study was global and covered topics which related to surrogacy only. This differs from the content of the items developed by Chliaoutakis et al. [28] in the way that Chliaoutakis et al. [28] only measured the motivational patterns that lead the participants to use surrogacy or gamete donation. However, the range of topics covered by the questions of the present study is comparable to Rahmani et al. [31], Kian et al. [23] and Poote and van den Akker [18].

With respect to the target group, previous questionnaires have mostly been developed either for fertile or for infertile participants only. However, in the same way as Chliaoutakis et al. [28], the questionnaire of the current study was administered to fertile and infertile participants and was developed to be applicable to both groups. By recruiting participants online, the study had a relatively wide range and was not restricted to a specific area, whereas previous studies recruited in certain hospitals [23, 31] or in an urban area [28].

Strength

In this study emphasis was put on statistical tools for the development of reliable and valid scales for a German questionnaire to assess attitude towards surrogacy. PCA and Cronbach's alpha was calculated with both SPSS and R. This careful statistical validation process distinguishes the present study from previous ones. Moreover, the questionnaire can easily be applied in other studies. First, it meets the time constraints of most studies, as the duration to complete the questionnaire is 10 to 15 minutes. Second, it can be answered by participants without direct contact to the researcher, as it consists of self-report scales. This enables the recruitment of participants independently from a certain location.

The current study contained a high number of participants, including people with a wish for a child, people who do not plan to have children and people who already have children. Moreover, people with different sexual orientations were included, as depending on the kind of partnership people are in, it can be easier or harder to conceive a biologically related child. Finally, the range of age was high in the current sample, ranging from 17 to the age of 79. This is relevant, as previous studies have shown an effect of age on the attitude towards reproductive medicine techniques [24].

The authors hope that this research will contribute to a deeper understanding of surrogacy by developing a tool to assess the opinion of the German population towards surrogacy. Moreover, by doing so, the study might draw attention to the necessity to inform the population more about the topic of surrogacy. Finally, the authors believe that this topic is too complex to be assessed with few questions. It is hoped that by creating this questionnaire, barriers to initiate a detailed assessment of the German population's opinion on the various aspects of surrogacy could be lowered. By doing so, a nuanced picture of the opinion on surrogacy would be enabled.

Limitations

The generalisability of the sample is subject to certain limitations. For instance, as the present study was an online study, only people with access to the internet were able to participate. Furthermore, a large group of participants was sampled through specific websites (e.g. Facebook.de, mamikreisel.de), therefore participants using those websites are overrepresented. Even though age had a high range, people of older age were underrepresented, which is probably due to the nature of an online study. More-

over, distribution of gender was not even. However, a higher rate of female participants is not unusual for a study dealing with reproductive medicine as the results of several studies exemplify [27, 30, 42]. Half of the participants have a university degree, thus academics are overrepresented in the sample. Finally, future research should conduct a Confirmatory Factor Analysis to confirm the present results.

Practical Relevance

This is the first German questionnaire with which the opinion towards different aspects of surrogacy can be assessed. In the debate about surrogacy, so far, the population has been shaped by few and often emotional media reports. An objective discussion of surrogacy has seldom been possible. Avoiding discussions about surrogacy has led to couples evading to other countries to perform a surrogate procedure, sometimes being ill informed about the consequences. In light of this, it is more important than ever to capture the opinion of the German population towards this topic.

The questionnaire enables to capture the opinion of the German population towards several aspects of surrogacy, including the general opinion, opinion towards the surrogate mother, towards the intended parents, own intentions, legal aspects, as well as towards monetary compensation of the surrogate. Thus, it can be investigated whether people might have a positive opinion on some aspects of surrogacy, while they have a negative opinion on other aspects of surrogacy. Only an excessive questionnaire as the present one enables that. Moreover, people's opinion towards monetary compensation is especially relevant, because currently, some countries allow a monetary compensation for surrogate mothers, while in other countries it is illegal to pay the surrogate mother to inhibit commercialization of surrogacy. Table 3 provides an overview of the items of the questionnaire, including a German translation.

In addition to covering diverse aspects of surrogacy, the questionnaire enables the assessment of different groups in the population, which is important for politics as well as for medicine. To exemplify, demographic characteristics as age, gender or fertility could influence people's opinion about surrogacy. The present questionnaire is eligible for all of those groups.

Finally, this questionnaire can be utilized to assess how different terms of the concept of surrogacy might influence the opinion of the population towards

Table 3. Items of the Questionnaire.

Item No.	Name	German translation
	General opinion	
1	If me and/or my partner could not conceive a child on our own, I would consider surrogacy	Wenn ich mit meinem/meiner Partner/in keine Kinder bekommen könnte, würde ich in Erwägung ziehen, eine Leihmutter in Anspruch zu nehmen.
2	A befriended couple with a desire for a child cannot have children on their own. Would you advise them on conceiving a child through surrogacy?	Ein befreundetes Paar von Ihnen mit großem Kinderwunsch kann keine Kinder austragen. Würden Sie ihnen dazu raten, die Möglichkeit einer Leihmutterschaft in Anspruch zu nehmen?
2.11	If this couple (still) wants to conceive a child through surrogacy, what would you advise them on paying the surrogate?	Wenn dieses Paar (dennoch) eine Leihmutter in Anspruch nehmen möchte, was würden Sie ihnen raten, wie viel sie maximal an die Leihmutter zahlen sollen?
3	My general opinion on surrogacy is positive	Meine Meinung zu dem Konzept der Leihmutterschaft ist grundsätzlich positiv.
4	If one of my relatives or friends decided to pursue a surrogacy arrangement, I would support them	Wenn einer meiner Verwandten oder Freunde eine Leihmutter beauftragen würde, würde ich das unterstützen.
5	I would prefer to be voluntarily childless rather than to pursue a surrogacy arrangement	Ich würde lieber kinderlos bleiben als eine Leihmutter zu beauftragen.
6	The concept of surrogacy does not harm any ethical principles	Ethisch gesehen finde ich das Konzept der Leihmutterschaft unbedenklich
7	Surrogacy is a good way to help infertile couples to have a child with their own genetic characteristics	Leihmutterschaft ist eine gute Option für unfruchtbare Paare, ein Kind mit ihren genetischen Verbindungen zu bekommen.
8	A good friend of yours wants to conceive a child through surrogacy, which is illegal in Germany. Would you advise her on pursuing a surrogacy arrangement abroad?	Eine gute Freundin von Ihnen möchte eine Leihmutter beauftragen. In Deutschland ist das rechtlich nicht erlaubt. Würden Sie ihr dazu raten, ins Ausland auszuweichen?
9	I would prefer to adopt child rather than to pursue a surrogacy arrangement	Ich würde lieber ein Kind adoptieren, als eine Leihmutter zu beauftragen.
	Attitude towards monetary compensation	
10	If surrogacy would be legalised in Germany, would you support a monetary compensation for surrogate mothers?	Wenn Leihmutterschaft in Deutschland legalisiert werden würde, würden Sie befürworten, dass den Leihmüttern Geld gezahlt wird?
11	A friend considers becoming a surrogate mother. Would you advise her to ask for a monetary compensation?	Eine Freundin überlegt sich, Leihmutter zu werden. Würden Sie ihr raten, sich dafür bezahlen zu lassen?
11.11	If this friend (still) wants to ask for a monetary compensation, what amount do you think it should be?	Wenn diese Freundin sich (dennoch) bezahlen lassen würde, wie viel sollte das Ihrer Meinung nach sein?
	Attitude towards surrogate mothers	
12	After giving birth, the surrogate mother should have the right to see the child regularly	Eine Leihmutter sollte das Recht haben, das Kind nach der Geburt regelmäßig zu sehen.
13	After giving birth, a surrogate mother should have the right to decide if she really wants to give the child away	Eine Leihmutter sollte das Recht haben, sich erst nach der Geburt zu entscheiden, ob sie das Kind tatsächlich weggeben möchte.

Note: 1This question was not part of the Principal Component Analysis

this topic. This question is planned for a follow-up study. As many people have hardly any information about surrogacy, the outcome might hint on how people tend to form their opinion about topics they are uninformed about.

Conflict of Interest

The authors declare that there is no conflict of interest.

Ethical Committee: The study was approved by the Ethics Commission of the Faculty of Behavioural and Cultural Studies of the University of Heidelberg.

Originality: The authors confirm that the article has not been submitted or accepted for publication elsewhere.

References:

1. Brähler E, Stöbel-Richter Y. Familienfeindlicher Zeitgeist? Reproduktionsmedizin 2002; 18: 276–82.

2. Michelmann H, Himmel W. Reproduktionsmedizin in Deutschland – Besonderheiten und Dilemmata. Das Gesundheitswesen 2005; 67: 605–12.

3. Frommel M, et al. Rechtslage der Reproduktionsmedizin in Deutschland. J Reproduktionsmed Endokrinol 2010; 7: 96–105.

4. Thorn P, Katzorke T, Daniels K. Samenspender in Deutschland – liberaler als die Vorgaben des Berufsrechts? Geburtshilfe und Frauenheilkd 2009; 69: 297–302.

5. Schröder A, Diedrich K, Ludwig M. Einschätzung der Eizellspende und der Leihmutterschaft – Abhängigkeit von eigenen Erfahrungen. Zentralbl Gynakol 2004; 126: 24–31.

6. Krones T, et al. Attitudes of patients, healthcare professionals and ethicists towards embryonic stem cell research and donation of gametes and embryos in Germany. Reprod Biomed Online 2006; 13: 607–17.

7. Schröder A, et al. Mehrlinge nach assistierter Reproduktion-Einschätzung des Risikos durch Betroffene und Nichtbetroffene. Geburtshilfe und Frauenheilkd 2003; 63:356–63.

8. Meister U, et al. Knowledge and attitudes towards preimplantation genetic diagnosis in Germany. Hum Reprod 2005; 20: 231–8.

9. Pennings G. Legal harmonization and reproductive tourism in Europe. Hum Reprod 2004; 19: 2689–94.

10. Shenfield F, et al. Cross border reproductive care in six European countries. Hum Reprod 2010; 25: 1361–368.

11. Meyer-Spendler R. Ein schmaler Grat. Erfahrungen mit Leihmutterschaft in den USA. FamART Verlag, Mörfelden, 2015.

12. Hendrick TA, et al. Self-reported attitude scales: current practice in adequate assessment of reliability, validity, and dimensionality. J Appl Soc Psychol 2013; 43: 1538–52.

13. Halman LJ, Abbey A, Andrews FM. Attitudes about infertility interventions among fertile and infertile couples. Am J Public Health 1992; 82: 191–4.

14. Baykal B, et al. Opinions of infertile Turkish women on gamete donation and gestational surrogacy. Fertil Steril 2008; 89: 817–22.

15. Kilic S, et al. Determination of the attitudes of Turkish infertile women towards surrogacy and oocyte donation. Pak J Med Sci 2009; 25: 36–40.

16. Kian FR, et al. Development and validation of attitude toward gestational surrogacy scale in Iranian infertile couples. Int J Fertil Steril 2016; 10: 113.

17. Rahmani A, et al. Gestational surrogacy: Viewpoint of Iranian infertile women. J Hum Reprod Sci 2011; 4:138.

18. Poote A, van den Akker OB. British women's attitudes to surrogacy. Hum Reprod 2008; 24: 139–45.

19. Minai J, et al. There are gender differences in attitudes toward surrogacy when information on this technique is provided. Eur J Obstet Gynecol Reprod Biol 2007; 132: 193–9.

20. Jadva V, et al. Surrogacy: the experiences of surrogate mothers. Hum Reprod 2003; 18: 2196–204.

21. Sohrabvand F, Jafarabadi M. Knowledge and attitudes of infertile couples about assisted reproductive technology. Int J Reprod BioMed 2005; 3: 90–4.

22. Saito Y, Matsuo H. Survey of Japanese infertile couples' attitudes toward surrogacy. J Psychosom Obstet Gynaecol 2009; 30: 156–61.

23. Kian EM, Riazi H, Bashirian S. Attitudes of Iranian infertile couples toward surrogacy. J Hum Reprod Sci 2014; 7: 47.

24. Suzuki K, et al. Analysis of national representative opinion surveys concerning gestational surrogacy in Japan. Eur J Obstet Gynecol Reprod Biol 2006; 126: 39–47.

25. Holbrook SM. Social workers' attitudes toward participants' rights in adoption and new reproductive technologies. Health Soc Work 1996; 21: 257–66.

26. Krishnan V. Attitudes toward surrogate motherhood in Canada. Health Care Women Int 1994; 15: 333–57.

27. Genuis SJ, Chang WC, Genuis SK. Public attitudes in Edmonton toward assisted reproductive technology. Can Med Assoc J 1993; 149:153.

28. Chliaoutakis JE, Koukouli S, Papadakaki M. Using attitudinal indicators to explain the public's intention to have recourse to gamete donation and surrogacy. Hum Reprod 2002; 17: 2995–3002.

29. Chliaoutakis JE. A relationship between traditionally motivated patterns and gamete donation and surrogacy in urban areas of Greece. Hum Reprod 2002; 17: 2187–91.

30. Svanberg AS, et al. Public opinion regarding oocyte donation in Sweden. Hum Reprod 2003; 18:1107–14.

31. Rahmani A, et al. Viewpoints of fertile women on gestational surrogacy in East Azerbaijan Province, Iran. IJME 2014; 11: 29–33.

32. Dunn PC, Ryan IJ, O'Brien K. College students' acceptance of adoption and five alternative fertilization techniques. J Sex Res 1988; 24: 282–7.

33. Stöbel-Richter Y, et al. Egg donation, surrogate mothering, and cloning: attitudes of men and women in Germany based on a representative survey. Fertil Steril 2009; 92: 124–30.

34. Wippermann C. Kinderlose Frauen und Männer. Ungewollte oder gewollte Kinderlosigkeit im Lebenslauf und Nutzung von Unterstützungsangeboten. Bundesministerium für Familie, Senioren, Frauen und Jugend. 2014.

https://www.bmfsfj.de/blob/94130/bc0479bf5f54e5d-798720b32f9987bf2/kinderlose-frauen-und-maenner-ungewollte-oder-gewollte-kinderlosigkeit-im-lebenslauf-und-nutzung-von-unterstuetzungsangeboten-studie-data.pdf (zuletzt gesehen: 03.12.2018)

35. Leiner D J. SoSci Survey Version 2.5. 00-i1142 (Computer Software). Available at: https://www.soscisurvey.de (zuletzt gesehen: 03.12.2018).

36. R Development Core Team. R: A Language and Environment for Statistical Computing. The R Foundation for Statistical Computing. Vienna, Austria. Available http://www.R-project.org/ (zuletzt gesehen: 03.12.2018).

37. Tabachnick BG, Fidell LS. Using multivariate statistics. Allyn & Bacon/Pearson Education, Boston, 2007.

38. Kaiser HF. An index of factorial simplicity. Psychometrika 1974; 39: 31–6.

39. Field A. Discovering statistics using IBM SPSS statistics. Sage Publications Ltd, London, UK, 2013.

40. Moosbrugger H, Schermelleh-Engel K. Exploratorische (EFA) und Konfirmatorische Faktorenanalyse (CFA). In: Testtheorie und Fragebogenkonstruktion. Springer Verlag, Berlin, 2012: 307–24.

41. Bortz J, Schuster C. Statistik für Human-und Sozialwissenschaftler. Springer Verlag, Berlin, 2010.

42. Schick M, et al. Attitudes towards social oocyte freezing from a socio-cultural perspective. Geburtshilfe und Frauenheilkd 2017; 77: 747–55.

Mitteilungen aus der Redaktion

Besuchen Sie unsere Rubrik

☑ Medizintechnik-Produkte

Neues CRT-D Implantat
Intica 7 HF-T QP von Biotronik

Artis pheno
Siemens Healthcare Diagnostics GmbH

Philips Azurion:
Innovative Bildgebungslösung

Aspirator 3
Labotect GmbH

InControl 1050
Labotect GmbH

e-Journal-Abo

Beziehen Sie die elektronischen Ausgaben dieser Zeitschrift hier.

Die Lieferung umfasst 4–5 Ausgaben pro Jahr zzgl. allfälliger Sonderhefte.

Unsere e-Journale stehen als PDF-Datei zur Verfügung und sind auf den meisten der marktüblichen e-Book-Readern, Tablets sowie auf iPad funktionsfähig.

☑ Bestellung e-Journal-Abo

Haftungsausschluss

Die in unseren Webseiten publizierten Informationen richten sich **ausschließlich an geprüfte und autorisierte medizinische Berufsgruppen** und entbinden nicht von der ärztlichen Sorgfaltspflicht sowie von einer ausführlichen Patientenaufklärung über therapeutische Optionen und deren Wirkungen bzw. Nebenwirkungen. Die entsprechenden Angaben werden von den Autoren mit der größten Sorgfalt recherchiert und zusammengestellt. Die angegebenen Dosierungen sind im Einzelfall anhand der Fachinformationen zu überprüfen. Weder die Autoren, noch die tragenden Gesellschaften noch der Verlag übernehmen irgendwelche Haftungsansprüche.

Bitte beachten Sie auch diese Seiten:

Impressum **Disclaimers & Copyright** **Datenschutzerklärung**