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STANDARD FINANCE Vs. BEHAVIORAL FINANCE: A COMPARISON

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Abstract

Behavioral Finance tries to analyse how the decision making process of investors is influenced by their cognitive errors or mental mistakes &emotions. Investors mostly behave irrationally, in a biased manner but the reverse of which is indicated in the quantitative models of traditional finance theories. There exist a psychological influence on the actions of investors while taking financial decisions & its following effect and impact on the share markets. The knowledge of these biases facilitates the investors in recognizing their own mistakes in order to ensure that such mistakes are not committed henceforth but the Standard financial theories have always been the backbone of traditional finance with the basic assumptions that market is efficient, people are rational and stock & bond markets are efficient. This paper is an attempt to investigates the major differences between standard finance theories and behavioral finance theories.

Keywords: *Behavioral Finance, standard finance theories, behavioral finance theories.*

I. Introduction

An individual acquires a financial asset with the hope that it will grow and generate income or appreciate in future. Hence, the process of the sacrifice of certain present value for the uncertain future reward is known as investment. Through proper investment an individual can attain his or her financial security. It assists an individual by creating a corpus fund for retirement, fulfilling major financial goals like buying a house, car etc., managing children education fees, efficiently minimising taxes, dealing with the inflation rate, bearing major health expenses etc. which will help him/her to lead a comfortable lifestyle. Investment is also a component of aggregate demand of the nation, increase in investment level will boost aggregate demand and will increase the rate of economic growth of the nation. Hence, investment is essential for an individual growth as well as nations' growth.

Standard financial theories have always been the backbone of traditional finance with the basic assumptions that market is efficient, people are rational and stock & bond markets are efficient. These theories were considered to be the base of financial decision making but in reality these assumptions did not completely match with the real market conditions. Psychologists have found that economic decisions are mostly made in an irrational manner. In a perfect situation, standard finance approach is appropriate, where the market is

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efficient which means the stock prices includes all the necessary data available in the market, which is practically not possible.

Behavioral specialists contend that an investor is mostly driven by his/her emotions and are prone to make cognitive mistakes while taking financial decisions. They may be over confident about their capabilities, may lack self control, miscaliberate information, overreact or exhibit herd behavior. These errors can be termed as anomalies and are the reasons for market inefficiencies like financial market bubbles, overreaction and under reaction like 'the dot-com bubble 1990s', (Delong. J, 2006) and 'the sub prime mortgage crisis of 2007',(Tudor. C, 2009). The dot-com bubble is referred to the internet boom during the period 1997 to 2000. The investors during this phase were so outrageous that companies could increase their share prices by adding just an 'e' or a '.com' term to their tiltle before or after respectively. This bubble collapsed in 2001 when many such companies failed. Even the most stable companies like Cisco and Amazon suffered during this collapse. Similar to the dot-com bubble, increase in speculation in the United States housing market gave rise to the real estate bubble in early 2006. The speculative fever resulted in subprime mortgage and credit crisis which led to its burst in 2007and was one of the cause of global financial crisis of 2007-2009. Hence, the call for the understanding such irregularities and deficiencies in the individual judgment gave rise to a discipline named behavioral finance.

Behavioral Finance is a new area of research which proposes psychology based theories which focus towards understanding why people make certain financial choices which includes judgemental errors and are irrational in nature. It is the study of how thoughts, feelings and attitude influence investment decisions. One of the major reason behind these errors are behavioral biases. Behavioral bias is a tendency of an individual to make judgemental errors while making financial decisions. There are various kinds of behavioral biases like overconfidence bias, confirmation bias, anchoring bias, cognitive dissonance, regret aversion, disposition affect, availability bias, herding bias etc. Hence behavioral biases are considered as the building blocks of behavioral finance which significantly influence the financial decision making process.

Standard Finance vs Behavioural Finance

The foundation of the standard finance and behavioral finance differ from each other in various ways. Table 4.2 depicts the differences between standard finance and behavioral finance

Table 1.2: Difference between standard finance and behavioral finance

Areas of comparison	Standard Finance	Behavioral Finance
Rationality	People are rational whenever they receive information they update their beliefs correctly.	People are not fully rational. They are susceptible to cognitive and emotional shortcuts and errors while making investment choices.

Wants	People are guided by utilitarian wants.	With utilitarian wants, they are also guided by experience and emotional wants.
Portfolio Selection	People select their portfolio by using the mean-variance portfolio theory.	People select their portfolio by using the behavioral portfolio theory, where people along with returns have social wants.
Decision making	Expected utility theory describes how people make decisions under risk.	Prospect theory describes how people make decisions under risk.
Life Cycle theory	People naturally follow the right way to save and spend following standard life cycle theory.	People follow Behavioral life cycle theory which considers impediments like weak self-control.
Asset Pricing model	Expected returns on investments are explained by the standard asset pricing theory like the CAPM capital asset pricing model.	The expected return from investment is explained by Behaviorally Asset Pricing Model.
Efficient markets	Markets are efficient, prices reflect intrinsic value. It is not possible to beat the market.	Markets are characterized by inefficiencies and it is difficult to beat the market.

Source: Prasanna Chandra, 2014

Behavioral Finance Theories Vs Standard Fianance Theories

The classification is on the basis of different five theories each from standard finance and behavioral finance.

- Expected Utility Theory Vs Prospect Theory
- Capital Asset Pricing Model Vs Behavioral Asset Pricing Model
- Mean-Variance Portfolio Theory (MVPT)Vs Behavioral Portfolio Theory(BPT)
- Efficient Market Hypothesis Vs Market Inefficiency
- Standard Life Cycle Theory vs Behavioral Life cycle theory

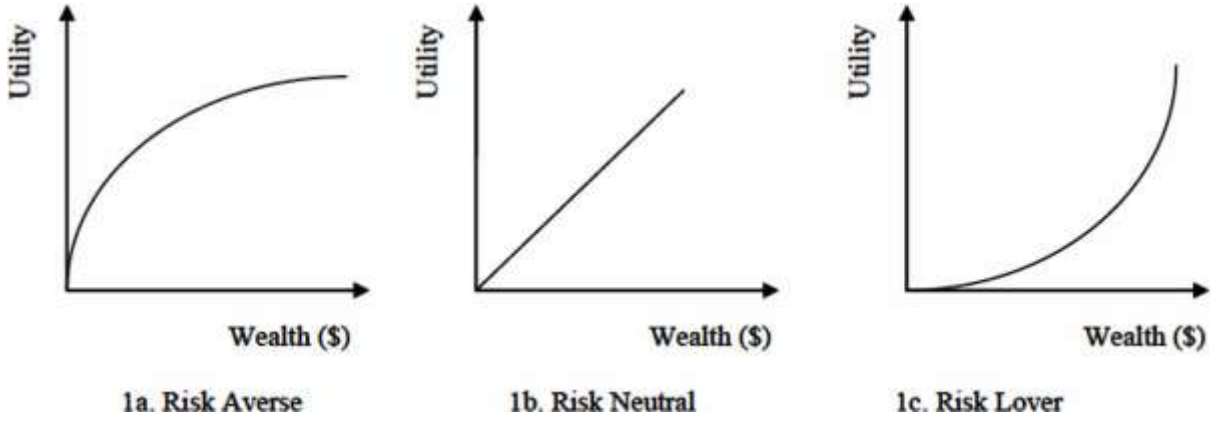
Expected Uthility Theory Vs Prospect Theory

Expected Utility theory

Expected Utility theory explains about the people choices with respect to unsure outcomes. Utility refers to the satisfaction gained from the consumption of goods or services. The utility function is represented as □ □ □ □ □ □ □ Expected utility theory was given by Oskar Morgenstern & John Von Neumann in order to describe rational behaviour with the lenses of uncertainty it states that if person has a concave utility function, he is a risk averse person, if person has a convex utility function, he is a risk seeking person and if it is a straight line , he is a risk neutral person (Rabin, 2013) which is explained previously in fig 4.1. (Rabin, 2013).

Fig 4.1 Expected Utility Theory

Expected utility functions for three risk attitude types



1a. Risk Averse 1b. Risk Neutral 1c. Risk Lover

Source: M. Rabin , 2013

Prospect Theory

As per the expected utility theory, utility depends on the level of wealth, individuals are always risk averse. It shows the rational way to think about a problem but prospect theory given by Daniel Kahneman and Amos Tversky depart from the expected utility theory.(Barberis, 2001)

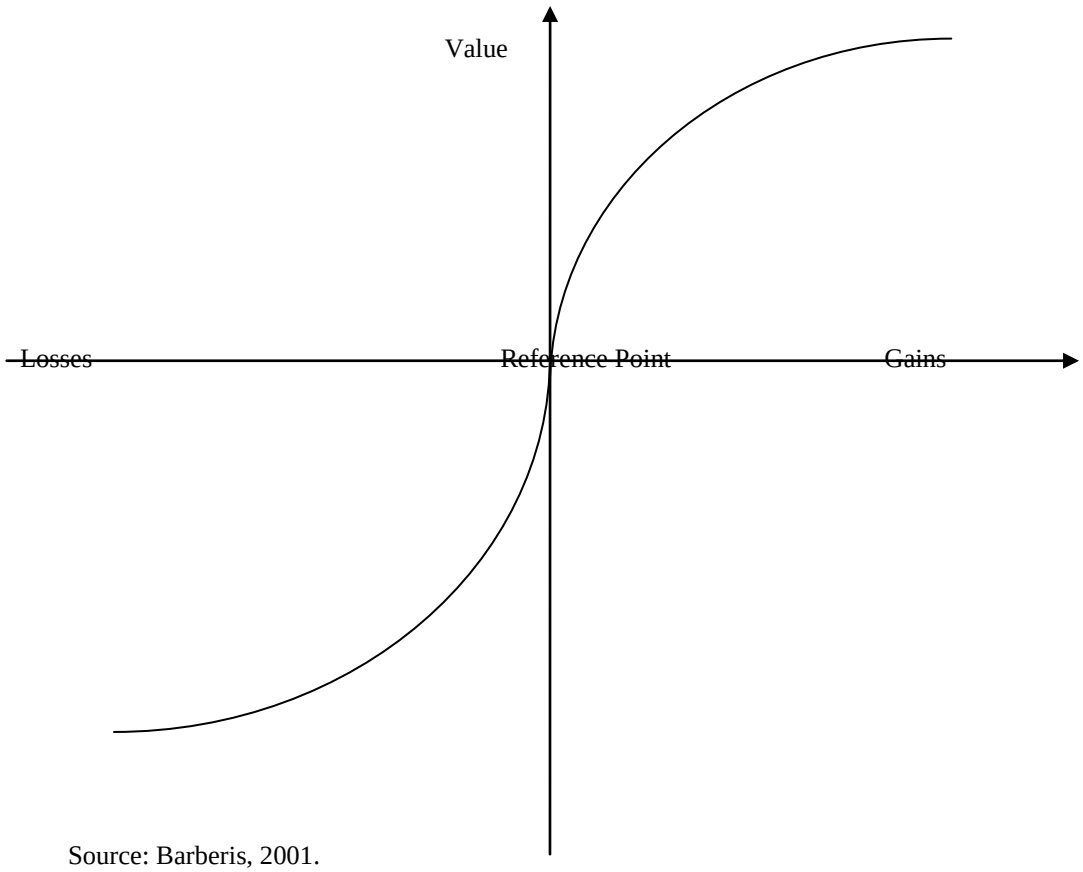
The key features of prospect theory are :

1) Utility (value) depends on changes in wealth rather than the level of wealth.

2) People have different attitudes to risk in the field of gains and losses .

3) Negative emotions (a setback) have a stronger impact on me than any positive ones (any progress).

Value function under Prospect Theory



Source: Barberis, 2001.

Capital Asset Pricing Model Vs Behavioral Asset Pricing Model

Capital Asset Pricing Model (CAPM)

Investment analysis includes two components (i) analysis of risk and return of single security (ii) analysis of risk and return of the efficient portfolio. Both elements were answered by William Sharpe through the Capital Asset Pricing Model in the year 1962. (Ross, 1977)

It was the center piece of modern financial economics for which Sharpe was awarded noble prize in 1990. In this theory the relationship between return & risk is described as follows:

$$E(R_i) = R_f + \left[\frac{E(R_M) - R_f}{\sigma_M^2}\right]\sigma_{iM}$$

CAPM is expressed as follows:

Expected return of stock: *f(*market factor, book to market factor, market cap factor)

In CAPM, beta, market capitalisation & book to market ratio are the major factor that determines the expected stock return as developed by Eugene Fama and Kenneth French, considered as a most popular model of standard finance.

Behavioral Asset Pricing Model

According to this theory investment provide three types of benefits:

(i) Utilitarian benefits, they are reflected mostly in terms of wealth, augmented by high investment returns.(Statman, 2018)

(ii) Expressive Benefits: It means 'How investment speak about the investor and his image.

(iii) Emotional Benefits: What sense of security and hope does the investment provide.

Expected return of a stock = *f(*factor, book to market factor, market cap factor, momentum factor, affect factor, status factor, social responsibility factor and more)

In Behavioral Asset Pricing Model, along with the three model factors emotional and cognitive factors are also considered to have an influence on the expected return. As good stocks have a positive effect in the form of higher expected returns, bad stocks have negative effects may be due to lower returns, depressing news etc.

Mean-Variance Portfolio Theory Vs Behavioral Portfolio Theory

Mean-Variance Portfolio Theory or Modern Portfolio Theory:

One major element of Investment analysis is the selection of the portfolio. Portfolio theory was initially proposed by Harry Markowitz in 1952, who for the first time quantitatively described why and how diversification reduces risk & develops a methodology for determining the optimal portfolio for which he was awarded Noble Prize in economics in 1990 (Elton et al., 1997).

A portfolio comprises of two or more assets, the basic foundation of a portfolio is diversification which means combining several assets will lead to risk reduction.

The procedure developed by Markowitz for choosing the optimal portfolio of risky assets consists of three steps (i) define the set of efficient portfolios. (ii) specify the risk-return indifference curve and the efficient frontier. (iii) choose the optimal portfolio. Modern portfolio theory assumes that investors are risk-averse and preferences are defined in terms of mean and variances of returns. The portfolio mean returns and portfolio variance for two assets is computed as follows:

$$\bar{R}_p = w_1\bar{R}_1 + w_2\bar{R}_2$$

$$\sigma_p^2 = \omega_1^2\sigma_1^2 + \omega_2^2\sigma_2^2 + 2\omega_1\omega_2\rho_{12}\sigma_1\sigma_2$$

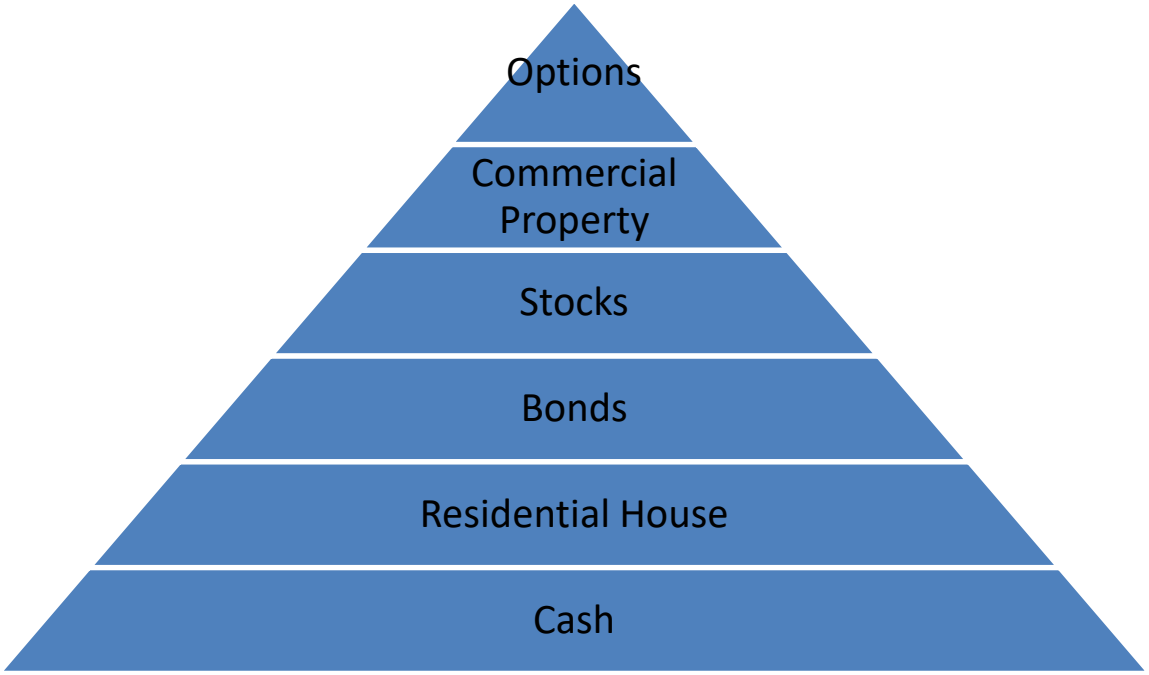
A portfolio is considered to be efficient if there is no alternative with (i) the same expected return of a portfolio with lower risk (ii) with the same portfolio risk and higher return (iii) with higher portfolio return and lower portfolio risk.

Behavioural Portfolio Theory

This theory was developed by Hersh Shefrin and Meir Statman, behavioral portfolio theory is a goal-based theory, each goal is again classified into a separate mental account. In Mental Accounting people mentally separate information into manageable pieces by keeping them into separate accounts. The goals are stated in the form of a Behavioral portfolio pyramid of investment preferences with lower ladder representing cash, then the

residential house, then bonds, then stocks, commercial property and finally options. The behavioral portfolio lies on the behavioral wants frontier (Brouwer, 2009).The fig 4.2 is the pyramid explaining the behavioral portfolio.

BehavioralPortfolio



Source: Prasanna Chandra, 2018.

The table 1.3 explains the difference between Mean Variance Portfolio Theory (MVPT)Vs Behavioral Portfolio Theory(BPT).

Table 1.3: Mean Variance Portfolio Theory (MVPT) Vs Behavioral Portfolio Theory(BPT)

Basis	MVPT	BPT
Portfolio	Efficient portfolio lies on the mean-variance frontier	Efficient portfolios lie on the behavioral wants frontier
Benefits	Efficient portfolios satisfy wants for utilitarian benefits (high expected returns and low variance)	Efficient portfolios satisfy wants for utilitarian benefits as well as expressive and emotional benefits.

Totality	Investor considers a portfolio in its totality.	Investors consider a portfolio as a layered pyramid, in which each and every layer is a mental account that is connected with a goal or want.
Risk	Risk is measured by the variance of the returns.	Risk is measured by the probability of shortfall from a goal, the amount of shortfall or a mixture of both.
Risk Aversion	Investors have a single risk aversion which is concerned with their portfolio as a whole.	Investor have multiple risk aversions, one for each mental account
Measurement	Investors are mostly risk-averse in nature, risk is measured as the variance of returns.	Investors are mostly risk-averse in nature, risk being measured by the probability of shortfall from a goal, the amount of shortfall or a mixture of both. Risk aversion in BPT may correspond to risk-seeking in MVPT.

Source: (Statman, 2017)

Efficient Market Hypothesis Vs Market Inefficiency

Efficient Market Hypothesis

In mid-1960, Eugene Fama gave the concept of Efficient Market Hypothesis which later became the central idea of modern finance. According to him, in an efficient market price of a share or security is an unbiased estimation of its intrinsic value. The price can also vary from the intrinsic value but the variation should be random & uncorrelated with other observable variables. The prices reflect all available data & represent the highest order of market efficiency, according to him there are 3 levels of market efficiency (i) weak form of market efficiency, (ii) semi-strong form of market efficiency, (iii) strong form of market efficiency (Chandra, 2018).

The weak form of EMH means that the current price of a share reflects all data related to past prices & volume. In the semi-strong form of EMH, prices adjust to all the publicly available information. The strong form of EMH, stock prices reflect all public and private information.

Market Inefficiency

The major two assumptions stated by behavioralists for market inefficiency which means, the discrepancy between market price and intrinsic value are noise trading and limits to arbitrage (Stout, 2002).

Noise Trading.

It states that many investors trade on pseudo signals or noise and not on fundamentals. These traders tend to be overconfident and hence assume more risk, they mostly chase past trends, they put lesser weight on base rates and more weight on new information and hence overreact to news. The correlated behavior of noise traders may lead to an overall shift in demand (Kyle, 1991).

Limits to Arbitrage

Arbitrage in limited by two types of risk, fundamental risk and resale price risk. Fundamental risk is included while buying undervalued securities, which tends to be riskier because in the future the market may further fall. Arbitrageurs generally borrow money or securities to carry out their trades and for which they pay the charges periodically, which might turn risky during resale if the position is over a long horizon (Shleifer, 2012).

Standard Life Cycle theory vs Behavioral Life Cycle theory

Standard Life Cycle theory

Early 1950s, Franco Modigliani and Richard Brumberg developed the standard life cycle theory, a theory of spending based on the concept that people make rational choices about how much they want to spend at each stage, given the resources available to them over their lives (Deaton, 2005).

Behavioral Life Cycle Theory (BLC)

The BLC theory enriches the standard life cycle theory by incorporating important behavioral features that usually absent in neoclassical economic models (Thaler, 1988). It says people save for deriving a range of utilitarian, expressive, and emotional benefits of wealth.

II. Conclusion

Standard finance and behavioral finance are the primary and secondary stages of finance. Behavioral Finance in addition to the existing standard financial theories in terms of theories, models and concepts. It can be said that the irrational behavior of people while taking financial decisions cannot be ignored. With the evolution and the rapid development in the field of behavioral finance, each theory or model of standard finance theories has been modified by behavioral financialist like modification of Expected Utility Theory to Prospect Theory, Capital Asset Pricing Model to Behavioral Asset Pricing Model, Mean-Variance Portfolio Theory (MVPT) to Behavioral Portfolio Theory(BPT), Efficient Market Hypothesis to Market Inefficiency, Standard Life Cycle Theory to Behavioral Life cycle theory.

Behavioral Finance attempts to explain the reasoning patterns of investors including the emotional process involved and the degree to which they influence the decision-making process. It attempts to explain the what, why and how of finance and investing from human perspective. This helps the investors to minimize or eliminate the psychological biases in investment decisions.

REFERENCES

1. ***Ahmedani, M.Y., Alvi, S.F., Haque, M.S., Fawwad, A. &Basit, A. (2014):*** Implementation of Ramadan-specific diabetes management recommendations, a multi-centered prospective study from Pakistan. J DiabMetabDisord, 13: 37.
2. ***Ali, S., Davies, M.J., Brady, E.M., Gray, L. J., Khunti, K., Beshyah, S.A.&Hanief, W. (2016):*** Guidelines for Managing diabetes in Ramadan. Diabetes Medicine, 33(10), 1315-1329.
3. ***Al-Khawari, M., Al-Ruwayeh, A., Al-Doub, K. &Allgrove, J. (2011):*** Adolescents on basal-bolus insulin can fast during Ramadan. Pediatric Diabetes, 11: 96-100.
4. ***American Diabetes Association (2017):*** Total Prevalence of diabetes & Pre-diabetes. American Diabetes Association.http: //diabetes. Org/diabetes-statistics/ prevalence.Jsp (accessed Aprill 18, 2018).
5. ***Azizi, F., Siahkolah, B., Shahraz, S., Sherafat- Kazemzadeh, R., Zali, M. &Beheshti, S. (2015):*** Ramadan fasting and diabetes mellitus. Arch Iran Med, 6(4), 237-42.
6. ***Beshya, S.A. (2012):*** Fasting during the month of ramadan for people with diabetes: Medicine and fiqh united at last. Ibnosina J Med and Biomed Sci, 1(2): 58-60.
7. ***Beshyah, S., Benbarka. M. &Sherif, I. (2011):*** Practical management of diabetes during Ramadan Fasting. Libyan J Med, 2: 185-9
8. ***Byard, R.W. (2019):*** Lethal Renal Venous Thrombosis Complicating Dehydration in Infancy. *The American Journal of forensic medicine and pathology*, *40*(1), 65-67.
9. ***Hockenberry, M. & Wilson, D. (2018):*** Wong's nursing care of infants and children-E-book. Elsevier Health Sciences. USA, P.141-154.
10. ***Ibrahim, M., McEwen, L.N., Ali N.M., Khalil, S.H., Tantawi, H.R., Nasr, G., Moradi, S.M., Misha'l, A.A., Annabi, F.A., Essa, E.M., Bahijri, S.M., Tuomilehto, J., Jaber, L.A., & Herman, W.H. for the international group for diabetes and Ramadan (2015):*** Impact of an individualized type 2 diabetes education program on clinical outcomes during Ramadan; BMJ Open Diabetes Research and Care; 3: e000111.