

Translation, Adaptation, and Validation of Contraceptive Attitude Scale

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A need to measure attitude towards contraception was felt since Pakistan is one of the most populated countries in the world. For this, in the present study Keye's (1998) Contraceptive Attitude Scale was translated and validated to investigate attitudes toward contraception in Pakistan. Back-to-back translation method was used for translation followed by try out of Contraceptive Attitude Scale-Urdu on 15 couples to ascertain the understanding of language by target sample. On a sample of 120 married couples, exploratory factor analysis using Direct Oblimin Method was performed on Contraceptive Attitude Scale-Urdu for validation purpose which showed that the scale was unidimensional in nature. Item-total correlation ranged from .21 to .72 ($p < .01$). Two items were excluded for having non significant item total correlation. Cronbach's alpha reliability coefficient achieved was .90. Cross-language validity determined on a sample of unmarried M.Sc. students showed highly satisfactory validity indices. As indicator of construct validity using the concept of contrasted group, difference in attitudes of users and non users of contraceptives was explored on the sample of 120 couples. Contraceptive users displayed more positive attitudes toward contraception than non users. Gender differences in attitudes showed that wives had more positive attitudes toward contraception than husbands. Findings can increase awareness among the common masses in general and married couples in particular that family planning is an important component of healthy married life in which attitudes towards contraception play very significant role.

Keywords: Validation, contraceptives, attitudes, married couples

There is sexual division of labor for men and women as per

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evolutionary perspective i.e., men in hunting role and women in child bearing and rearing (Helgeson, 2005; Schklair, 2010). Pakistan was one of the first large countries to make a commitment to fertility reduction as a planning objective. From about 1965 to 1975, it was routinely cited as an example of what a strong family planning organization and vigorous leadership could do even under difficult circumstance. Nearly all of the major international donor groups were involved. They contributed a virtual army of family planning and population advisors as well as funds. Pakistan became a major training ground for foreign family planning and population experts who now work throughout the world (Robinson, Shah, & Shah, 1981).

According to World Health Organization (WHO; 2010), family planning allows individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. It is achieved through use of contraceptive methods and the treatment of involuntary infertility. Family planning implies that a couple discusses when and how many children they can have so that they can give the utmost care to the child, financially, psychologically, and socially. We commonly associate terms like contraception and birth control with family planning, but theoretically family planning is much more than that. Family Planning would also lead to an enhancement in the health of the baby that is born since a healthy mother would definitely give birth to a healthy child (Ganguly, 2010; Rigg, 2010).

According to Campbell, Sahin-Hodoglugil, and Potts (2006) barriers are the constraining factors standing between women and the realistic availability of the technologies and correct information they need in order to decide whether and when to have a child. The barriers include limited method choice, financial costs, the status of women, medical and legal restrictions, and misinformation. Social norms, pregnancy denial, embarrassment over discussing or obtaining birth control, worry about side effects, and experience with forced sex and education affected the women's acquisition and use of contraceptives (Sable, Libbus, & Chiu, 1997). Goulard, Moreau, Gilbert, Job-Spira, and Bajos (2006) found that knowledge of Emergency Contraceptives increased the probability of using contraception. Refusal to use contraceptives is driven by related belief systems. Clark, Barnes-Harper, Ginsburg, Holmes, and Schwartz (2006) found in Philadelphia that women thought Hormonal Contraception causes menstrual irregularity, weight gain, dizziness, and they had fear regarding its use.

Kiser and Whelpton (1949) found in Indianapolis that higher the socioeconomic status, the higher the proportion of couples practicing

contraception. Factors that mainly affect contraceptive acquisition include extreme poverty; profound inequalities between men and women; and early marriage that severely limit women's ability to achieve their childbearing goals. These conditions can readily be witnessed in Pakistani context. Culture, tradition, taboos, sex role definitions, and a reluctance to openly discuss these matters also create an impact in contraceptive use. The prevailing social norms and expectations create an impact for a decision to have a child, how early, and how often. Individuals will conform to different social norms depending on age, income, sex, experience, and culture. A very strong religious culture in the home possibly exert greater influence on the decision whether to use contraceptives or not. Other factors may include the media, current events, life events, social policy and legislation, and general information exchange (Khalifa, 1982; Rice, 2010).

The use of family planning services by women in urban slums is strongly linked to individual and household socioeconomic factors. Women were ten times more likely to use family planning service if her husband approved. Level of educational status of both wife and husband counted a lot, increased level of education led to more utilization of these services. Relative to women with only one child, women at all other parities displayed greater odds of using a family planning service (Khan, 2000; Stephenson & Hennink, 2004). Dahal, Padmadas, and Hinde (2008) found that most commonly used contraceptive method among current users was the condom. Lete et al. (2007) found the acceptance of different contraceptive methods among women was the function of their age. The pill was mostly accepted in the youngest age groups.

Methods most commonly used in Pakistan were female sterilization, traditional methods including withdrawal, and condom. Family planning in Pakistani context is very challenging. The political strife coupled with cultural constraints limit the empowerment of women that make the implementation of effective programs in many parts of the country difficult. As a result, most Pakistani women who say they have had enough children or that they want to wait to have their next child do not have ready access to the contraceptive services and reproductive health care they need. Pakistan's family planning program needs strong and consistent leadership, a sustained strategy to expand access to services, and adequate resources (Hardee & Leahy, 2008; Shelton et al., 1999).

In Pakistan, there exists a high level of unmet need for family planning. Women felt that they had limited control over their lives. This was exemplified by early marriages, high expectations on newly

married women to conceive, and poor access to contraceptives. Women frequently expressed a strong preference for sons, mostly for economic reasons, in a way rejecting women's subordinate position in society and the low economic value placed on women's work. In urban setting most of the mothers having sons were currently using contraceptives (Hennink, Stephenson, & Clements, 2000; Winkvist & Akhtar, 2000), as if they have achieved their goal of having son.

Literature showed that attitudes play a very important role in family planning, acquisition. People who had positive attitude towards family planning go for contraceptive use. There was positive attitude of contraceptive users towards family planning than non users in Srinagar. Both contraceptive users and non users have emphasized health, but non users considered it as unnatural phenomenon which leads towards sterility (Gairola, 2004). Attitudes toward contraceptive use were more positive among men with at least a secondary education and among those with a higher income in Jordan. Non users thought that contraceptive use would decrease their wives' satisfaction with sex and it would cause infertility (Petro-Nustas, 1999).

Dhingra, Manhas, Kohli, and Mushtaq (2010) conducted study in two ecological studies of Jammu Kashmir and found that most of the respondents in both areas were partially aware of family planning methods, though all the respondents were in favor of its adoption. Majority of the men (55%) and women (61%) respondents in urban areas were having positive attitude towards family planning. Killeen (1985) conducted study to find gender differences in attitudes toward contraceptive use. Men showed less favorable attitude than women toward the outcome of having to do something publicly to obtain contraception. Women showed a more favorable attitude than men toward the possibility of medical side effects from contraception. Odimegwu (1999) found that respondents' perceptions of family planning were associated with contraceptive use in Nigeria. Those who approved of family planning were twice as likely as respondents who disapproved to be using contraceptives.

On exploring the literature, it was found that no valid and reliable questionnaire in Urdu language is available to measure attitude towards contraceptives in Pakistan. Since family planning and birth control is strongly linked with attitudes towards contraceptive use, therefore, a need was felt to translate and validate already established measure rather than developing new one which is more time consuming and expensive. Although many methods are used to study attitudes but quantitative measures are convenient to get a large number of data and it saves time (Cohen & Swerdlik, 2005). For sensitive topics on which people avoid having face to face interaction,

as in interview setting, self-report inventory help in data collection (Allison as cited in Albarracin & Zanna, 2005).

Pakistan is the sixth most populated country and according to Pakistan Demographic Survey (2007), 48% of population is below 15 years which shows that population rate is very high. In countries such as Pakistan, the challenges of providing for people's well being—opportunities for education and employment, as well as access to quality health care—can be exacerbated by a rapidly growing population so there is a dire need to control population. Present study can facilitate in understanding the underlying cause in the form of attitude towards contraception for failure in contraceptive acquisition among married individuals. The family planning programs or surveys in Pakistan are mainly female oriented, so the information generated in this article would help the policy makers to adopt the effective strategies for the involvement of men in the future family planning programs or surveys (Nasir, Tahir, & Zaidi, 2010) and to target attitudes that play ultimate role in contraceptive acquisition. So if we know the attitudes of spouses we can change them and can strengthen the contraceptive use which will strengthen the family planning and the population control in Pakistan. We can provide them counseling, education, and knowledge regarding contraception that can promote women's and neonate's health. The present study aims at finding attitude towards contraception among spouses. The main objectives of the study are to: 1). Translate and adapt Contraceptive Attitude Scale (Keye, 1998) by using back-to-back translation method (Anastasi, & Urbina, 1982) in Urdu and establish psychometric properties of the scale. 2) Compare attitudes of spouses towards contraception. 3). Compare attitudes of users and non-users of contraceptive.

On the basis of literature it is assumed that:

1. Women will have more positive attitude towards contraception than men.
2. Contraceptive users have more positive attitude towards contraceptive than non users.

Method

Objectives of the present study were achieved in two parts. Part 1 was based on translation and adaptation of Contraceptive Attitude Scale (CAS) and Part 2 was the validation of the CAS.

Part I: Translation and Adaptation of Contraceptive Attitude Scale

CAS developed by Kyes (1998) is a tool to measure attitudes towards the use of contraceptives in general, as opposed to attitudes towards specific type of contraceptive. It consists of 32 items, 17 positively and 15 negatively worded items to which respondents indicate their agreement or disagreement. All items are scored using 5-point rating ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) (e.g., *I believe that it is wrong to use contraceptives; contraceptives make sex seem less romantic; I would feel embarrassed discussing contraception with my friends*). Negatively worded items are reversed scored. The total score is sum of responses to each item. Score ranges from 32 to 160. High scores indicate more positive attitude towards contraception. Test-retest reliability is .88. Internal reliability is good ranging from .26 to .68. Scores from the CAS correlated significantly ($r = .72$) with scores from the Premarital Contraceptive Attitude Evaluation Instrument (Kyes, 1998). Adaptation and translation of CAS was carried out in three stages including adaptation of scale, translation of scale, and pretesting. Before this, permission from the original authors was sought.

Stage 1: Adaptation of CAS. As the scale was in English; therefore, it was culturally evaluated so that it could be used for Pakistani population.

In the first phase, CAS was evaluated in cultural context from the five experts (three Ph.D and two M.Phil degree holders in psychology). On the basis of their evaluation three items were modified. These items were no. 6 (*I would not become sexually involved with a person who did not accept contraceptive responsibility*); no. 7 (*Teenagers should not need permission from their parents to get contraceptives*); and no. 16 (*One should use contraceptives regardless of how long one has known his or her sexual partner*). After evaluation, these experts were requested to suggest the desirable items. After taking their opinions, those items were modified on which they expressed their concerns. Suggested modifications were as follows. Item no. 6 (*I would not become sexually involved with my spouse if he/she did not accept contraceptive responsibility*); item no. 7 (*Married people should not need permission from their parents to get contraceptives*); and item no. 16 (*One should use contraceptives regardless of how long one is married*). Modified items were again shown to the experts (see e.g., Albarracin & Zanna, 2005) for their approval.

In the second phase, these items were put forward to a committee based on Assistant Professor of Psychology, the supervisor of the study, and the researcher herself. Committee members analyzed the modification of each item critically and finalized the one which conveyed the best meaning. Modified item no. 7 (*Married people should not need permission from their parents to get contraceptives*) was not finalized. Therefore, committee generated another item as 7(b) in an initial version (*Unmarried people should not discuss use of contraceptives with their parents*).

In the third phase, scale was administered on a sample of 22 unmarried girls to check the changes and their understanding of the items. Their education was from graduation to M.Phil. Age range was from 19-24 years ($M = 21.66$; $SD = 1.63$). However, no query was pointed out by the participants, although the construct under study was sensitive.

Stage 2: Translation of CAS. Translation of CAS was carried out by using the standard procedures of translation and back translation method (Brislin, 1976; Hambleton, 1994). For translation into Urdu, five bilingual experts (one with M.A English from National University of Modern Languages, two were M.Phil in Psychology, one was doing Ph.D in Psychology from National Institute of Psychology, and one was M.Sc. in Anthropology from International Islamic University) were contacted.

Committee members scrutinized these translated items carefully and selected the most accurate ones which conveyed the best meaning. Translated item no. 31 (*Contraceptives make intercourse seem too planned*) was re-evaluated by the committee and it was modified as 31a and 31b in the translated version for further consideration in back translation. When it was difficult to translate a particular item meaningfully into target language (e.g., for item no. 1, 3, and 25), a literal translation with explanation in parenthesis was provided to convey the meaning. It was anticipated that this would enhance the linguistic equivalence between the original items and their corresponding translations.

Instrument was translated back in to English by the independent bilingual experts including four Masters in Psychology from Quaid-i-Azam University, one was M.A. English, and one expert was Masters in Sociology. These bilingual experts were not exposed to the original English items of CAS. Same committee members analyzed the translation of each item critically and checked the compatibility of the translated items. Items 7a, 7b, 31a, and 31b were critically analyzed

and 7b and 31b was finalized in the back translation.

Stage 3: Pretesting. After translation pretesting was carried out.

Sample. In pretesting, 15 married couples (30 participants) having at least one child were taken from Rawalpindi and Islamabad. Age ranges from 27 to 55 years ($M = 34.7$, $SD = 7.50$). Women who had ligation or had achieved menopause were not included in the sample. Minimum education required was matriculation so that the participants should be able to read Urdu comfortable. Both users and non users of family planning methods were included and purposive sampling technique was used. Distribution of sample along other demographic variables were from nuclear family system 14(46.7%) and joint family system 16(53.3%); participants who watched family planning advertisements 23(76.7%) and those who did not watch were 7(23.3%); users of family planning method 11(36.7%) and non users were 19 (63.3%).

Procedure. Firstly, couples were approached and their written consent was sought. In nine cases wives were approached and requested to get the questionnaires filled from their husbands as well and in 6 cases it was vice versa. Before administering the test, the researcher explained the objectives and nature of study and assured the participants that results would be kept strictly confidential and would be used only for research purpose. Then questionnaires were handed over to the 20 couples and researcher told them to mark each and every item and not to leave any item unanswered. There was no restriction of time. They were requested to write their comments if they found any difficulty in answering to statements. Thirty questionnaires (from 15 couples) were received back, while 5 couples did not return the questionnaire.

Result. No query emerged while answering to the questionnaire except little reluctance in responding to this phenomenon was felt as items were very candid and explicit. Cronbach Alpha Reliability was .89 for 32 item CAS Urdu version (CAS-U). Guttman split half coefficient was .86. This showed that scale has highly satisfactory internal consistency for the use in the present study.

Part II: Validation of CAS-U

For the validation of CAS-U, cross-language validation on a sample of 20 unmarried university girls was carried out. Construct validity was established through Exploratory Factor Analysis (EFA) and establishing differences through concept of contrasted groups

(Cohen & Swerdlik, 2005) i.e., differences in attitudes across users and non users of contraceptives and across gender ($N = 120$).

Cross-Language Validation. Cross-language validation of CAS-U and original CAS English version to assess the quality and empirical equivalence was carried out on unmarried university girls ($N = 20$) with age range from 20 to 23 years ($M = 21.95$; $SD = 1.28$). They were selected by convenient sampling approach. Their qualifications were masters and they all had good understanding of both English and Urdu language. Literature (Thato, Hanna, & Rodcumdee, 2005; Susan, Clyde, Michelle, & Franklin, 1985) suggests that it is difficult to approach a large data for such sensitive issues so we established cross-language validation on university students as it was approachable. Secondly, aim was just to check the compatibility of translation of the items.

Sample was divided in two groups randomly having 10 participants each. The first group was given English version of CAS on the first day and CAS- U on the 12th day. The second group was given CAS-U on the first day and English version on the 12th day (Anastasi, 1976). Correlation among English and Urdu version of CAS was computed through Pearson Product Correlation Method on 1st group ($r = .65$, $p < .05$), 2nd group ($r = .92$, $p < .01$), and on complete sample of 20 participants correlation coefficient was .83 ($p < .01$). It indicates cross-language validity of CAS-U and shows that both original and translated version is conceptually valid tool for measuring attitudes towards contraception.

Construct Validity. To establish construct validity following method was followed.

Sample. One hundred and twenty spouses (60 couples) were taken from Rawalpindi and Islamabad with age range 27 to 55 years ($M = 34.7$, $SD = 7.50$). Respondents were having one or more than one children. Women who had undergone ligation or had achieved menopause were not included in the sample. Education criteria were minimum matriculation. Both users and non users of family planning methods were included and purposive sampling technique was used. Distribution along sample showed that participants were using various contraceptive methods including Withdrawal ($n = 12$; 10%), Injections ($n = 3$, 2.5%), IUCD ($n = 1$, .8%), Coitus Interrupts ($n = 2$, 1.7%), Condom ($n = 16$, 13.3%), Copper Tube ($n = 2$, 1.7%), and Contraceptive Pills ($n = 8$, 6.7 %); while remaining ($n = 16$, 13.3%) were not using any method.

Table 1

Distribution of Sample on the Basis of Demographics (N = 120)

Characteristics	f(%)
Family System	
Nuclear	68(56)
Joint	52(44)
Education	
Up to intermediate	30(25)
Graduation	36(30)
Up to post graduation	53(44.2)
Missing Value	1(.8)
Family Planning Advertisements	
Yes	90(75)
No	30(25)
Types of Participants	
Users	56(46.7)
Non Users	64(53.3)

Contraceptive Attitude Scale-Urdu (CAS-U). It was originally developed by Kyes (1998) and translated in the present study to measure attitudes towards the use of contraceptives in general, as opposed to attitudes towards specific type of contraceptive. CAS-U consisted of 32 items, 17 positively and 15 negatively worded items to which respondents indicated their agreement or disagreement. Three items were different from the original scale. Item numbers 6, 7, and 16 were modified in cultural context as discussed earlier. All items were scored using 5-point rating ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Negatively worded items were reversed scored. The total score was sum of responses to each item. Scores ranged from 32 to 160; with high scores indicated more positive attitude towards contraception. Alpha reliability of the translated scale ($N = 30$) was achieved as .89 in the present study (for CAS-U, see appendix).

Procedure. Participants were approached in the household settings and written consent to participate in the study was sought. In some cases only wives were approached and requested to get the questionnaires filled from their husbands as well and in other cases it was vice versa. Before administering the test, the researcher explained the objectives and nature of study and assured the participants that results would be kept strictly confidential and would be used only for research purpose. Then questionnaires were handed over to the participants and researcher told them to mark each and every item not

to leave any item unanswered. They were requested to give their personal opinion not affected by their spouse's and do not fill the questionnaire collectively. They were requested to write their comments if they found any difficulty in answering the statements. No query emerged in the course of scale administration except little reluctance in responding to this phenomenon as items being very candid and explicit. Initially sample of 100 couples was targeted. Thirty couples refused to fill the questionnaire; while in case of ten couples, wives filled the questionnaire themselves but did not give it to their husbands. Couples who filled and returned the questionnaires were 60 ($N = 120$).

Results. EFA was carried out to determine the factor structure of the CAS-U. Item-total correlation was computed for further establishing the construct validity. Cronbach alpha coefficient was calculated to see the reliability of CAS-U. Independent sample *t*-test was used to find the difference in attitudes between users and non users of contraceptives and for gender differences in attitude towards contraception.

Exploratory Factor Analysis. Initially there was no evidence of CAS subjected to factor analysis, therefore EFA was carried out. As sample ($N = 120$) was four times greater than total number of items (Field, 2005); therefore, to establish construct validity of the scale further it was decided to carry out factor analysis on CAS-U. Before factor analysis, Kaiser-Meyer-Okin (KMO) measure of sampling adequacy (.728) and Bartlett test of sphericity ($\chi^2 = 1715.40$; $df = 496$; $p < .000$) were calculated to check the suitability of the data for the factor analysis. This shows that variables are positively correlated with each other; hence conditions were met to carry out EFA. KMO measure of sampling adequacy measure varies between 0-1 and values closer to 1 are better, if it is greater than .5 then one can proceed for EFA. Another indicator of the strength of the relationships among variables is Bartlett's test of sphericity (Field, 2005). Bartlett's test of sphericity is used to check the null hypothesis that the variables in the population correlation matrix are uncorrelated. It is to precede a factor analysis for the data. Taken together, these provide a minimum standard which should be acquired before a factor analysis would be conducted.

Scree plot (Figure 1) graphically displays the Eigen values for each factor suggested 2 factor solution; hence EFA was repeated for 2 factor solution.

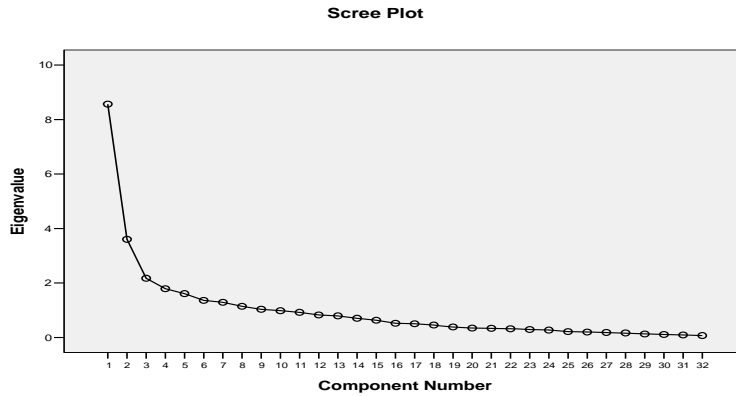


Figure 1: Scree Plot for Factor Matrix of CAS ($N = 120$)

An examination of the Figure 1, indicating Scree plot, presented a clear solution. The line seems to begin to level off after the second component. It appears that the first and the second component should be retained and interpreted. Hence, the Scree plot in Figure 1 suggested that Factor 1 and Factor 2 as a predominant factor. Items correlations showed that items were correlated significantly with each other.

Table 2

Factor Loadings of Items on Two Factors ($N = 120$)

Item no.	Factor Loadings		Item no.	Factor Loadings	
	F1	F2		F1	F2
01	.48	.04	17	.04	.37
02	.22	.54	18	.67	.01
03	.40	.54	19	.27	.23
04	.09	.59	20	.68	.12
05	.75	.26	21	.82	.32
06	.57	-.02	22	.79	.21
07	-.00	-.19	23	.53	-.18
08	-.14	.39	24	.65	.06
09	-.08	.02	25	.65	-.17
10	.02	.60	26	.28	.35
11	.48	.04	27	.83	.18
12	-.06	.67	28	-.11	.58
13	.60	.20	29	.53	.29
14	.29	.44	30	.65	.16
15	.44	.29	31	-.63	.01
16	.59	.37	32	.81	.17

If items are correlated with each other then Direct Oblimin Method of Principal Component Factor Analysis is the best method to be applied (Field, 2005). Thus Direct Oblimin Method was adopted for EFA by fixing it for two factors (see Table 2).

After Direct Oblimin Rotation of 32 items of CAS-U, items distributed in two factors and shows factor loadings $> .30$ ranging from $.30$ to $.82$. The items with a factor loading above $.30$ are selected for the final selection of the scales. Thus, the items with less than $.30$ factor loadings and the items that had high factor loadings on both factors are eliminated. Item number 19 cross loaded slightly on both factors, such items are considered complex as they reflect the influence of more than one factor (Field, 2005). For items number 7 and 9 loadings are quite low in both factors.

When nature of content for two emerging factors was analyzed in order to evaluate meaningfulness of items, it was found that items in respective factors only differed in terms of direction of measurement. For Factor 1, items were based on positive statements and for Factor 2 items were based on negative statements. No other similarity existed between the content of the items. Therefore, we suggested negatively stated items to be reversed scored. This shows that CAS-U is a unidimensional scale without any factor structure. Finally, item-total correlation along factor analysis was considered for selection of items and to establish construct validity of CAS-U (Cohen & Swerdlik, 2007).

Item no. 7, 8, 9, and 19 have non significant correlation with total score whereas remaining items were found to have significant correlation ranging from $.21$ to $.72$. According to Anastasi (1976) items having low correlation with the total are rejected. Before rejecting these items, item total correlation was computed on three different samples as different results might appear in different samples (Cohen & Swerdlik, 2007). It was analyzed with women ($n = 60$), men ($n = 60$), and then with the data of cross-language validation ($n = 20$). In all the three samples, item no. 7 and 19 showed non significant correlation, so it was finally decided to exclude item no. 7 and 19. Item no. 8 and 9 were retained because they showed significant correlation with sample of cross-language validation, therefore; we retained these items and left a room for validation of CAS-U for future researches. Remaining analysis has been carried out on 30 items after omitting item no. 7 and 19.

Alpha reliability computed through Cronbach which was $.87$ for 30 item CAS-U. Alpha coefficient was found adequate with CAS-U; thereby showing that the scale was highly reliable.

Gender Differences on CAS-U

Table 3 shows mean differences between genders on CAS-U. Independent sample *t*-test was performed to find the mean differences and to check the hypothesis 1. Analyses were also carried out across individual items for the in-depth understanding of pattern in attitudes across gender. In Table 3, besides difference on total score (CAS-U), results on items for which significant findings were achieved are given.

Table 3
Gender Differences on CAS-U (N = 120)

Variable	Husbands	Wives	<i>t</i> (118)	<i>p</i>	95% CI		Cohen's <i>d</i>
	(<i>n</i> = 60)	(<i>n</i> = 60)			LL	UL	
CAS-U	91.2(17.6)	98.6(16.6)	2.4	.02	-13.5	-1.14	.43
Item 05	2.9(1.4)	3.4(1.3)	1.9	.05	-.95	.01	.34
Item 12	2.8 (1.4)	3.3 (1.3)	2.0	.07	-.97	.02	.40
Item 14	3.2(1.4)	3.6(1.1)	1.9	.05	-.93	.00	.36
Item 15	2.7(1.3)	3.2(1.4)	1.9	.05	-.94	.01	.35
Item 18	2.9(1.3)	3.4(1.2)	2.2	.02	-.97	.05	.41
Item 19	3.0(1.3)	3.5(1.4)	1.8	.06	-.96	.02	.37
Item 20	2.9(1.4)	3.5(1.3)	2.2	.02	-1.0	.07	.46
Item 27	3.5(1.3)	3.8(1.2)	1.1	.06	-.83	.70	.30
Item 30	2.9(1.3)	3.4(1.3)	2.40	.01	-1.0	-1.0	.44

Note. For complete statements of items, see appendix

Significant differences are found between husbands and wives on CAS-U. Results presented in Table 3 shows that wives have more positive attitude towards contraception than husbands. A negative Cohen's *d* value just represents that the second mean is larger than the first one. With an absolute *d* of .43 which shows medium size effect. Hence, hypothesis 1 is confirmed. Individual interpretation of items shows that wives encourage more their friends to use contraceptives (item 5) whereas husbands feel more embarrassed discussing contraception with their friends (item 12). As compare to husbands, wives strongly believe that using contraceptives is a way of showing that you care about your partner (item 14); one should use contraceptives regardless of how long one is married (item 15); and they feel more relaxed during intercourse if a contraceptive method is used (item 18). In item no 19, *p*-value is close to significance which shows that wives prefer to use contraceptives during intercourse. Wives plan to use contraceptives anytime they have intercourse (item

20). In item 27, p -value is .06 which is also close to significance level which shows that wives think that couples should talk about contraception before having intercourse. Wives feel better about themselves when they use contraceptives as compared to husband (item 30).

Mean Differences on CAS-U for Users and Non Users of Contraceptives

Table 4 shows mean differences between users and non users of contraceptives on CAS-U. Independent sample t -test was performed to find the mean differences and to check hypothesis 2. Analyses were also carried out across individual items for the in-depth understanding of pattern in attitudes across contraceptive acquisition. In Table 4, besides difference on total score (CAS-U), results on items for which significant findings were achieved are given.

Table 4

Mean, Standard Deviation, and t -values for Users and Non Users of Contraceptives on CAS-U (N = 120)

Variable	Users	Non Users	$t(118)$	p	95% CI		Cohen's d
	($n = 56$)	($n = 64$)			LL	UL	
	$M(SD)$	$M(SD)$					
CAS-U	103.3 (13.29)	87.44 (17.41)	5.57	.00	10.2	21.6	1.03
Item 02	3.73 (1.21)	2.88 (1.06)	4.12	.00	.446	1.26	.74
Item 03	4.31 (1.02)	3.89 (1.14)	2.10	.03	.02	.82	.38
Item 04	4.04 (1.17)	3.55 (1.27)	2.17	.03	.04	.93	.40
Item 05	3.66 (1.16)	2.80 (1.39)	3.65	.00	.39	1.32	.67
Item 11	3.43 (1.33)	2.89 (1.41)	2.17	.03	.03	1.04	.41
Item 12	3.85 (1.31)	2.94 (1.39)	3.65	.00	.42	1.41	.67
Item 13	3.38 (1.34)	2.70 (1.39)	2.67	.00	.17	1.17	.51
Item 14	3.80 (1.13)	3.02 (1.36)	3.41	.00	.33	1.24	.62
Item 16	4.09 (.76)	3.51 (1.19)	3.12	.00	.23	.95	.61
Item 18	3.56 (1.25)	2.81 (1.22)	3.30	.00	.30	1.20	.61
Item 19	4.00 (.95)	2.63 (1.38)	6.24	.00	.93	1.81	1.21
Item 20	3.77 (1.15)	2.80 (1.40)	4.05	.00	.49	1.45	.41
Item 22	4.11 (1.02)	3.32 (1.20)	3.84	.00	.38	1.19	.71
Item 23	3.43 (1.23)	2.91 (1.34)	2.20	.02	.05	.99	.40
Item 25	3.85 (1.12)	2.82 (1.36)	4.40	.00	.56	1.49	.81
Item 27	4.04 (1.12)	3.39 (1.30)	2.87	.00	.20	1.08	.51
Item 28	3.85 (1.09)	3.20 (1.32)	2.87	.00	.20	1.09	.51
Item 30	3.63 (1.29)	2.75 (1.21)	3.81	.00	.42	1.34	.70

Note. For complete statements of items, see appendix

Table 4 shows significant differences in the mean of users and non users on CAS-U which shows that users have more positive attitude towards contraception than non-users. Cohen's $d = 1.03$ shows a quite large effect; hence, hypothesis 2 is confirmed. Individual interpretation of items shows that as compare to users of contraceptives, non users strongly believe that contraceptives reduce the sex drive (item 2); men who use contraceptives seem less masculine than men who do not (item 4); contraceptives actually do not prevent pregnancy (item 11); they do not talk about contraception with their friends (item 13); feel embarrassed discussing contraception with friends (item 14); and they think that contraceptives are difficult to obtain (item 16). For non users, users of contraceptives encourage their friends to use contraceptives than non users (item 5). Contrarily, as compare to non users of contraceptives, users strongly believe that using contraceptives is much more desirable than having an abortion (item 3); using contraceptives is a way of showing that you care about your partner (item 12); they feel more relaxed during intercourse if a contraceptive method is used (item 18); prefer to use contraceptives during intercourse (item 19); plan to use contraceptives anytime they will have intercourse (item 20). They do not face trouble to use contraceptives (item 22) and believe that using contraceptives makes a relationship seem too permanent (item 23). According to users contraceptives are worth using, even if the monetary cost is high (item 25) and they think that couples should talk about contraception before having intercourse (item 27). Users agree that if they will experience negative side effects from a contraceptive method, they would use a different method (item 28) and they feel better about themselves when they use contraceptives (item 30).

Discussion

The main objective of the study was to establish a valid and reliable questionnaire to measure attitude towards contraception. Therefore, CAS was adapted and translated in cultural context, so that it could be used for Pakistani population. Task was very sensitive as talking about contraception was still a cultural taboo. In adaptation 3 items were modified in cultural context. For item 6 and 16, *person* and *sexual partner* were modified to *spouse*, because in our culture we can not openly accept to have sexual relation with any other person except the spouse. In item 7, *teenagers* was replaced by *married people* because sex is a taboo in Islamic countries and sex before marriage is not openly practiced in our society and is taken as a big moral issue.

In the Islamic religion, rules regarding pre-marital relations are quite simple, no sexual relation out of wedlock is allowed. Honor killing is one of the examples of the reflection of culture where relationship out of wedlock is not recommended. The men want their women to be covered and veiled (Ahl & Steinvorth, 2006). In the mundane affair of the society, sex and sexuality in covert and strict codes governs the people. Families thus deny opportunities for open discussion. Such taboos and restrictions are accepted with no question asked (Jayant & Prashant, 2005).

After adaptation, back to back translation was carried out (Brislin, 1978; Hambleton, 1994). And then, try out of translated version was carried out on a sample of 15 couples. Cronbach alpha coefficient was highly satisfactory (Kaplan & Saccuzzo, 1982) showing that scale was reliable measure. Cross-language validation (Anastasi & Urbina, 1988) showed that both English and Urdu versions significantly correlated with each other that represents the compatibility in both versions across a time gap of 15 days that also represent test-retest reliability of CAS-U (Cohen & Swerdlik, 2007). To establish the construct validity of CAS-U, EFA was carried out on the sample which was four times greater than total no. of items (Field, 2005). EFA resulted in two factor solution. Evaluation of content showed that factors were not representing any specific domain in attitudes except that one factor was measuring positive attitude towards contraception and other factor was measuring negative attitude. Content on two factors only differ in terms of direction of measurement. Factor 1 items were based on positive statements and items on Factor 2 were based on negative statements. No other similarity existed between the content of the items. Therefore, CAS-U was declared unidimensional. Considering EFA and item-total correlation for final items selection two items 7 and 19 were removed from final CAS-U. Cronbach alpha achieved on total sample was also satisfactory. This helped in establishing CAS-U as a valid and reliable measure for studying attitudes.

Further construct validity was established by ascertaining differences in attitudes across distinct groups or contrasted groups (see Anastasi & Urbina, 1988; Cohen & Swerdlik, 2007). Previous research evidences strongly suggest difference in attitudes across gender (Dhingra et al., 2010; Lance, 2004) and contraceptive acquisition (Khan, 2000; Stephenson & Hennink, 2004).

Gender differences were significant between couples on CAS. As assumed, wives were having more positive attitude towards contraception than husbands. Dhingra et al. (2010) also found that women have more positive attitude than men in Jammu Kashmir.

Traditionally, men were expected to be sexually pre-active (initiating and controlling sexual interactions) and having an ongoing overriding interest in sex. Women, on the other hand, were expected to be sexually reactive and disinterested in sex. These sex differences might underlie differences in attitudes towards contraception (Lance, 2004). Individual item-wise analyses showed significant differences on nine items only. Change in social attitude is also reflected in changed sexual knowledge and attitude differences. Attitudes of men and women may get converged due to liberalization (Meston, Trapnell, & Gorzalka, 1998). It may be because of feminist activism or it may be because of data size. If the data was increased, may be significant differences can emerge on other items too which are presently showing non significant difference.

Findings showed that wives encouraged and discussed contraception with their friends. It may be because women are very open in discussion with their friends. They comfortably share their personal information with friends (Cuascus, 2012). Tschann (2011) found that intimate disclosure of married men to friends was lower than that of unmarried men. While married women's disclosure to their friends was moderate or even as high as disclosure to their spouses. The results suggested that sex roles are not the only determinant of gender differences in disclosure to friends. Marital status appears to have an important influence on disclosure in friendship for men but not for women. Wives think that contraceptives should be used regardless of marriage duration where as husbands also endorse it but repercussions are more on wives. Physically women suffer more so they feel more embarrassed if they conceive without prior plan. Therefore, women feel relaxed if contraception is used during intercourse and feel insecure if contraceptives are not used. So it is suggested that it would be better if analysis is done along duration of marriage and number of children one is having. These might play moderating role in attitudes.

Richmond (1977) found that self disclosure communication behavior varies from person to person, that is, some people disclose more than others and as wives feel more embarrassment they are more in disclosure. Contrarily, husbands did not get that pleasure if contraception is used, they do not get that much enjoyment so they do not support contraceptives, they also do not prefer it or even talk about it. For wives, it is more important to feel safe so they get relaxation and satisfaction when contraception is used; hence they support it. So wives think that couples should talk about contraception before having intercourse and they feel better about themselves when they use contraceptives (Spear & Clark, 2008).

As assumed, significant differences are found in the mean of users and non users of contraceptives which shows that users have more positive attitude towards contraception than non users. Similar, positive attitude towards family planning of contraceptive users than non users were observed in Srinagar. Both contraceptive users and non users have emphasized health but non users considered it as unnatural phenomenon which leads towards sterility (Gairola, 2004). Petro-Nustas (1999) also found that users have more positive attitude than non users.

Item-wise analyses showed significant differences on 18 items. It was found that users agree that contraception is better than abortion, so they encourage their friends. It may be because those women who are seeking an abortion can face exorbitant expense, sexual exploitation, pain, imprisonment, and death so they prefer contraception than abortion. For users, using contraceptives is a way of showing that you care about your partner (see Sargent, 2011). Users feel more relaxed during intercourse if a contraceptive method is used and they prefer to use contraceptives during intercourse. For users, it is no trouble to use contraceptives and they are worth using that makes a relationship long lasting. They think that couples should talk about contraception before having intercourse. Users agree that if they will experience negative side effects from a contraceptive method, they would use a different method and they feel better about themselves when they use contraceptives. Kirby, Sluji, and Currie (2010) found that users who have positive attitudes towards contraception do not feel embarrassed and uncomfortable buying condoms.

On the other hand, it was found that non users did not talk about contraception with their friend because they thought that men who use contraceptives seem less masculine than the users and do not believe that contraceptives actually prevent pregnancy. Non users believed that contraceptives reduce sex drive. Using contraception was really upsetting and wives felt that husbands would not get attracted to her anymore. Kirby et al. (2010) found that young adults reported that they were having no sexual drive because of contraception and they did not feel any pleasure but as they left condoms their sex drive came back. For them, contraceptives are difficult to obtain and they have belief that contraception do not prevent pregnancy. It may be because they feel embarrassed in purchasing and carrying condoms so for them its trouble to use them. They lack knowledge, information, and sex education and think that contraceptives have horrible side effects so they do not use it (see Campbell, Sahin-Hodoglugil, & Potts, 2006).

Most commonly used method in our sample was condoms followed by withdrawal and least used method was intrauterine

devices. It may be because those condoms are less expensive, readily accessible, and causes less physical harm to spouses, therefore it is preferred. In our societies after the birth of first child, gynecologists suggest mothers various methods of contraceptives and condoms are provided free of cost. It may be the reason of its more prevalent use. Withdrawal method has religious context; however it would be easy and has no physical side effects. Therefore, it may be the reason that it was second most prevalent method (Akbar, 1995; Haq, n.d.). Methods most commonly used in Pakistan were female sterilization, traditional methods such as rhythm, withdrawal, and condom (Hardee & Leahy, 2008). Other evidences also indicated the condom was the most prevalent short term modern method (Hagen, Fikree, Sherali, & Hoodbhoy, 1999).

Limitations and Suggestions

Every study is a new step toward understanding and solution of the problem and side by side there are always few limitations on which further research can be built upon. In data collection initially 100 couples were targeted but couples refused to fill the questionnaires as items being very candid and explicit. Study was much criticized as it is felt very awkward in our society that unmarried girl (researcher) talking about such topics. The fact cannot be denied that there is need to talk about it in light of the prevailing situation. Young people are poorly informed about their bodies and matters related to sexuality as there is opposition in norms and practices (Jayant & Prashant, 2005).

Generally, reservation and discrete attitudes was evident due to the stigma attached with the discussion of the attitudes. Therefore, socially desirable response might have limited the assessment of true response. Since contraceptives are highly stigmatized in our culture, this is the reason for couple's reluctance in reporting their responses regarding contraceptives. Over reporting and under reporting can effect the reliability of the measure because of sensitivity of the construct under study (see Cohen & Swerdlik, 2007). Sample size was small that is why decision for items' deletion was finalized after carrying out item-total correlation on all the subsamples of the study. Since scale is translated for much wider purpose i.e., to measure attitudes towards contraception in Pakistan regardless of type of population, therefore, further validation studies on much larger data can be taken up to establish the external validity. Although factor analysis was carried out, it is suggested that in future factor analysis

could be performed again on any other sample to check factor structure. Strong significant differences in attitudes towards contraception appeared for users and non users and gender. Moderating role of gender would also be explored in the context of existing attitudes and acquiring contraceptives.

Conclusion

This gigantic increase in population has emerged as a matter of great public concern because it is undermining our efforts to raise living standards of our people. Pakistan was one of the first populated countries to make a commitment to fertility reduction as a planning objective. Hence, present study was under taken to translate and establish psychometric properties of CAS. The results of the study helped in providing an understanding of married couples on attitude towards contraception. The present study established that gender differences existed in attitudes towards contraception, wives were having more positive attitude towards contraception than husbands. For users and non users of contraception, users had more positive attitudes than non users. It is concluded that CAS-U is valid and reliable measure to study attitudes towards contraception.

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Appendix

Sr. No.	Items
1	I believe that it is wrong to use contraceptives.
2	Contraceptives reduce the sex drive.
3	Using contraceptives is much more desirable than having an abortion.
4	Males who use contraceptives seem less masculine than males who do not.
5	I encourage my friends to use contraceptives.
6	I would not become sexually involved with my spouse if he/she didn't accept contraceptive responsibility.
7	Contraceptives are not really necessary unless a couple has engaged in intercourse more than once.
8	Contraceptives make sex seem less romantic.
9	Females who use contraceptives are promiscuous.
10	I would not have intercourse if no contraceptive method was available.
11	I do not believe that contraceptives actually prevent pregnancy.
12	Using contraceptives is a way of showing that you care about your partner.
13	I do not talk about contraception with my friends.
14	I would feel embarrassed discussing contraception with my friends.
15	One should use contraceptives regardless of how long one is married.
16	Contraceptives are difficult to obtain.
17	Contraceptives can actually make intercourse seem more pleasurable.
18	I feel more relaxed during intercourse if a contraceptive method is used.
19	I prefer to use contraceptives during intercourse.
20	In the future, I plan to use contraceptives anytime I have intercourse.
21	I would practice contraception even if my partner did not want me to.
22	It is no trouble to use contraceptives.
23	Using contraceptives makes a relationship seem too permanent.
24	Sex is not fun if a contraceptive is used.
25	Contraceptives are worth using, even if the monetary cost is high.
26	Contraceptives encourage promiscuity.
27	Couples should talk about contraception before having intercourse.
28	If I or my partner experienced negative side effects from a contraceptive method, we would use a different method.
29	Contraceptives make intercourse seem too planned.
30	I feel better about myself when I use contraceptives.